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Report No: ICR00005713

IMPLEMENTATION COMPLETION AND RESULTS REPORT

IDA 53340-SN; TF-16708

ON AN

IDA GRANT

IN THE AMOUNT OF SDR52.1 MILLION

(US\$ 80 MILLION EQUIVALENT)

AND A

GEF GRANT

IN THE AMOUNT OF US\$6 MILLION

TO THE

REPUBLIC OF SENEGAL

FOR THE

SENEGAL - SUSTAINABLE AND INCLUSIVE AGROBUSINESS DEVELOPMENT PROJECT

December 17, 2021

Agriculture And Food Global Practice
Africa West Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {Nov 02, 2021})

Currency Unit =

= US\$1

US\$ = SDR 1

FISCAL YEAR
July 1 - June 30

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ABBREVIATIONS AND ACRONYMS

ANCAR	National Agency for Agricultural and rural Advisory Services/ <i>Agence Nationale du Conseil Agricole et Rural</i>
ANGMV	National Agency for the Great Green Wall/ <i>Agence Nationale de la Grande Muraille Verte</i>
APIX	Private Investment Promotion Agency/ <i>Agence de promotion des Investissements et des Grands Travaux</i>
ASERGMV	Senegalese Agency for reforestation and for the Great Green Wall/ <i>Agence Sénégalaise de la Reforestation et de la Grande Muraille Verte</i>
BRICKS	Building Resilience through Innovation, Communication, and Knowledge Services Project
CPF	Country Partnership Framework
DA	Designated Account
EIG	Economic Interest-based Groups
ERR	Economic Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMF	Environment and Social Management Framework
FCFA	Franc CFA
GDP	Gross Domestic Product
GEF	Global Environment Facility
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
ICR	Implementation Completion Report
INP	National Soil Science Institut/ <i>Institut National de Pédologie</i>
ISE	Institute of Environmental Sciences/ <i>Institut des Sciences de l'Environnement</i>
ISR	Implementation Status Report
M&E	Monitoring and Evaluation
MAER	Ministry of Agriculture and Rural Equipment/ <i>Ministère de l'Agriculture et de l'Equipement Rural</i>
NPV	Net Present Value
O&M	Operation and Maintenance
OMVS	Organization for the Development of the Senegal River Valley/ <i>Organisation pour la Mise en Valeur du Fleuve Sénégal</i>
PDIDAS	Senegal Sustainable and Inclusive Agribusiness Project / <i>Projet de Développement Inclusif et Durable de l'Agribusiness au Sénégal</i>
PDO	Project Development Objectives
PCU	Project Coordination Unit
POAS	Land Use and Allocation Plan/ <i>Plan d'Occupation et d'Affectation des Sols</i>
PPP	Public-Private Partnership
RPF	Resettlement Policy Framework

SAED	Agency for the Development of the Delta and Valleys of the Senegal and Faleme Rivers / Société d'Aménagement et d'Exploitations des terres du Delta et des Vallées du fleuve Sénégal et de la Falémé
SAWAP	Sahel and West Africa Program in support of the Great Green Wall
SCD	Systematic Country Diagnostic
SDRs	Special Drawing Rights
SLWM	Sustainable Land and Water Management
SPSCA	Permanent Secretariat of Accelerated Growth Strategy/ Secrétariat Permanent de la Stratégie de Croissance Accélérée
UCAD/LTA	Cheick Anta Diop University, Applied Remote sensing Lab/ Université Cheick Anta Diop / Laboratoire de Télédétection Appliquée
UGB	Gaston Berger University/Université Gaston Berger

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P124018	SENEGAL - Sustainable and Inclusive Agribusiness Development Project
Country	Financing Instrument
Senegal	Investment Project Financing
Original EA Category	Revised EA Category
Full Assessment (A)	Full Assessment (A)

Related Projects

Relationship	Project	Approval	Product Line
Supplement	P130271-Community-based Sustainable Land Management Project	19-Dec-2013	Global Environment Project

Organizations

Borrower	Implementing Agency
Republic of Senegal	Ministry of Agriculture and Rural Equipment

Project Development Objective (PDO)

Original PDO

The Project Development Objective is to develop inclusive commercial agriculture and sustainable land management in project areas

PDO as stated in the legal agreement

The Project Development Objective is to develop inclusive commercial agriculture and sustainable land management in project areas.



The World Bank

SENEGAL - Sustainable and Inclusive Agribusiness Development Project (P124018)

FINANCING

		Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing				
P124018	IDA-53340	80,000,000	70,000,000	63,206,624
P130271	TF-16708	6,000,000	6,000,000	4,427,268
Total		86,000,000	76,000,000	67,633,892
Non-World Bank Financing				
Borrower/Recipient		0	0	0
Total		0	0	0
Total Project Cost		86,000,000	76,000,000	67,633,892

KEY DATES

Project	Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
P124018	19-Dec-2013	26-Jun-2014	30-Oct-2017	31-Dec-2019	30-Jun-2021

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
28-Jun-2018	14.86	Change in Results Framework Change in Components and Cost Change in Institutional Arrangements
15-Nov-2019	26.19	Change in Components and Cost Change in Loan Closing Date(s)
29-Sep-2020	39.22	Change in Loan Closing Date(s)
25-Feb-2021	47.02	Reallocation between Disbursement Categories
29-Jun-2021	60.09	Reallocation between Disbursement Categories

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Substantial



RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	07-May-2014	Satisfactory	Satisfactory	.93
02	23-Dec-2014	Satisfactory	Moderately Satisfactory	4.76
03	10-Jun-2015	Moderately Satisfactory	Moderately Satisfactory	4.94
04	06-Jan-2016	Moderately Satisfactory	Moderately Satisfactory	6.04
05	29-Jun-2016	Moderately Unsatisfactory	Moderately Unsatisfactory	8.35
06	27-Dec-2016	Moderately Satisfactory	Moderately Satisfactory	9.41
07	30-Jun-2017	Unsatisfactory	Unsatisfactory	11.07
08	28-Feb-2018	Moderately Unsatisfactory	Moderately Unsatisfactory	12.72
09	03-Oct-2018	Moderately Satisfactory	Moderately Unsatisfactory	15.62
10	19-Apr-2019	Moderately Satisfactory	Moderately Satisfactory	21.30
11	02-Dec-2019	Moderately Satisfactory	Moderately Satisfactory	28.16
12	16-Jun-2020	Moderately Satisfactory	Moderately Satisfactory	35.88
13	16-Dec-2020	Moderately Satisfactory	Moderately Satisfactory	45.99
14	16-Jun-2021	Moderately Satisfactory	Moderately Satisfactory	59.94

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Agriculture, Fishing and Forestry	95
Agricultural Extension, Research, and Other Support Activities	2
Irrigation and Drainage	82
Public Administration - Agriculture, Fishing & Forestry	1
Other Agriculture, Fishing and Forestry	10



Industry, Trade and Services	5
Agricultural markets, commercialization and agribusiness	5
Themes	
Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
Private Sector Development	5
Jobs	1
Job Creation	1
Enterprise Development	4
MSME Development	4
Finance	6
Financial Infrastructure and Access	4
MSME Finance	4
Finance for Development	2
Agriculture Finance	2
Urban and Rural Development	87
Urban Development	1
Urban Infrastructure and Service Delivery	1
Rural Development	86
Rural Markets	2
Rural Infrastructure and service delivery	83
Land Administration and Management	1
Environment and Natural Resource Management	2
Renewable Natural Resources Asset Management	2
Biodiversity	1
Landscape Management	1

**ADM STAFF**

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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

A.1 Country Context

1. **In the lead up to project appraisal, Senegal had been experiencing declining economic growth.** Real GDP had dropped from an average of 4.4 percent for the period 2000-05 to 3.4 percent for the period 2006-10. Multiple factors had contributed to the declining economic trend, including the international food and oil price shocks of 2007-08, compounded by the global financial crisis in 2008 and its deepening in 2009. Together with new domestic shocks, including floods in the Dakar region and continued electricity shortages, these pressures continued to stifle economic recovery efforts. By 2011, real GDP growth had slowed down to 2.6 percent due to energy shortages and a large contraction in agricultural output due to failed rains. Investing in agricultural development, already a top priority for the country, took on higher strategic significance.

A.2 Sector Context

2. **The sector was characterized by increasing variability in agricultural output.** This was mainly due to insufficient and erratic rainfall, in a country where less than five percent of the cropped area was irrigated. Given the huge capital requirements for irrigation development, the Government sought to bring stability to agricultural output by attracting private investments. Highly lucrative value chains, such as horticulture, would render such private sector ventures feasible. There was already such a private firm carrying out irrigated horticulture production (West Africa Farms), thus pointing to the potential for attracting private capital into the sector. However, concerns about land grabbing were very topical at the time^{1,2}. Therefore, Government sought to explore a model whereby local communities would voluntarily cede part of their land to investors under freely negotiated, mutually beneficial, contractual arrangements. In addition, because of the considerable threat from soil and forest degradation, where land degradation had been estimated to affect about 34 percent of the land area, and where the country's forest cover was estimated to be deteriorating at a rate of 0.5 percent per annum, Government sought to scale up sustainable land, water, and forest management practices. It is against this backdrop that the Senegal Sustainable and Inclusive Agribusiness Development Project was conceived.

A.3 Rationale for Bank Support

3. **World Bank involvement would supplement the limited resources of a Government buffeted by major economic headwinds noted above.** Furthermore, the Bank would, through this project, consolidate and expand on the achievements of other Bank-supported projects, such as the Sustainable Land Management Project, which had successfully piloted a community-led approach to land restoration and conservation. As a trailblazer in the still nascent field of private sector investment through voluntary land concessions by local communities, this new project would generate valuable lessons on facilitating private sector investments in agriculture that are inclusive, sustainable, and buttressed upon informed choices, with a full acknowledgement of existing rights of local communities under win-win contractual arrangements. All these efforts were consistent with the Government's Accelerated Growth Strategy and the Senegal Country Partnership Strategy (FY13-FY17), especially Pillar One, which called for accelerating inclusive growth.

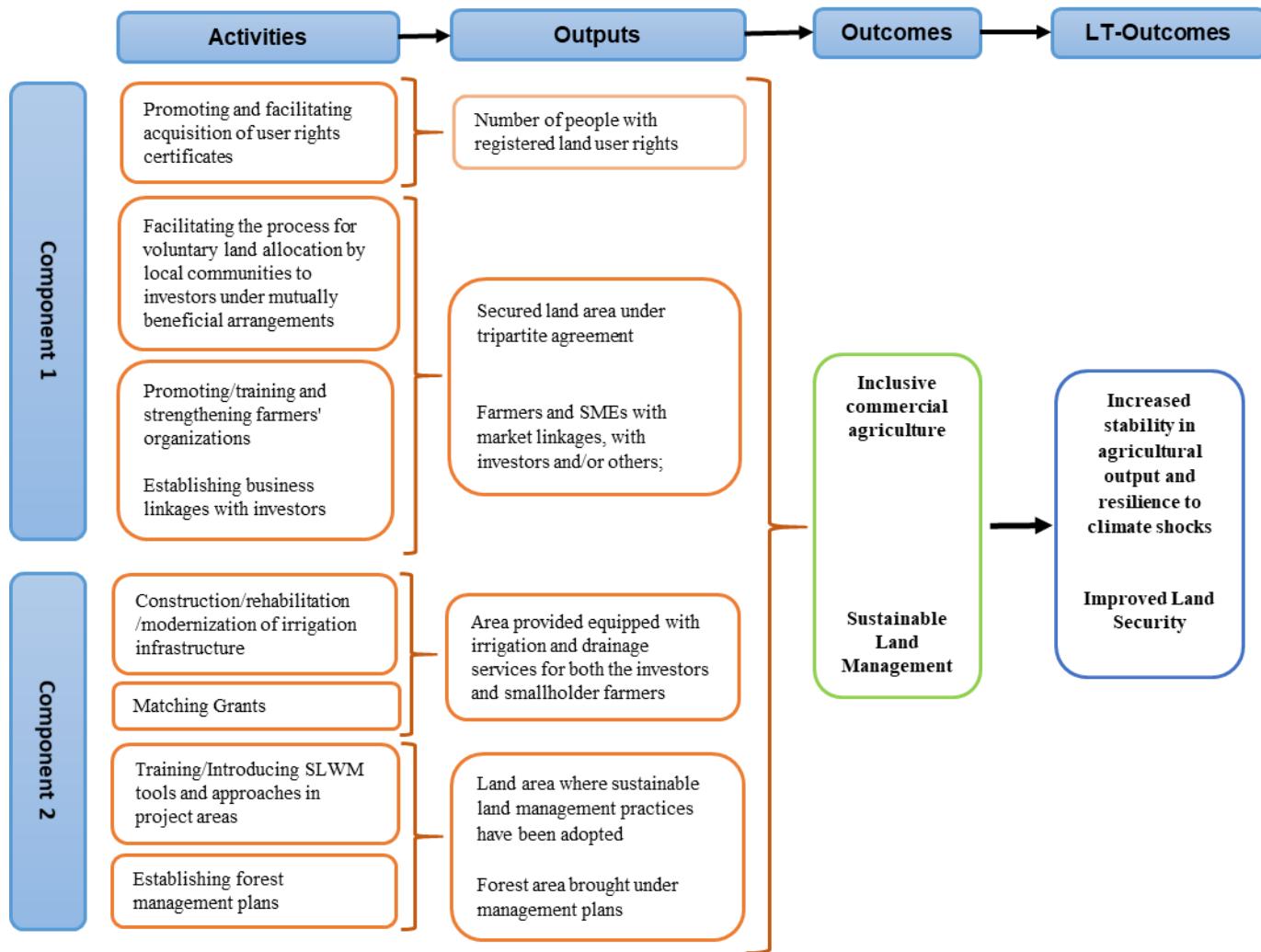
¹ Bourgoin, J., Valette, E., Guillouet, S., Diop, D., and Dia, D., 2019. Improving Transparency and Reliability of Tenure Information for Improved Land Governance in Senegal, *Land 8*, 42, pp-1-17

² Gagné, M., 2019. Resistance Against Land Grabs in Senegal: Factors of Success and Partial Failure of an Emergent Social Movement. *The Politics of Land Research in Political Sociology*, Volume 26, 173-203



Theory of Change (Results Chain)

Figure 1: Theory of Change for the Senegal Sustainable and Inclusive Agribusiness Development Project



Theory of Change



4. An explicit Theory of Change was not formulated at appraisal, as it was not a requirement to do so at the time. However, based on the Results Framework and the Results Chain which were formulated at the time, the implicit Theory of Change can be deduced as follows. In view of the erratic performance of rain-fed agriculture, which was increasingly exacerbated by climate change, one of Senegal's key long-term goals for the agricultural sector was increasing stability of the country's agricultural output. Achieving this goal required costly investments in irrigation development. Given Government's and local communities' limited funds, the Government sought to attract private capital through inclusive commercial agricultural development whereby traditional holders of land use rights would allocate land to private investors under mutually agreed arrangements through transparent mechanisms based on informed and voluntary consent. The project would facilitate local communities in securing their land use rights, attracting private investors, and training farmers in improved agricultural practices, sustainable land and water use management, and business practices, among other things. The reconstructed Theory of Change and the underlying critical assumptions are presented in Figure 1 above.

Project Development Objectives (PDOs)

5. The Project Development Objective was to develop inclusive commercial agriculture and sustainable land management in project areas.

Key Expected Outcomes and Outcome Indicators

6. At appraisal, PDO performance was to be measured against targets relating to: (i) annual volume of commercial agricultural production in project areas (tons); (ii) annual value of commercial agricultural production in project areas (monetary); (iii) number of jobs created in project areas (of which women, and of which hired by large investors); (iv) land area where sustainable land management practices had been adopted as a result of the project; (v) number of direct project beneficiaries (of which female, also broken down by SMEs, smallholders, medium farmers, and wage workers); and (vi) forest area brought under management plans.

Components

7. The six-year, US\$ 86 million Investment Project Financing (US\$ 80 million from IDA, blended with a US\$6 million GEF grant) comprised of the following components:

8. **Component 1: Support to sector actors (Appraisal: US\$ 11.0 million; Actual: US\$ 15.5 million).** This component supported: (i) rural communities in the project areas to ensure that the allocation of land users' rights to private operators would be done in an inclusive and sustainable way, as well as facilitated small-scale farmers in establishing producers' associations and business partnerships with large investors (Subcomponent 1.1); (ii) capacity building for small-scale farmers and Small and Medium Enterprises (SMEs) on Sustainable Land and Water Management (SLWM) practices, as well as the rehabilitation of the "Mpal agropole" – a Government-owned fresh produce cold storage facility and a slaughterhouse (Subcomponent 1.2); and (iii) a review of the policy, legal and institutional frameworks governing the use and allocation of rural land as it relates to agribusiness investment (Subcomponent 1.3).

9. **Component 2: Development of irrigation infrastructure and sustainable natural resource management (Appraisal: US\$ 68.5 million; Actual: US\$ 44.8 million).** This component financed: (i) the design, construction and equipment of critical primary and secondary canals in the Ngalam Valley and around Lac de Guiers (Subcomponent 2.1); (ii) matching grants to small-scale farmers and SMEs for tertiary irrigation infrastructure, business development services and training (Subcomponent 2.2); and (iii) sustainable management of selected classified forests and nature reserves (Subcomponent 2.3).



10. **Component 3: Project Coordination and Management, Monitoring and Evaluation, Communication (Appraisal: US\$ 6.5 million; Actual: US\$ 13.1 million).** This component supported: (i) the Project Coordination Unit (PCU) and capacity building for project staff in the different implementing agencies (Subcomponent 3.1); (ii) monitoring and evaluation activities performed by the technical implementing agencies (Subcomponent 3.2); and (iii) communication (Subcomponent 3.3).

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

11. The PDO remained unchanged throughout project implementation

Revised PDO Indicators

12. Following the project's mid-term review on November 15, 2017, there were changes to the PDO indicators: some were dropped, or their targets reduced (by about 32 percent on average), some new indicators were added, and some remained unchanged (Annex 1). The principal changes to PDO indicators are as follows.

- (i) Volume of annual agricultural outputs from project developed areas (Tons) was disaggregated to capture:
 - a) annual quantity exported, and b) quantity produced by small and medium farmers;
- (ii) Annual value of commercial agriculture in project areas (USD) was dropped;
- (iii) Two new indicators were added: a) Number of secured land plots registered in the Land Information System (NICAD number), and b) Secured land area under a tripartite agreement between local authorities (Commune)/Investor/Community;
- (iv) The indicator on Forest area brought under management plans remained unchanged; and
- (v) The other indicators had their targets reduced.

Revised Components

13. The broad architecture of the project's components remained unchanged. However, some refinements were made following the project's mid-term review in November 2017. Principally, the level of ambition was moderated given the little time left before the project's closing, non-essential activities were wound down and the remaining activities simplified under five core themes (or programs as they were called), and implementation modalities were streamlined by giving more responsibilities to the technical implementation agencies. These changes are summarized in Table 1 below.

**Table 1: Changes in Project Activities after Restructuring**

Program 1: Support to Communities' productive activities including through partnerships with agribusinesses operating in the area
Subcomponent 1.1: Activities geared toward Rural Communities were delinked from private sector investments, and scaled up with more resources
Subcomponent 1.2: This subcomponent would henceforth focus on support to private agribusiness investors through APIX. Other activities were to be finalized and closed, namely: (i) TA to Gaston Berger University to develop SLWM and carry out vocational training and applied research in selected agribusiness value chains for small-scale farmers and SMEs; (ii) TA for the development and implementation of a marketing and certification framework as well as the provision of detailed feasibility studies of business opportunities along existing and future value chains principally in horticulture; and (iii) TA for assessing and piloting modalities for organic and/or fair trade certification. The rehabilitation of the Mpal agropole was replaced by a feasibility study for a new agropole in the North (Agropole Nord), in line with the country's new long-term development plan (<i>Plan Senegal Emergent</i> , adopted by the Government in 2014, i.e., after project approval).
Lead Implementing Agency for this program: Investment Facilitation Firm (with the PCU SLWM Specialist/M&E specialist as the focal point)
Program 2: Support to Communes on land transaction with Investors
Subcomponent 1.3: Aligned to new Land Framework ("Secured Deliberation" instead of "Lease/Sublease")
Lead Implementing Agency: The PCU would lead the land registration programs, with APIX leading the land transaction process with private investors (Project Land Administration specialist as the focal point)
Program 3: Irrigation infrastructure
Subcomponent 2.1: Target for irrigation infrastructure was reduced from 10,000 ha to 5,000 ha
Lead Implementing Agency: SAED (PCU Project Irrigation Specialist as the focal point)
Program 4: Sustainable Soil and Land Management (including forest and conservation areas)
Subcomponent 2.3: no changes in the activities but changes in the institutional arrangements for implementing these activities
Lead Implementing Agency: ANGMV (PCU - SLWM Specialist as the focal point)
Program 5: Matching grants
Subcomponent 2.2: No changes in the activities but changes in the institutional arrangements for implementing these activities
Lead Implementing Agency: PCU - SLWM and M&E Specialists as the focal points

Revised Intermediary Indicators

14. The intermediary indicators were substantially revised (Annex 1), mostly by adding new indicators, to reflect the project's strengthened focus on local community support activities. Specifically, the additional output indicators were related to: (i) land use rights (training, conflict management, equipping local land offices, establishment of land occupation and use plans); (ii) sustainable land and water management; (iii) fee recovery for irrigation maintenance; and (iv) forest management. Changes were as follows.

15. **Three intermediary indicators remained unchanged:**

- (i) Target producers with use rights recorded as a result of the project (the disaggregated "of which large investors" target was reduced)
- (ii) Increase in the water flow of the Ngalam River course (m3)
- (iii) Capacity to monitor GHG emissions in project areas is demonstrated

**16. One indicator's target was increased:**

- (i) Number of small and medium farmers who adopted an improved agricultural technology promoted by the project

17. Six intermediary target indicators were reduced:

- (i) Increase in private investments in project areas (US\$ Million) and the disaggregation dropped
- (ii) Area provided with irrigation and drainage services (ha)
- (iii) Average productivity per hectare for farmers inside the blocks for sweet potatoes
- (iv) Average productivity per hectare for farmers inside the blocks for onion
- (v) Percentage of small and medium farmers inside the blocks participating in inclusive business models
- (vi) Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation.

18. One intermediary indicator was dropped:

- (i) Annual performance on rural communities' scorecard.

19. Thirteen (13) new indicators were added:

- (i) Number of people trained on the use of tools to secure land tenure rights
- (ii) Number of land (and conflict-related issues) management entities set in place
- (iii) Percentage of land conflicts resolved through local land management entities
- (iv) Number of Land Bureaux equipped and functioning
- (v) Number of Land Occupation and Use Mapping (POAS) established
- (vi) Number of beneficiaries trained on Sustainable Land and Water Management
- (vii) Recovery rate of fees in areas provided with water management
- (viii) Forest area protected by boundaries and signs (ha)
- (ix) Number of management committees for protected areas created and operationalized
- (x) Number of local conventions implemented for the management of protected areas
- (xi) Number of persons trained in forest inventory, mapping, GPS use and natural resources management
- (xii) Number of forest trees planted
- (xiii) (Global Environment Objective Indicators) Forest area under management plans

Reallocation and Cancellation of Project Funds

20. As a result of the above changes, project funds were reprogrammed across the components (Annex 3). US\$ 8 million was reduced from irrigation activities in Component 2, of which US\$ 5.9 million was added to community level activities in component 1, and US\$ 2.1 million added to Component 3 for strengthening project coordination. There were two other (relatively minor) reallocations between disbursement categories, one in February 2021, and another in June 2021. Also, upon realizing that not all the funds would be utilized by this the last closing date of 30 June 2021, US\$ 10 million was cancelled from the project, for use on other activities within the country program.

Other Changes

21. The project's closing date was extended twice. The first extension, from December 31, 2019 to December 31, 2020, and again from January 01, 2021 to June 30, 2021.



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

22. Changes to project activities were triggered by the need to accelerate implementation. Project implementation had been very slow. After 3.4 years, disbursement was still at only 16 percent. This prompted the need to scale down the project's level of ambition, streamline activities, and strengthen project coordination. The principal cause of the implementation delay was the uncertainty surrounding the Land Framework. At appraisal, the project had adopted a land framework whereby the State would lease rural land to farmers, who in turn would sublease it to the investors (hence the "lease/sublease" appellation). However, prospective investors did not deem the degree of security conferred by this arrangement of cascading rights adequate. Its legality had also been questioned (some arguing that it is not consistent with the land law)³. A new model of "Secured Deliberation" was adopted in August 2017 under which a user rights certificate would be issued to the investor by the community but protected with a national cadaster number from the Ministry of Finance's Department of Public Domain⁴. A tripartite Memorandum of Understanding would be signed between the Mayor of the Commune, the community, and the investor to define each party's roles and responsibilities, as an annex to the "Secured Deliberation" issued to the investor. This was found to be more reassuring.

23. **Changes to the project's target indicators were meant to sharpen attribution, or to reflect the project's reduced scope, or to capture its intensified community focus after the November 2017 restructuring.** First, a PDO indicator related to the monetary value of the project's agricultural output was deleted as it depended on market forces (domestic and international prices) outside the control of the project. Second, the quantitative target values were reduced in view of the limited time remaining in the project's life at the time. Third, some new outcome and intermediary output indicators were added to more fully capture the principal outputs and outcomes related to the project, especially under its intensified community focus.

24. Changes to Closing Dates were to allow more time for completing the then ongoing activities. The belated start of irrigation infrastructure development and the huge demand for land rights registration necessitated additional time. This was compounded by the outbreak of COVID-19 and its aftermath.

25. *The above adjustments had no material implication on the original Theory of Change.* Whereas some activities were scaled down (and others scaled up), the underlying logic remained valid, and all activities remained consistent with the postulated Theory of Change.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

Rating: High

26. The project's relevance remained high at project closing. It was well aligned with the World Bank Country Partnership Framework (CPF) for Senegal for FY20–FY24⁵, especially with two of its three focus areas, namely: (i) boosting competitiveness and job creation through private sector-led growth, and (ii) increasing resilience and sustainability in the context of growing risks. It is also well aligned with the cross-cutting theme relating to mitigating the effects of climate change. Furthermore, it is consistent with the Systematic Country Diagnostic of 2018. The SCD identified three critical

³ Some in Government held the view that it contravened Law No. 76-66 regarding the State Domain (Aide-memoire of 17-25 October 2016).

⁴ By "secured deliberation" is meant an act by which the Municipal Council allocates land to natural or legal persons in accordance with Law 64-46 of June 17, 1964, following a participatory, socially inclusive, transparent process using legal procedures and standardized land management tools. This procedure results in the issuance of a land document which confers on the holder a right ensuring him/her the peaceful enjoyment of his/her land.

⁵ Country partnership framework For the Republic of Senegal For the period FY20–FY24



pathways: (a) boosting competitiveness by stimulating private sector-led growth; (b) enhancing equity and resilience by unlocking the economic potential of non-extractive natural resources such as agriculture; and (c) managing the risks associated with natural resources and climate change. The project is aligned with these findings, through its focus on attracting private investment capital into irrigated agriculture, as well as its focus on soil and water management.

27. The PDO is also aligned with Senegal's principal strategic framework, the Plan Senegal Emergent, which lays out the Government's ambition to promote sustainable, resilient, and inclusive growth, executed through a series of priority action plans. The first Priority Action Plan (2014-2018) and the second Priority Action Plan (2019-2023) both call for infrastructure expansion, sustainable natural resource management, improved business environment, private sector development and public-private partnerships⁶. The project remains consistent with all these goals, including: (i) creating a business environment conducive to private sector in irrigation development through fine-tuning an operational land framework; (ii) instituting practical modalities for public-private sector partnership in irrigation infrastructure development by delineating the roles of the respective parties in a practical setting; and (iii) preserving the resource base through the promotion of soil and water management practices.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

28. The project's Efficacy was assessed against the two project objectives, namely: (i) the development of inclusive commercial agriculture; and (ii) the development of sustainable land management practices. Because the restructuring changed the project's level of "ambition" by reducing PDO and other targets, the assessment used a Split Rating System for before and after restructuring.

Assessment Before Restructuring

Rating: Modest

29. Although none of the project's final outcome targets had been achieved prior to restructuring, significant progress was made on activities which lay along the critical path for attaining the project's objectives as discussed below, and the project was still expected to partly achieve its intended outcomes (i.e., at reduced levels of ambition given the limited time remaining for project implementation). Therefore, the two objectives are rated Modest.

30. Inclusive commercial Agriculture. During this period, the project made significant progress on the most fundamental step in the project's Theory of Change, namely identifying and securing land rights by traditional users, that would then form the basis for voluntarily engaging with the private sector. Out of 23,435 hectares studied at the time, 17,580 hectares had their traditional rights holders already identified and secured (against the project target of 20,000 hectares). Of this, 13,400 hectares had their studies for suitability for irrigation development initiated, and the first call for investors was made in December 2016 for 6,301 hectares (63 percent of project target). However, the process was put on hold till January 2018 because of issues with the land framework discussed earlier. Nonetheless, all requisite documentation for private sector engagement had been developed during this period (e.g., prototype agreements with investors). Similarly, technical designs for irrigation infrastructure to be financed by the project such as the Ngalam water course, and the related safeguard studies, were also completed during this period. Development of a pilot operation of 200 hectares for famers in Ngnith (meant to provide lessons for the wider irrigation program envisaged under the project) was completed. The Matching Grants program had been launched, 400 requests for funding received, 213 reviewed at the time, and 134 approved. This objective's attainment is rated modest for this period.

⁶ Plan Sénégal Emergent, Plan d'Actions Prioritaires 2019-2023, Ministère des Finances et du Budget



31. **Sustainable Land Management Practices.** Sensitization of the communities about land management practices had been started and was ongoing. All the pedagogic materials had been developed, and training itself was ongoing on water efficient irrigation methods and other improved irrigation practices, various agricultural practices and their impact on soil quality, etc. Training had also been carried out on seedling production for trees and a total of 15,000 seedlings already produced. It should be noted that seedling production had been purposely delayed in order to synchronize it with irrigation development. So, this objective's outcome attainment is rated modest for this period.

Assessment After Restructuring

Rating: Substantial

32. As indicated in Table 2 below, the project achieved all but one of the PDO targets.

Table 2: Degree of Achievement of PDO targets after Restructuring

Indicator	Target	Actual	Percentage
Secured land plots registered (ha)	20,000	77,530	388%
Area under tripartite agreement	10,000	5,726	57%
Volume of annual agricultural output (tons)	70,000	124,874	178%
Number of jobs created (number)	4,000	5,337	133%
Number of Beneficiaries	6,980	20,846	299%
Land area with sustainable land management practices (ha)	5,000	11,329	227%
Forest Area under management plans (ha)	25,000	32,507	130%

33. **Inclusive Commercial Agriculture.** As indicated earlier under the Theory of Change, the initial and most critical step toward inclusive commercial agriculture under this project was securing land rights by local community members. This "*sine qua non*" step formed the basis for land consolidation and discussions between the land rights holders and the private investors. By the project's closure, some 77,530 hectares (against a project target of 20,000 hectares) had their corresponding user rights formally acknowledged and registered ("Délibérations").

34. The next critical step in the Theory of Change was for community members to avail part of this land to prospective investors. So far, local communities have identified and put on offer to potential investors 11,514 hectares. Of this, 5,726 hectares (versus a project target of 4,500 hectares after restructuring, 10,000 hectares before restructuring) are under tripartite agreements (investor/commune/community)⁷, and their development is nearing completion (72 percent completion).

35. After full rehabilitation/development, land under these agreements will have an annual production capacity of 172,000 - 347,000 tons of vegetables⁸. This projected production is higher than the appraisal estimate (annual production of 100,000 tons at full development) or the revised estimate after restructuring (70,000 tons)⁹.

⁷ That is, 400 hectares under the pilot operation at Ngnith, 1,813 hectares under the first call for investors, and 3,513 hectares under the second call for investors, a total of 5,726 hectares.

⁸ That is, 172,000 tons on the basis of 1 crop per year, and 347,000 tons on the basis of 2 crops per year. The estimate uses 30 tons per hectare. The actual observed yields were 35 tons/hectare for sweet potatoes, and 23 for onions.

⁹ The *implicit* yield of 10 tons per hectare (i.e., 100,000 tons/10,000 hectares) assumed at appraisal was particularly low and did not correspond to the PAD's Results Framework which had a target yield of 30 tons per hectare for potatoes and onions. Similarly, the *implicit* yield at restructuring of 15 tons per hectare (i.e., 70,000 tons/4,500 hectares) was also low. The *implicit* yields are even lower if a cropping intensity of



36. All these activities generated employment in the project area (5,337 jobs, which is lower than the appraisal target of 9,500 but surpasses the revised target of 4,000 jobs). Overall, 20,846 individuals benefited from the project (compared to the appraisal estimate of only 10,680 beneficiaries, and the revised estimate of 6,980 beneficiaries).

37. Sustainable Land Management. Significant progress was made toward this objective as well. Several activities were carried out including promoting water and cost saving systems (Californian system), use of organic fertilizer, planting of fodder crops, cover crops, and wind breaks, etc. on a total of 1,129 hectares. Boundary demarcation and signage was carried out on some 10,200 hectares as part of land management. This brought the combined area under sustainable land management to 11,329 hectares. In addition, forest and fruit tree nurseries have been established at 8 sites, which currently hold 800,000 plants. These will be used as windbreaks and live hedges on the irrigated perimeters currently under development. The project purposely delayed the production of these plants to synchronize their availability with that of the irrigation perimeters.

38. Over 32,000 hectares of forest areas (versus an appraisal/revised target of 25,000 hectares) comprised in 8 protected areas have management plans in place.¹⁰ Massive awareness campaigns raised the communities' appreciation of these resources, culminating in the formation of 56 village management committees (against the project target of 50) for actively managing these resources.

39. The EX-ACT tool was used to assess the project's investment benefits in the form of climate change mitigation. The annual sequestration capacity in the project area was estimated (at a 20 year horizon) at 11,309,737 tCO₂-eq, or a well of 3.6 tCO₂-eq/ha/year. Thus in 2021, the carbon sequestered in the project areas is about 189,745 tCO₂-eq i.e., 95 percent of the project target of 200,000 tCO₂-eq. Deforestation resulting from irrigation development and horticultural production have negative effects on sequestration by reducing carbon sinks (absorption) and increasing emissions (fertilizers, tillage, operation of pump units, etc.). These negative effects are offset by significant carbon sequestration resulting from the following activities: (i) 3 defending plots of 15 hectares each, i.e., 45 hectares which have been established; (ii) 5 hectares from community nurseries; (iii) 800,000 plants referred to earlier; and (iv) 32,507 hectares - forest areas benefiting from sustainable management plans.

Justification of Overall Efficacy Rating

40. Both project development objectives were almost fully achieved after restructuring, as the outcome indicators were mostly achieved. The overall Efficacy is therefore, rated **Substantial**

C. EFFICIENCY

Assessment of Efficiency and Rating

Rating: Modest

41. **Economic and Financial Analysis.** At appraisal, the project's economic benefits were projected to accrue mostly from horticultural value chains among investors, small and medium farmers, and SMEs participating in the project. At ICR, the project's quantifiable benefits are also projected to primarily derive from horticultural value chains since they are the predominant and most remunerative use of irrigated land in the Project Area. Incremental benefits accrue from: (i) better access to irrigation water; (ii) better crop management; (iii) improved soil and water management; (iv) the entrepreneurial spirit of farmers' organizations nurtured under the project; and (v) carbon

greater than 1 is used, which will be most likely be the case under irrigated horticultural production, as it is now in commercial irrigated perimeters.

¹⁰ The 8 protected areas concerned are the classified forests of Keur Mbaye, Makka Diama, Mpal, Rao, Ndiaw, Naéré, Thilène and the Ndial Special Avifauna Reserve (RSAN).



sequestration from improved natural resource management. Benefits from the Ngalam primary infrastructure financed by the project were not quantified as farmers operating in the area weren't monitored by the project.

42. The quantitative benefits were modeled using seven (7) models representative of horticultural crops in the area. The internal rate of return on the various models ranged from 16.2 percent to 30.7 percent. The economic internal rate of return (EIRR) was estimated at 12.3 percent compared to 18 percent at appraisal and the NPV at US\$ 4.8 million (i.e., US\$ 20.8 million at 6 percent social discount rate) compared to US\$ 22.2 million at appraisal assuming a 10 percent social discount rate. The appraisal estimate did not take into account environmental benefits of the project. When environment benefits are considered, the EIRR estimate at ICR stage was 18.3 percent at market price with a NPV of US\$ 43.6 million, 22.3 percent at a low estimate range with a NPV of US\$ 61.7 million and 30.4 percent at a high estimate range with a NPV of US\$ 102 million as shown in Table 3 below.

Table 3. EIRR and NPV at ICR Stage, with and without Environmental benefits

Indicators (@20 years)	Without ENV. Benefits	With ENV. Benefits @market price	With ENV. Benefits @low estimate range	With ENV. Benefits @high estimate range
IERR (%)	12.3	18.3	22.3	30.4
NPV BNA (FCFA, billion @6%)	112.3	25.8	36.5	60.7
NPV BNA (USD, Million @6%)	20.8	43.6	61.7	102.6

43. The economic and financial analysis was done based on a with- and without project comparison. For communities, the exploitation of land offers could result in annual income per household of about 218,500 – 619,700 FCFA depending upon the type of irrigation system used, the adoption level of sustainable management practices, and the horticultural crops produced and marketed. An investor could generate up to 428 million FCFA per year on a 100 hectares block for an initial investment cost of around 1.4 billion FCFA. The sensitivity analysis shows that, overall, the results are positive in all scenarios (Annex 4).

44. Aspects of Design and Implementation: The implementation team strived to keep implantation costs down in line with similar irrigation projects. For instance, when the estimates of the feasibility study for the primary irrigation infrastructure works in the Ngalam catchment came out at USD 51 million against the appraisal estimate of USD 20 million, the team worked with irrigation experts on technical options for convergence on a lower-cost optimal option that was then used in the bidding documents.

45. However, the slow pace of project implementation prior to restructuring constituted a source of inefficiency in the use of the project's resources. For instance, the first call for investment proposals had been launched in December 2016 but was put on hold till January 2018 pending resolution of the Land Framework issues. Similarly, the recruitment process for the Technical Assistance Firm to support communities in the land allocation process was started in 2014, but completed in January 2016, 1.5 years after project effectiveness. Capacity building for the other implementation agencies (Investment Promotion Agency – APIX and the Irrigation Development Agency - SAED) was also started late, undermining their performance.

46. Covid-19 also introduced significance inefficiency. Apart from disruptions to travel and effective implementation support, it disrupted supply chains. A call for investors launched in March 2020 coincided with the outbreak of COVID-19 leading to the failure of that call. The call was relaunched in November 2020, but the equipment ordered in Europe by the investors delayed extensively because of COVID-19 related logistical problems. Eventually, the work could not be finished before project closing.



47. High staff turn-over at the PCU, and long lags in obtaining replacements was a significant source of inefficiency. Similarly, the project had a total of 4 World Bank Task-Team Leaders in 7 years could have created a problem, although great care was taken to ensure extended overlaps during the transition.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

Rating: Moderately Satisfactory

48. After using disbursement weights in Table 4 below, the overall assessment is Moderately Satisfactory.

Table 4: Split Rating for Project Outcome

		Before Restructuring	After Restructuring
	Relevance of PDO		High
	Efficacy (PDO)	Modest	Substantial
	Outcome 1	Modest	Substantial
	Outcome 2	Modest	Substantial
	Efficiency		Modest
1	Outcome	Moderately Unsatisfactory	Moderately Satisfactory
2	Numerical Value of Outcome Ratings	3	4
3	Disbursement	13.93*	51.95**
4	Share of Disbursement	0.21	0.79
5	Weighted value (Row 2 x Row 4)	0.63	3.15
6	Final Outcome Rating	3.78 (Rounded to 4.0 Therefore, MS)	
Note: Highly Unsatisfactory (1); Unsatisfactory (2); Moderately Unsatisfactory (3); Moderately Satisfactory (4); Satisfactory (5); Highly Satisfactory (6)			

* Include IDA disbursement (US\$12.72 million) and TF 16708 disbursement (US\$1.21 million)

**Include IDA disbursement (US\$48.74 million) and TF 16708 disbursement (US\$3.21 million)

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

49. There was a deliberate effort to ensure women's representation in various organs, including the Land Conflict Management Committees, the Technical Support Committees for Securing Land and the Land Use and Allocation Plan Management Committees. Similarly, by purposeful design, women's access to developed land (where secondary and tertiary canal works are ongoing) is expected to be about 10 percent, against less than 1 percent in a without project scenario. Under matching grants, out of 45 sub-projects financed, 6 (i.e., 13 percent) were by women's groups. In general, women represent nearly 60 percent of the members of EIGs that received funding. As a result, the number of jobs for women was 2,298 out of a project target of 1,200. However, the average size of land owned by women is still low, around 2 ha, against 5 ha for men.



Institutional Strengthening

50. The project contributed to institutional strengthening at various levels: farmer level, local government (Commune) level, and national level:

- At the farmer level, the project assisted in the formation and capacity building of Economic Interest Groups, through the Centre de Gestion et d'Economie Rurale, which helped establish management systems, and strengthen their technical and business skills. These groups are a valuable rural institution that can be a powerful and transformative tool in sourcing inputs, maintaining the productive base, marketing, and acquiring know-how, among other things.
- At the community level, the project supported the establishment of Land Bureaus in the 9 participating communes which have become a critical instrument for registering land use rights. Digitization of land use rights will improve the efficiency of land administration. Under the new operation (Senegal Cadastre and Land Tenure Improvement Project), such municipal Land Information Systems will be designed to interact with the information system used at the national level by the General Directorate of Taxes and Domains and the National Spatial Data Infrastructure, thus enhancing data quality and consistency, including preventing multiple allocation of rights on a same plot.
- At the national level, the project (through contract to the Dakar Ecological Monitoring Center) supported capacity building for the Ministry of the Environment in monitoring greenhouse gases. It also supported the feasibility study for the Agropole Nord, which will open opportunities for PPPs in agribusiness.

Mobilizing Private Sector Financing

51. The project attracted FCFA 18 billion (US\$ 31.8 million) in private capital in two rounds. In the first round, which comprised of investors that were already in the zone, three firms signed agreements with local communities for the development of irrigation infrastructure in the amount of FCFA 6 billion (US\$ 10.6 million) covering 1,813 hectares. The second round, which was open to both domestic and international firms, attracted 8 qualifying firms, for a commitment of FCFA 12 billion (US\$ 21.2 million), covering 3,513 hectares. As part of the Matching Grant activities, 3 participating SMEs mobilized US\$ 1.4 million (690 million CFA francs) and 45 EIGs of small beneficiary producers mobilized FCFA 628 million (US \$ 1.3 million), for a grand total of FCFA 19.5 billion (US \$ 39 million). Although this fell short of the US\$ 100 million expected after restructuring, it demonstrated the potential and promise for this approach in mobilizing private capital for irrigation development.

Poverty Reduction and Shared Prosperity

52. The project's most enduring contribution to Shared Prosperity was establishing inclusive mechanisms for the establishment of anchor agribusinesses within farming communities, that would serve not only as sources of employment, but also serve as sources of technological innovation. The project created over 5,000 jobs, almost half of whom were women. In addition, the system for registration of land use rights has enhanced rights holders' security over the most precious asset in rural communities, thus opening doors for user right holders to various opportunities, including access to credit. According to simulations run during the ICRR exercise, the exploitation of land offers by



participating communities could result in annual income per household of about 218,500 FCFA (US\$ 395) – 619,700 FCFA (US\$ 1,120) depending upon the type of irrigation system used, the adoption level of sustainable management practices, and the horticultural crops produced and marketed.¹¹ For an average household of 8 members, this is a per capita increase of about US\$ 50 to US\$ 140, equivalent to a 3 – 9 percent increase to the average per capita GDP estimate of US\$ 1,491 in 2021¹².

Other Unintended Outcomes and Impacts

53. The framework of intra-community dialogue established for the identification and recognition of land users' rights, including the establishment of conflict resolution mechanisms, as well as the creation of economic interest groups, have strengthened social cohesion within communities. Not only are these systems and institutions expected to diminish land-related conflicts in the communities, but their presence implicitly formalizes the spirit of cooperation and compromise that has the potential to extend to other spheres of social and economic development beyond the explicit objectives of the project. In addition, these consultation and social conflict management mechanisms ensure the participation of women and vulnerable groups in the recognition of their rights and access to land.

III. KEY FACTORS THAT Affected IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

54. During project preparation, preliminary studies were conducted to: (i) assess the land availability in the targeted rural communities; (ii) design land identification methods for allocation to potential investors; and (iii) assess communities' needs in terms of technical assistance. However, given lessons from previous irrigation activities, as much work as possible should have been done on the pre-feasibility studies for the irrigation infrastructure, especially primary irrigation infrastructure, whose location was already known, in order to avoid delays during project implementation. In addition, the lease/sublease model, given how problematic it later became, should have been tested out first to ascertain its legal, and technical, and social dimensions.

B. KEY FACTORS DURING IMPLEMENTATION

Factors Subject to PCU Control

55. The PCU's efforts in coordinating the implementation of an innovative project of this character, including managing the sensitivities surrounding land issues and gaining trust of the local communities, is commendable. The Unit is equally commended for ably coordinating the various implementing agencies, and for its ability to adapt as occasions demanded. For instance, when the debate surrounding the perceived inadequacy of the "lease/sublease" arrangement had hamstrung the implementation of investor related activities, the PCU refocused its energies on activities pertaining to Matching Grants and the management of Forest and Nature Reserves under the GEF, the outcome of which contributed significantly toward the project's development objective.

56. The performance of the technical assistance firm which was assisting the PCU in overseeing the implementation of community level activities was at times subpar. The PCU could have done more take remedial actions.

¹¹ At the exchange rate prevailing on 30 June 2021 of FCFA 553.3 per US\$.

¹² Macro Poverty Outlook, World Bank, 2021



57. High PCU Staff Turnover and Overall Project Management. The PCU (based in St-Louis, 265 kilometers north of Dakar, the capital city) recorded high turnover of its core staff, attributed to weak incentives to retain high caliber experts away from the capital city. The lengthy process for their replacement drastically impacted the implementation of key activities. Project implementation was also initially affected by bureaucratic procedures at the PCU level, slowing down communication and decision making among staff and with implementing agencies. In addition, insufficient delegation of responsibilities by the Project Coordination Unit to the Executing Agencies had overwhelmed the PCU, undermining its efficiency. More responsibility was shifted to the respective implementing agencies, as part of the restructuring.

Factors Subject to Government Control

58. Government regularly paid its counterpart funding, including meeting expenses related to the implementation of the Resettlement Action Plan, and reimbursed ineligible expenditures albeit with extended delay. These ineligible expenditures arose out of a withdrawal by Gaston Berger University (an implementing agency) of a total amount 32.412 million CFA francs from the project account for which adequate supporting document was not provided, and 4.864 million CFA Francs spent by the Project Coordination Unit deemed ineligible by the World Bank. However, reimbursements of these ineligible expenses (approximately US\$ 64,000 equivalent) were made in August 2020. In addition, there initially were significant delays at the Ministry of Finance in processing the PCU's payment requests, although this was ultimately resolved. The biggest delay was in resolving the "lease/sublease" land framework impasse which severely hampered progress in project implementation. It too was ultimately resolved, albeit after significant delay, which contributed to the project's failure to fully disburse its funds.

Factors Subject to World Bank Control

59. Bank staff and management were diligent in resolving issues as they emerged and maintained a constructive dialogue with Government throughout project implementation.

Factors outside the Control of Government and/or Implementing Entities

60. Preparatory studies and the procurement process for the Secondary and Tertiary Irrigation Infrastructure were constrained by logistical challenges during the COVID-19 pandemic. For instance, the investors experienced extensive delays before receiving the pipes which they had ordered from Europe because of logistical constraints related to COVID-19. This contributed significantly to the project's inability to complete some of its activities before the Closing Date.

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

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

M&E Design

61. The M&E was comprehensive, designed to capture inputs, processes, outputs, impacts and outcomes. A baseline study was done to ensure that the incremental project impacts will be accurately measured. It was designed to be extensive in its scope, covering subprojects financed under a matching grants mechanism; contracts with technical implementing agencies; implementation of the safeguard instruments and land framework; updating the project's key performance indicators; monitoring GEF tracking tools at mid-term and completion; elaborating and editing periodic reports; and carrying out impact evaluations (economic, social, environmental). One shortcoming,



which was noted and corrected during project implementation, was inclusion of some indicators that relied on factors beyond the project's control (such as monetary of project -related outputs that included market price components that were beyond project scope). In addition, a number of indicators were over- or under-estimated. The activity was well funded under the project.

M&E Implementation

62. Monitoring and evaluation activities were generally well carried out with good monitoring of project inputs, outputs, and performance indicators. New indicators were added at mid-term review to better capture project results during its implementation. Activity reports were produced in a timely manner. An impact assessment and a detailed project review (over and above Government's project completion report) was carried out. Given that rehabilitating the primary infrastructure along the Ngalam river was a significant project investment, the M&E system should have captured data on the beneficiaries of the rehabilitated infrastructure as part of documenting project benefits and evaluating the return on this important investment.

M&E Utilization

63. It was utilized, including informing the project restructuring process. As indicated above, a thorough review has been completed which will inform future similar programs in the country.

Justification of Overall Rating of Quality of M&E

Rating: Substantial

64. Overall, it was well a designed and executed system. The PCU was staffed with qualified M&E specialists and data collection mechanisms were put in place in the project intervention zones. The M&E faced some shortcomings at the start of the project but were recognized and corrected at and after the Mid-Term Review. The project achievements and lessons learned are captured in the government completion and project impact evaluation documents.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

B.1 Environmental Compliance

65. The project triggered the following environmental and social safeguard policies: Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), Pest Management (OP 4.09), Physical Cultural Resources (OP/BP 4.11), International Waterways (OP/BP 7.50), and Dam Safety (OP/BP 4.37). The Environmental and Social Management Framework (ESMF), and the Pest Management Plan (PMP) disclosed before appraisal. During project implementation, site-specific Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs) were publicly disclosed as required. An environmental review found that construction works had mainly local impacts of a temporally nature: noise, dust, and nuisance. Pumping water was negligible compared to the available resource. Training was provided on the pesticide management plan. Construction waste was handled appropriately.

66. The dated covenant requiring Government to enter into an agreement with the OMVS to ensure that the OMVS carries out safety inspections of the Mantali and Diamo Dams once every five years during the implementation of the Project was only partially and belatedly fulfilled. The Government (Ministry of Water and Sanitation) has officially



formalized an agreement with OMVS for the monitoring of these dams, but inspections are still to be done. SOGEM is financing the inspection study of the Manantali dam, while a Bank-financed project – (Senegal River Basin Multi-Purpose Water Resources Development Project/Projet de Gestion Intégrée des Ressources en Eau du Fleuve Sénégal - PGIRE II) will be financing that of the Diamo dam. A related covenant requiring preparation of an operation and maintenance plan and emergency preparedness plan for the Diamo and Manantali Dams remained unfulfilled under the responsibility of PGIREII.

B.2 Social Compliance

67. The project triggered OP/BP 4.12 on Involuntary Resettlement. Government prepared a Resettlement Policy Framework (RPF) which was publicly disclosed in-country on November 4, 2013 and at the World Bank InfoShop on October 30, 2013. During project implementation, all investment activities were preceded by the requisite Resettlement Action Plans. There were 3 cases that necessitated compensation, which was done (in one case, the individual was deceased, and the compensation was to the heirs). The project also set up a Grievance Redress Mechanism. In all, 9 grievances were expressed, all which were satisfactorily responded to by the Project Coordination Unit. The triggered social safeguard was complied with.

B.3 Fiduciary Compliance

68. **Financial Management.** By the project's end, the overall performance of financial management was moderately satisfactory. Accounts were up to date, bank reconciliation statements regularly drawn up, the quality of reporting was on the whole, deemed satisfactory. The expenses deemed ineligible were reimbursed, albeit with significant delay. Project audits were supplied within the timeframe under the Financing Agreement. The recommendations for improving internal control issued by the internal auditor and the external auditor have been implemented, with some delay. At some point during project implementation there were delays in processing payment requests at the Ministry of Finance, although this was later corrected.

69. **Procurement.** The overall procurement performance is rated moderately satisfactory. Although there were some procurement delays, there were no cases of misprocurement. Also, the PCU maintained competent staff, despite challenges of high staff turnover more generally.

C. BANK PERFORMANCE

Quality at Entry

70. This was consistent with the World Bank Country Partnership Strategy FY13-FY17, especially pillar ones focus on accelerating inclusive growth in which this project was one of the operations for executing the strategy (page 32 of the CPS). It was also consistent with Senegal's National Strategy for Social and Economic Development (2013-2017), especially on its call for increased partnership with the private sector, its focus on irrigation development and sustainable natural resource management. The project development objective was kept simple, and the proposed activities for attaining those objectives were appropriate and technically simple. It leveraged, and was well coordinated, with other ongoing activities. There are, however, a few notable shortcomings: (i) failure to first pilot the land framework to test its legal, technical, and social feasibility; (ii) failure to foresee the difficulty of attracting and retaining talent outside of Dakar, and calibrating the remuneration packages accordingly to forestall high staff turnover that highly disrupted project implementation; (iii) improper calibration of a number of project results indicators at appraisal; and (iv) incorporating the dam safety issue (Manantali and Diamo) which was beyond the scope and mandate of the project (these could have been placed in the Senegal River Basin Water Resource Management Project which would have been the most appropriate vehicle for addressing them).



Quality of Supervision

71. In addition to continuous ongoing support provided by the Dakar World Bank Office staff, the project team maintained regular (twice a year) formal implementation support missions, as well as monthly Video Conferences to resolve implementation issues. There were rather frequent (four) task team leadership changes over the seven-year implementation period, although transitions were handled with extended overlaps to ensure continuity. The teams were pro-active in addressing the project's critical issues, including the Restructuring after the mid-term review to align the project with the country's legal framework and simplify the project to accelerate implementation in view of the delays experienced up until that point. It should be noted that implementation support was handicapped by the COVID-19 travel restrictions which hampered carrying out field visits. The project implementation support team had to intensify virtual interactions to make up for that shortcoming, which happened at the most critical moment as the project was right in the midst of implementing a turn-around strategy during the last stretch of project implementation.

Justification of Overall Rating of Bank Performance

Rating: Moderately Satisfactory

72. The Bank tackled a thorny issue of land use rights, was quick to restructure when implementation hit an impasse, and adapted its support when the COVID-19 pandemic hampered field missions. However, more efforts and proactivity were necessary to support project coordination to reduce staff turnover, sustain the policy dialogue, strengthen the PCU's capacity and foster quick government decisions on project restructuring and strengthen PCU staff capacity.

D. RISK TO DEVELOPMENT OUTCOME

Rating: Moderate

73. This risk is assessed as Moderate. This rating is supported by the following facts: (a) the unfinished agenda on land tenure has been handed-over to a World Bank-funded project (Cadastre and Land Tenure Improvement Project, P172422) already effective with the expectation of scaling up the experience under the project; (b) the dated covenant pertaining to Dam safety (Manantali and Diama) has been transferred to another Bank-funded project – Senegal River Basin Multipurpose Water Resources Development Project 2, which is already supervising the Diama Dam; (c) four months after the project closing, secondary and tertiary irrigation works are still going on and executed at about 70 percent, with the firm commitment of pursuing and financing the works on government's own resources; (d) equipment that had been delayed due to COVID-19 has been acquired; (e) technical supervision of these works is under the responsibility of SAED (a national agency mandated to oversee all irrigation and attendant works); and (f) the APIX (Private Investment Promotion Agency) with the statutory mandate of overseeing private investment will continue to monitor foreign investment dynamics initiated under the project.



V. LESSONS AND RECOMMENDATIONS

74. A systematic registration approach that includes an extensive awareness campaign is critical in stimulating demand for certification of land user rights. It renders field work more efficient, land demarcation more contiguous and the process more inclusive, contrary to sporadic, on-demand approaches which are likely to result in high costs of land document issuance. They are also likely to limit access to the wealthier or more influential members of the community. With a systematic approach, adjudication is done locally and transparently with the involvement of neighbors and local authorities.

75. Effective private sector partnerships require fulfillment of key prerequisites. These include: (i) having a land tenure regime that adequately secures the interests of both parties (investors and community members); (ii) extensive advertisement to attract a large pool of qualified potential investors; (iii) supporting host communities to accelerate the investor selection and contract negotiation process as it can run into several months and lead to extensive delays if not properly guided; (iv) support to selected investors in complying with requisite documentation, especially regarding safeguard policies where many lack experience in drafting the appropriate terms of reference, seeking validation among relevant authorities and monitoring these studies.

76. The project implementation team was able to adjust to unforeseen challenges and catch up with implementation delays through a comprehensive restructuring. This consisted of: (i) identifying and strengthening areas where traction was possible, clarifying and strengthening oversight by responsible agencies, and keeping beneficiaries interested by pairing faster gestation period activities (such as Matching Grants) with long gestation period investments (such development of primary and secondary irrigation infrastructure).

77. Effective promotion of water and soil management practices requires a judicious combination of instruments and approaches. To generate and sustain community interest, the project combined activities whose results were immediate, such as cost savings by switching to water-efficient irrigation practices (such as the California-system), with activities whose benefits are not very obvious in the short term (such as planting wind-breaks – although this included fruit trees whose benefits might appeal to some farmers, thus increasing adoption). In addition, the promoted practices were visually demonstrated through farmer field schools, and farmers organized in Economic Interest Groups for cost efficiency in training, and to maximize peer learning. To ensure sustainability, tree nursery activities were anchored in the agency ordinarily responsible for those activities, and collaborative mechanisms promoted between the agency and farmers' organizations to maintain a deep sense of ownership on the farmers' part.

**ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS****A. RESULTS INDICATORS****A.1 PDO Indicators**

Objective/Outcome: To develop inclusive commercial agriculture and sustainable land management in project's area.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Volume of annual agricultural outputs from project developed areas	Metric ton	0.00 31-Dec-2013	100000.00 31-Dec-2013	70,000.00 15-Nov-2017	124,874.00 30-Jun-2021
of which annual quantity exported	Metric ton	0.00 11-Jun-2018	45000.00 15-Nov-2017		1,730.00 30-Jun-2021
of which annual quantity produced by small and medium farmers	Metric ton	0.00 15-Nov-2017	25000.00 15-Nov-2017		123,144.00 30-Jun-2021
Comments (achievements against targets):					

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



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Number of jobs created in project areas	Number	0.00 31-Dec-2013	9500.00 31-Dec-2013	4,000.00 15-Nov-2017	5,337.00 30-Jun-2021
of which women	Number	0.00 31-Dec-2013	6600.00 31-Dec-2013	2,000.00 15-Nov-2021	2,298.00 30-Jun-2021
of employees by large investors	Number	0.00 31-Dec-2013	6600.00 31-Dec-2013	3,000.00 15-Nov-2017	490.00 30-Jun-2021
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Land area where sustainable land management practices have been adopted as a result of the project	Hectare(Ha)	0.00 31-Dec-2013	10000.00 31-Dec-2013	5,000.00 15-Nov-2017	11,329.00 30-Jun-2021
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Secured land plots registered in	Hectare(Ha)	0.00	20000.00		77,530.00



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the Land Information System (NICAD Number)		15-Nov-2017	15-Nov-2017		30-Jun-2021
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Secured land area under a tripartite agreement between local authorities (Commune)/Investor/Community	Hectare(Ha)	0.00 15-Nov-2017	10000.00 15-Nov-2017		2,213.00 30-Jun-2021
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Direct project beneficiaries	Number	0.00 31-Dec-2013	10680.00 31-Dec-2013	6,980.00 15-Nov-2017	20,846.00 30-Jun-2021
of which women	Number	0.00 31-Dec-2013	6900.00 31-Dec-2013	4,000.00 15-Nov-2017	3,323.00 30-Jun-2021
of which SMEs	Number	0.00	200.00	30.00	90.00



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		31-Dec-2013	31-Dec-2013	15-Nov-2017	30-Jun-2021
of which small (less than 2 ha per holders, including through their associations) and medium farmers (up to 20ha)	Number	0.00 31-Dec-2013	880.00 31-Dec-2013	800.00 15-Nov-2017	20,846.00 30-Jun-2021
of which wage workers	Number	0.00 31-Dec-2013	9500.00 31-Dec-2013	6,000.00 15-Nov-2017	5,337.00 30-Jun-2021
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Forest area under management plans	Hectare(Ha)	0.00 31-Dec-2013	25000.00 31-Dec-2013		32,507.00 30-Jun-2021

Comments (achievements against targets):

A.2 Intermediate Results Indicators

Component: Component 1: Support to sector actors



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Target producers with use rights recorded as a result of the project	Number	0.00 31-Dec-2013	600.00 31-Dec-2013		14,249.00 30-Jun-2021
of which large investors	Number	0.00 31-Dec-2013	10.00 31-Dec-2013	8.00 15-Nov-2017	4.00 01-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of people trained on the use of tools to secure land tenure rights	Number	0.00 15-Nov-2017	3000.00 15-Nov-2021		9,990.00 01-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of land (and conflict-related issues) management entities set in place	Number	0.00 15-Nov-2017	45.00 15-Nov-2017		36.00 30-Jun-2021



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Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Land Bureaux equipped and functioning	Number	0.00 15-Nov-2017	9.00 15-Nov-2017		9.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of Land Occupation and Use Mapping (POAS) established	Number	0.00 15-Nov-2017	9.00 15-Nov-2017		6.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Land area secured and registered in the Land Registries at the Communes'	Hectare(Ha)	0.00 15-Nov-2017	20000.00 15-Nov-2017		77,530.00 30-Jun-2021



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SENEGAL - Sustainable and Inclusive Agribusiness Development Project (P124018)

level						
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Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Percentage of land conflicts resolved through local land management entities	Percentage	0.00 15-Nov-2017	40.00 15-Nov-2017		44.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in private investments in project areas	Amount(USD)	0.00 31-Dec-2013	260.00 31-Dec-2013	100.00 15-Nov-2017	15.00 30-Jun-2021
of which investments in the blocks	Amount(USD)	0.00 31-Dec-2013	250.00 31-Dec-2013	95.00 15-Nov-2017	12.00 30-Jun-2021
of which investments outside the blocks	Amount(USD)	0.00 31-Dec-2013	10.00 31-Dec-2013	5.00 15-Nov-2017	3.00 30-Jun-2021



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Comments (achievements against targets):

Unit is in Million US\$

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of beneficiaries trained on Sustainable Land and Water Management	Number	0.00	5000.00		3,843.00 30-Jun-2021

Comments (achievements against targets):

Component: Component 2: Development of irrigation infrastructure and natural resources management

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increase in the water flow of the Ngalam River course per second	Cubic Meter(m ³)	8.00	15.00		16.84 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
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Recovery rate of fees in areas provided with water management services by the project	Percentage	0.00 15-Nov-2017	100.00 15-Nov-2017		0.00 30-Jun-2021
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Comments (achievements against targets):

Pending to the completion of irrigation infrastructures.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Area provided with irrigation and drainage services	Hectare(Ha)	1,000.00 15-Nov-2017	10000.00 31-Dec-2013	5,000.00 15-Nov-2017	1,320.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Average productivity per hectare for farmers inside the blocks for sweet potatoes	Tones/year	0.00 31-Dec-2013	30.00 31-Dec-2013		35.00 30-Jun-2021

Comments (achievements against targets):



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Average productivity per hectare for farmers inside the blocks for Onion	Tones/year	0.00 31-Dec-2013	30.00 31-Dec-2013		23.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Percentage of small and medium farmers inside the blocks participating in inclusive business models	Percentage	0.00 31-Dec-2013	50.00 31-Dec-2013	15.00 15-Nov-2017	0.00 30-Jun-2021

Comments (achievements against targets):

To be assessed when all irrigation schemes will be completed.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of small and medium farmers who adopted an improved agricultural technology promoted by the	Number	0.00 31-Dec-2013	1000.00 31-Dec-2013	3,000.00 15-Nov-2017	1,815.00 30-Jun-2021



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SENEGAL - Sustainable and Inclusive Agribusiness Development Project (P124018)

project

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Forest area protected by boundaries and signs	Hectare(Ha)	55,000.00 15-Nov-2017	75000.00 15-Nov-2017		67,507.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of management committees for protected areas created and operationnalised	Number	0.00 15-Nov-2017	50.00 15-Nov-2017		56.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
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Number of local conventions implemented for the management of protected areas	Number	0.00 15-Nov-2017	9.00 15-Nov-2017		0.00 30-Jun-2021
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Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of persons trained in forest inventory, mapping, GPS use and natural resources management	Number	0.00 15-Nov-2017	250.00 15-Nov-2017		216.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of forest trees planted	Number	700,000.00 15-Nov-2017	1000000.00 15-Nov-2017		729,268.00 30-Jun-2021

Comments (achievements against targets):



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SENEGAL - Sustainable and Inclusive Agribusiness Development Project (P124018)

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation	Metric ton	0.00 31-Dec-2013	600000.00 31-Dec-2013	200,000.00 15-Nov-2017	189,745.00 30-Jun-2021

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Capacity to monitor GHG emissions in project areas is demonstrated	Yes/No	No 31-Dec-2013	Y 31-Dec-2013		Yes 30-Jun-2021

Comments (achievements against targets):

**B. KEY OUTPUTS BY COMPONENT**

Objective/Outcome 1 Development of Inclusive Commercial Agriculture	
Outcome Indicators	<ol style="list-style-type: none">1. Volume of annual agricultural outputs from project developed areas (of which annual quantity exported, and of which annual quantity produced by small and medium farmers)2. Number of jobs created in project areas (of which women, and of employees by large investors)
Intermediate Results Indicators	<ol style="list-style-type: none">1. Target producers with use rights recorded as a result of the project of which large investors;2. Number of people trained on the use of tools to secure land tenure rights3. Number of land (and conflict-related issues) management entities set in place4. Number of Land Bureaux equipped and functioning5. Number of Land Occupation and Use Mapping (POAS) established6. Land area secured and registered in the Land Registries at the Communes' level7. Percentage of land conflicts resolved through local land management entities8. Increase in private investments in project areas (of which investments in the blocks and of which investments outside the blocks)9. Increase in the water flow of the Ngalam River course
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	<ol style="list-style-type: none">1.1. Annual agricultural outputs: 124,874 tons1.2. Annual agricultural outputs exported: 1,730 tons1.3. Annual agricultural outputs produced by small and medium farmers: 123,144 tons1.4. Number of jobs created: 5,3371.5. Number of women jobs created: 2,2981.6. Number of employees by large investors: 4901.7. Number of beneficiary SMEs: 902.1. Increase in the water flow of the Ngalam River course: Five times (from 3 to 16.84 m³)2.2. Area provided with irrigation and drainage services: 1,320 hectares;



Objective/Outcome 2: Promotion of Sustainable Land Management	
Outcome Indicators	<ol style="list-style-type: none">1. Land area where sustainable land management practices have been adopted as a result of the project2. Forest area under management plan
Intermediate Results Indicators	<ol style="list-style-type: none">1. Forest area protected by boundaries and signs2. Number of management committees for protected areas created and operationalized3. Number of local conventions implemented for the management of protected areas4. Number of persons trained in forest inventory, mapping, GPS use and natural resources management5. Number of forest trees planted6. Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation7. Capacity to monitor GHG emissions in project areas is demonstrated
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<ol style="list-style-type: none">1.1.Land area where sustainable land management practices have been adopted as a result of the project: 11,329 hectares1.2. Number of land (conflict-related issues) management entities set in place: 361.3. Number of beneficiaries trained on Sustainable Land and water management: 3,8431.4. Number of land occupation and use mapping (POAS) established: 62. 1Forest Area under management plans: 32,507 hectares2.2. Forest area protected by boundaries and signs: 67,507 hectares2.3.Number of management committees for protected functional: 562.4.Carbon stored in forest ecosystems: 189,745 tons

**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION****A. TASK TEAM MEMBERS**

Name	Role
Preparation	
Jean-Philippe Tre	Task Team Leader(s)
Arbi Ben Achour	Social Specialist
Robert A. Robelus	Social Specialist
Amadou Konare	Social Specialist
Maman-Sani Issa	Social Specialist
Arnaud D. Dornel	Lead Financial Sector Specialist
Berengere P. C. Prince	Sr Natural Resources Mgmt. Spec.
Fadwa Bennani	Private Sector Development Specialist
Mamadou Mansour Mbaye	Procurement specialist
Gabriele Rechbauer	Environmental Specialist
Grazia Atanasio	Consultant
Jacqueline Lockward	Program Assistant
Johanna van Tilburg	Senior Social Development Specialist
Johanne Buba	Jr Professional Officer
Jonathan Mills Lindsay	Lead Counsel
Jorge A. Munoz	Adviser
Juvenal Nzambimana	Senior Operations Officer
Khady Fall Lo	Program Assistant
Korotoumou Ouattara	Sr Financial Economist



Mademba Ndiaye

Senior Communications Officer

Supervision/ICR

Task Team Leader(s)

El Hadj Adma Toure

Task Team Leader(s)

Mountaga Ndiaye, Laurent Mehdi Brito

Procurement Specialist(s)

Fatou Fall Samba

Financial Management Specialist

Marie Caroline Paviot

Task Team Leader(s)

Mamadou Moustapha Ndoye

Social Specialist

Aifa Fatima Ndoye Niane

Team Member

Joelle Nkombela Mukungu

Environmental Specialist

Sophie Martine Olivia Wernert

Counsel

Medou Lo

Environmental Specialist

Jacqueline Beatriz Veloz Lockward

Procurement Team

Boury Ndiaye

Program Assistant

Mamadou Mansour Mbaye

Team Member

Andre Teyssier

Team Member

Seynabou Thiaw Seye

Procurement Team

Anta Tall Diallo

Procurement Team

Mohammad Ilyas Butt

Procurement Team

Abdoul Wahabi Seini

Social Specialist

Mademba Ndiaye

Team Member

Fatou Fall Samba

Senior Financial Management Specialist

Gabriele Rechbauer

Environmental Specialist

Grazia Atanasio

Consultant, communication

Jacqueline Beatriz Veloz Lockward

Procurement Team

Joelle Mukungu

Senior Environmental Specialist

Kofi-Boateng Agyen

Senior Private Sector Specialist

Laurent Mehdi Brito

Procurement Specialist

Lucienne M'Baior

Senior Social Safeguards Specialist



Mamadou Mansour Mbaye	Procurement Specialist
Mamadou Moustapha Ndoye	Senior Social Safeguards Specialist
Maman-Sani Issa	Senior Environmental Specialist
Mamata Tiendrebeogo	Senior Financial Management Specialist
Medou Lo	Environmental Specialist
Mohamed El Hafedh Hendah	Procurement Specialist
Mohammad Ilyas Butt	Procurement Team
Mouhamadou Kabir Ndoye	Procurement Specialist
Mountaga Ndiaye	Procurement Specialist
Ndeye Magatte Fatim Seck	Procurement Team
Ndiaga Samb	Consultant, Social Safeguards
Nicolas Kotschoubey	Senior Environmental Specialist
Ousmane Dia	Consultant, Irrigation Specialist
Rémi Trier	Senior Water Resources Specialist
Seimane Diouf	Program Assistant
Seynabou Thiaw Seye	Procurement Team
Steven Sylverstein	Consultant, GDTE/FEM
Sylvie Munchep Ndze	Procurement Team
Yasmina Oodally	Sustainable Land Management Specialist
Amath Diop	Procurement Specialist
Eustacius N. Betubiz	Consultant

**B. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY11	18.659	132,999.76
FY12	34.278	251,977.64
FY13	31.162	216,332.92
FY14	9.950	102,424.18
FY15	.950	4,227.10
FY16	0	0.00
FY17	0	0.00
Total	95.00	707,961.60
Supervision/ICR		
FY11	.350	1,759.94
FY14	10.550	128,201.00
FY15	17.433	148,880.90
FY16	29.252	189,682.97
FY17	26.835	208,966.72
FY18	13.426	150,167.11
FY19	18.004	177,617.09
FY20	27.362	189,240.74
Total	143.21	1,194,516.47



ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US\$M)	Amount at Restructuring (US\$M)	Actual at Project Closing (US\$M)	Percentage of Restructuring (US\$M)	Percentage of Approval (US\$M)
Component 1: Support to sector actors	11.00	16.90	15.03	88.93	136.60
Component 2: Development of irrigation infrastructure and natural resources management	68.50	60.47	44.80	74.09	65.40
Component 3: Coordination, Impact Monitoring and Evaluation (GEF: US\$0.5 million; IDA: US\$6 million)	6.50	8.63	13.12	152.03	201.84
Total	86.00	86.00	72.95*	84.82	84.82

*Exchange rate between US\$ and XOF brought the difference between the US\$76million in the data sheet and the US\$72.95million.



ANNEX 4. EFFICIENCY ANALYSIS

Summary

1. This report presents the efficiency analysis at implementation completion of the Senegal Sustainable and Inclusive Agribusiness Project (PDIDAS) which aims to develop inclusive commercial agriculture and sustainable land management in Guiers lake and Ngalam valley areas. The analysis uses a mix of methods: an economic and financial analysis (EFA) built on a cost-benefit approach to estimate the net additional benefits attributable to the project's main outcomes and a cost analysis to assess the efficient use of resources¹³. This annex is structured in five parts: (i) the first section presents the background and rationale of the project; (ii) the second part gives an overview of the EFA prepared at appraisal and at restructuring followed by (iii) a third section that summarizes the main achievements after the project restructuring and provides the results of the financial analysis. The financial analysis is carried out for the project technical components and related to technical assistance to rural communities, smallholders and private investors to access and secure land through land tenure agreements (components 1), access to public irrigation infrastructures (component 2.1) and a matching grant to Small and Medium-sized enterprises (SMEs) and Smallholder's groups benefiting from private irrigation infrastructures and agricultural inputs (sub-component 2.2). (iv) The fourth section describes the economic analysis, summarises the overall results of the EFA and discusses the project's efficiency rating; (v) The final section discusses the efficiency of project costs against the estimates at appraisal.

2. Quantitative analysis strongly based on the achievements after restructuring of the project and on the first experimental results obtained with communities and private sector on Ngnith sites, Given that the major achievements in particular irrigation infrastructures were carried out during the last two implementation years and which for the most part are not yet commissioned. It should be noted that a significant amount of time was given to land security activities (change in the implementation approach after restructuring) underestimated at the appraisal but remains an important aspect for the sustainability of the project's achievements. In terms of information sources, the present analysis is developed based on the available M&E data as provided by the Project Management Unit (PMU), the final evaluation report provide by the Government, national statistical data and also exchanges held with beneficiaries (community groups, private investors CADA, WAF, SMEs) and implementation partners. It was also assumed that the project's first component on land security and access to public irrigation infrastructures (primary, secondary and tertiary) established are strongly interlinked.

3. Overall, the economic results are positive, indicating the project's economic soundness based on the information provided. The ICRR efficiency analysis based on the after restructuring achievements demonstrates an economic internal rate of return (EIRR) of 15,1% compared to 18% at appraisal that used a very conservative hypotheses as a reference situation and 15% at the restructuring with the revision of the ambitions of the total irrigated area from 10,000 ha to 4,500 ha directly financed by the project. The NPV is estimated at US\$ 34,5 million at 6% social discount rate as recommended by the World Bank guidance note. This economic result at completion fully based on the after restructuring achievements (5290 ha DAP1 and 2) is rated as substantial compared to the expected result of the restructuring. Indeed, 85% of the planned resources were spent to reach or even exceed the quantitative objective defined at the restructuring. The project efficiency before the restructuring can be rated as modest, based essentially on disbursement performances coupled with qualitative results, in particular the communities and private sector

¹³ The present analysis covers the World Bank financing of US\$ 80 million and the Global Environment Facility (GEF) financing of US\$ 6 million.



mobilization and the establishment of a solid mechanism for land security to guarantee the sustainability of investments.

Background and Rationale of the Project

4. Senegal has a number of attributes that make it an attractive location for investment in agriculture and agribusiness. It is economically and politically stable. The investment climate is generally positive. It has good logistics for serving domestic, regional and international food markets that are likely to expand with continued urbanization, and there is substantial scope for import substitution. Since 2000, the Government of Senegal committed to developing a competitive, inclusive and sustainable agribusiness industry as a priority, singling out in particular the horticulture and rice value chains in the Saint Louis/Senegal River region.

5. Despite this potential, several constraints continue to impede agribusiness development and limit private sector investment in the region. These constraints have been identified in studies conducted by development partners and validated by the authorities. The binding constraints in the horticulture value chains vary by zones and type of players. The constraint for all type of investors in the Ngalam Valley is the lack of access to water associated with land degradation (salinization). For medium and large investors on the right bank of Guiers lake is lack of secured access to land and undue political interference with respect to land allocation.

6. A number of actions towards the development of commercial agriculture. These include making structural investments with donor support such as building specialized infrastructure (post-harvest, storage and logistics), providing support to the formal organization of several value chains (tomato, horticulture, rice, cassava and maize), improving the judicial framework with the adoption of the investment code and several programs including the IDA-financed Agricultural Markets and Agribusiness Development Program (PDMAS), that was focused on the expansion of agribusiness across the country through substantial investments in improved domestic market conditions, support to non-traditional agricultural exports, and demand-driven irrigation infrastructure.

7. To consolidate and expand the achievements of the PDMAS which has performed successfully in export promotion of high value commodities and has helped establish key resource exports infrastructures, a blended IDA, GEF Senegal Inclusive and Sustainable Agribusiness Development Project (PDIDAS) was proposed with the aim at removing specific constraints standing in the way of capturing, in a sustainable way, the agribusiness opportunities in the Ngalam Valley and Guiers lake areas. PDIDAS project has been approved by the World Bank's Board on 19 December 2013. The Project Development Objective (PDO) is to develop inclusive commercial agriculture and sustainable land management in the project areas. The total project cost is estimated at \$US 86 million, financed by a credit from International Development Association (IDA) of \$US 80 million and a grant from the Global Environment Facility (GEF) of \$US 6 million.

8. In 2018, a joint **government and WB restructuring work was carried out with** the mains objectives to (i) align the project with the revised land tenure security model; and (ii) accelerate the implementation of project activities. Before and during the MTR of the project, the new land tenure security model was reviewed with World Bank and the Government team including the private sector, communities and involved communes which consist of promoting inclusive and sustainable private investments driving agribusiness development in the project areas. The new model provides a high level of land use right security to investors, while minimizing the risk of land grabbing by safeguarding a community-led land identification and allocation process. The project activities were also grouped in five mains axes: (1) Support to Communes on land transactions, (2) Development of Irrigation Infrastructure, (3) Support to



Communities' productive activities including through partnership with agribusinesses operating in the area, (4) Sustainable Land and Water Management including Forest and Conservation Areas Management, (5) and Matching Grants.

Efficiency analysis at the appraisal and at the restructuring

9. At appraisal, an economic and financial analysis was prepared that estimated the benefits of the project activities as envisaged. The ex-ante EFA focused on the different production practices in the project's areas and the differences practices between investors, small and medium farmers, SMEs as representative for the target population. In particular, the EFA looked mainly at horticultural value chains. The analysis modelled the activities using the standard methodology of comparing with-project situation (WP) with the without-project situation (WOP), and as a result it modelled incremental benefits of the selected horticultural crop activities. The project having planned to develop 10 000 hectares of irrigated land. To simplify the economic and financial analysis, it was assumed at appraisal 20 blocks of 500 hectares, each exploited by an investor and local farmers (small and medium), as follows: 250 ha for the investor, 150 ha for the medium-sized farmer (around 16 ha for the plot) and 100 ha for the smallholders (around 2.5 ha for the plot). The price assumptions used were relatively conservative and consider that the small producers did not make large profits but the adoption of sustainable land management practices reduce operational costs.

10. As a result, the appraisal EFA results indicated an internal economic rate of return of 18% and a net present value (NPV) of the additional benefits of US\$ 20.2 million, assuming a social discount rate of 10%. An analysis with optimistic scenarios, with an increase in the benefits of small producers and that each block of land offers will operate within the framework of a contractual commitment envisaged an economic IRR of 21% with a NPV corresponding to US\$ 27.8 million;

11. At restructuring, some changes were made to the initial irrigation program focusing on key irrigation infrastructure in line with the overall Senegal River Delta irrigation master plan. the project's ambitions have been revised downwards and it will be possible to develop only 4,500 ha of irrigated land with the project direct investments by the closing date, divided between investors and small and medium farmers (50/50 distribution), The investors will finance entirely the costs for the development of secondary and tertiary irrigation infrastructures. This therefore implied significant changes in the costs of the project. costs, with anticipated savings from irrigation infrastructure redirected to the community support program. With the revised scenario, the project is estimated to result in an Economic IRR of 15 % with a discount rate of 10% and a Net Present Value of US\$54 million. The decrease in the ERR is linked to the reduction of the area with irrigation infrastructure financed by the project. This change allows to reduce drastically the costs of irrigation infrastructure within the project while leaving open the possibility for further investments by the private sector to reach 10,000 ha given the existing potentialities.

Main results and financial profitability before and after restructuring

12. The physical achievements of the project for which the financial benefits are quantifiable are only observed after the restructuring as indicated in the results framework of the project. Indeed, the financial profitability analysis of the investments is essentially focused on achievements after the restructuring. The use of disbursement weights, helped to better evaluate the efficiency before the restructuring (refer to efficiency section)

13. The financial analysis was carried out mainly on the productive investments of the project but also by strongly integrating the qualitative effects of the land security activities on the actors' performances in particular the installation



and operation of agricultural land by private investors and better access to irrigation and technologies to communities, Smallholders and SMEs.

14. Land security, access to public irrigation infrastructures and sustainable production technologies are the most important parts of the project (Subcomponents 1.1, 1.2, 1.3 and 2.1). the sustainability of public irrigation infrastructures and the sustainable use of agricultural land around Guiers lake and Ngalam valley are strongly linked to securing land activities. The first component has therefore provided the identification and voluntary provision of land to private investors by communities (land offer-DAP1 and 2) involving municipalities, demonstration and implementation of SLMW techniques, promotion of private agricultural investment upstream of the access to public irrigation infrastructure through the subcomponent 2.1 activities (design, construction and equipment of essential primary irrigation infrastructure and secondary canals).

15. Matching grant (Subcomponent 2.2). this component aimed to provide a matching grant to smallholders and SMEs for the establishment of tertiary irrigation systems as well as the provision of agricultural inputs.

16. Sustainable management of classified forests and natural reserves (Subcomponent 2.3). In order to mitigate the harmful effects of hydro-agricultural developments on the environment and natural resources and more specifically on greenhouse gas emissions, seven classified forests and two nature reserves were chosen in the Project area to carry out rehabilitation and management actions.

Table 1: Main results achieved by PDIDAS (After restructuring)

Mains activities	Quantitative results achieved		
(i) Secure area registered in the land registers kept in the municipalities	77 530 hectares; 57669 ha with a Cadastral Identification Number		
(ii)-Marketed agricultural production from the project areas: 124,874 tons of marketed agricultural production from project areas			
Community	Horticultural producers' groups- management of expectations Livestock producers' groups- management of expectations DAP1 and 2 under irrigated horticultural production-Operated by communities DAP1 and 2 under irrigated horticultural production -Operated by Investors	18 smallholders' groups supported on 3879 hectares; 95 738 tons of horticultural products obtained. 4 livestock producers' groups, with around 301 tons of animal feed made available 502 TLU 2640 hectares benefiting from land offers and secondary and tertiary irrigation systems. 2685 hectares benefiting from land offers and secondary and tertiary irrigation systems.	
Land offer models (DAP1+DAP2)	Ngnith pilot operation	Communities and investors	583 hectares under irrigation systems and improved inputs, 14 980 tons of horticultural products obtained.



Matching grant	Sub-projects Local smallholders' groups	Horticultural production under private irrigation systems	36 smallholders' groups supported on 357 hectares
	SMEs	Horticultural production under private irrigation systems	3SMEs on 140 hectares supported
(iii) Sustainable land and water management (SLWM)		11 329 hectares have benefited and adopted sustainable land management techniques	
(iv) Forest area benefiting from management plans		32 507 hectares, with 8 validated management plans	
Direct beneficiaries of the project		20846 beneficiaries, including 3323 women, 90 members of SMEs, 6102 among small and medium-sized operators and 5337 jobs created	

Source: PDIDAS M&E

17. The financial analysis follows the standard methodology recommended by the World Bank, as described in Gittinger (1982), Belli et al. (2001) and is aligned to the recent guidelines for economic and financial analysis. The financial analysis was conducted to assess the profitability of the activities related to land offers and matching grant to SMEs, and smallholders' groups, modelled from the perspective of the target beneficiaries, and compared with the *without-project* (WOP) situation. The WOP parameters have been based on the baseline yield values, where applicable or reconstitute with beneficiaries or based on statistical data while the with-project situation has been based on the M&E reported yields. The discount rates used are in line with the World Bank guidelines, the practice of recent project and in-country discussions: 8% for the financial analysis and 6% for the economic analysis. This analysis better reflects the way the project was implemented and its activities can be evaluated (crops, proportion of production exported, irrigation system and technologies used respectively for communities, SMEs and Investors).

18. Financial models. The quantitative benefits derived from the main activities financed by the project were modelled using the 7 main models, representative of horticultural crops in the project area practiced by communities and investors. The characterization of the financial models is presented below:

**Table 2: characteristics of financial models¹⁴**

Land offer models (DAP1, DAP2), Ngnith	Communities	Model1: Horticultural producers' groups-expectations management	1 hectare, 35%-50% increase in yield compared to WOP: Tomato (20%) Onion (36%) Watermelon (16%) Peanut (13%) Sweet potato (14%)
		Model 2: Livestock producers' groups-expectations management	Cattle fattening, 126 LUT in average per producers' groups, Improved access to animal feed and considerable reduction in feed costs.
		Model 3: horticultural production- under sprinkler irrigation system	1 hectare, 12%- 67% increase in yield compared to WOP: Tomato (19%) Onion (33%) Watermelon (15%) eggplant (12%) Sweet potato (13%) Cabbage (7%)
		Model 4: horticultural production- under Californian irrigation system	
	Investors	Model 5: horticultural production- under pivot, Drip irrigation system or GAG	Block of 100 hectares Soft corn (40%) Sweet potato (15%) Green bean (45%)
Matching grant Sub-projects	Local smallholders' groups	Model 6: Horticultural production under private irrigation systems	10 hectares in average, 19%-43% increase in yield compared to WOP Melon (9%) Onion (49%) Sweet potato (17%) Cassava (24%)
	SMEs	Model 7: Horticultural production under private irrigation systems	47 hectares in average (140ha, 3 SMEs), 14%-43% increase in yield compared to WOP. Potato (30%) Onion (70%)

¹⁴ The models was prepared by referring to "Rapport de caractérisation des sites horticoles, recensement et caractérisation des exploitations horticoles de la zone d'intervention du PDIDAS, octobre 2020" and different SMEs, smallholders groups and investors business plan.



Table 3: Yields in WOP and WP situations

	Crops	WOP	WOP ¹⁵	% increase
Communities under irrigation system	Tomato	15000	25 000	67%
	Onion	17500	25 000	43%
	Watermelon	22000	32 000	45%
	Peanut	2800	3200	14%
	eggplant	15000	21000	40%
	Sweet potato	20000	30000	50%
	Cabbage	25000	30000	20%
	Melon	20000	28000	40%
Investors	Soft corn	N/A	35000	N/A
	Sweet potato	N/A	35000	N/A
	Green bean	N/A	9000	N/A
Small and medium horticulture enterprises	Potato	28000	40000	43%
	Onion	25000	35000	40%

19. All profitability indicators suggest the viability of the models prepared in this analysis, with significant margins for additional income and returns on the investment, with a B/C ratio above 1 and an IRR between 16.2% and 30.7%. For the communities, the exploitation of land offers could allow an increase in annual income per household of about 218,500 FCFA-619,700 FCFA¹⁶ depending on the type of irrigation system used, the adoption level of sustainable management practices and the horticultural crops produced and marketed. An investor based on land offers and producing horticultural crops, could generate up to 400 million FCFA of benefit/year on a 100 hectares block for a significant initial investment cost of around 1.4 billion FCFA. SMEs, Smallholders groups having benefited from the matching grant through the commissioning of tertiary irrigation systems and better access to agricultural inputs could generate per hectare/year exploited 3,1-3,7 million FCFA. The table 3 below summarizes the financial performance indicators of 4 communities' models, 1 investor model and 2 sub-projects.

¹⁵ Yields with project may vary slightly depending on the irrigation systems as reflected in the appendix.

¹⁶ 0.25 ha exploited on average per household (PDIDAS)

**Table 4: Financial performances indicators**

Indicators	Land offer models					Matching grants	
	Communities				Investors	Smallholders groups	SMEs
	Model 1	Model 2	Model 3	Model 4		Modele 5	Modele 6
	1 ha	126 TLU	1 ha	1 ha	100 ha	10 ha	47 ha
Incremental net income(per year, FCFA)	873 766	3 323 824	2 049 949	2 478 794	394 314 631	37 409 532	147 080 183
Incremental net income(Per year, USD)	1 587	6 038	3 724	4 503	716 277	67 955	267 173
IRR	N/A	N/A	21,4%	21,5%	13,9%	30,7%	24,1%
NPV BNA (FCFA, @8%)	485 197	21 971 209	4 421 002	5 378 389	428 285 866	111 457 642	359 083 035
NPV BNA (USD, @8%)	881	39 911	8 031	9 770	777 986	202 464	652 279
B/C ratio	2,3	1,4	1,8	1,8	1,1	2,1	1,7

*Source: Author's calculations***Economic results**

20. From an economic perspective, a positive economic return of PDIDAS is important for the country as a whole to justify the government support. It takes into account private (communities, investors, SMEs) and public investments for access to land security, irrigation, technologies and environmental benefits.

21. The overall benefits of the project have been estimated using the economic results of the models, against the economic project costs over a 20-years period (2012-2031). It should be noted that the quantifiable economic benefits generated by the project are only measurable from the post-restructuring period. Conversion factors have been calculated for the main outputs and inputs to account for taxation and price distortions. Conversion factors are 1.0 for non-exchangeable local products; 1.0 for non-tradable domestic inputs; 0.85 for tradable local goods and services; 0.68 for imported inputs; 0.69 for equipment and other imported goods; 1.05 for exported product. Labour costs have been discounted at 0.83 to reflect the availability of labour in rural areas. Economic costs have been calculated by avoiding double-counting and eliminating costs already included in the individual models (Subsidies, irrigations costs). The 20-years analysis period has been retained to account for the late implementation and start of some of the productive activities (such as land offers for investors and communities) that was really started from 2020.

22. The M&E data provided in particular, the total areas developed and exploitable by the communities, investors and SMEs under sub-projects allowed to consolidate the overall economic benefits of the project.

23. Overall, the economic results are positive, indicating the project's economic soundness based on the information provided. The ICRR efficiency analysis based on the after restructuring achievements demonstrates an economic internal rate of return (EIRR) of 15,1% compared to 18% at appraisal that used a very conservative hypotheses as a reference situation and 15% at the restructuring with the revision of the ambitions of the total irrigated area from 10,000 ha to 4,500 ha directly financed by the project. The NPV is estimated at US\$ 34,5 million at 6% social discount rate as recommended by the World Bank guidance note . This economic result at completion fully based on the after restructuring achievements (5290 ha DAP1+2) is rated as substantial compared to the expected result of the restructuring. Indeed, 85% of the planned resources were spent to reach or even exceed the quantitative



objective defined at the restructuring. The project efficiency before the restructuring can be rated as modest, based essentially on disbursement performances coupled with qualitative results, in particular the communities and private sector mobilization and the establishment of a solid mechanism for land security to guarantee the sustainability of investments.

24. Despite these results, there are some sustainability risks, in particular:(i)The overall delay on the project schedule investments which does not guarantee the adoption of technologies, sustainability and total involvement of communities after the closure of PDIDAS; (ii) additional cost of the secondary irrigation infrastructure financed by investor linked to the distance from the water (6.3 km) and the increase in the irrigation costs which could lead investors to reduce the areas agreed in the tripartite land supply agreements. With reference to those risk identified at the completion of PDIDAS, the economic results of alternative scenarios have also been calculated, in particular a) Delay in income generation between 1-3 years, b) assuming 10-50 percent lower benefit, c) an adoption and survival rate of land offer agreements less than 30%. Overall, the results are positive in all scenarios, but negative for survival rate of land offer agreements less than 30%.

Table 5: Sensitivity analysis

Assumptions		IERR	VAN (@6%, 20 years), (Million USD)
Base case		15,1%	39,99
Income	-10%	14,1%	32,98
Income	-25%	12,2%	22,46
Income	-50%	6,7%	1,92
Income delay by 1 year		13,8%	36,02
Income delay by 2 years		11,9%	26,65
Income delay by 3 years		9,5%	14,75
Adoption rate (land offers, matching grant) after Project completion	30% and less	5,2%	- 1,91

Source: Author's calculations

Environmental benefits

25. The EX-ACT tool was used to assess the project's investments benefits in the form of its climate change mitigation. The analysis uses the same assumptions and project boundaries as the economic analysis. The baseline situation on annual carbon sequestration in the Project areas was carried out by the ecological monitoring center (CSE) involving the Ministry of the Environment and Sustainable Development (MEDD), the Ministry in charge of Agricultural (MAER), the research institutes and universities (UGB, UCAD/LTA, ISE, INP), the regional inspections of water and forests of Saint-Louis and Louga and ASERGMV of Senegal on behalf of WASAP-BRICKS in all 12 countries of the great green wall including Senegal with the PDIDAS project. The annual sequestration capacity in the PDIDAS area is estimated, in 20 years, at 11,309,737 tCO2-eq, or a well of 3.6 tCO2-eq / ha / year. Thus in 2021, the carbon sequestered in the project areas is about 189,745 tCO2-eq i.e. 95% of the project objective which is 200,000 tCO2-eq¹⁷.

¹⁷ Analysis being updated. The economic analysis considered the estimated average of tco2-eq per hectare / year sequestered and the cumulative progressive projection of areas supported by PDIDAS over 20 years.



26. Deforestation resulting from hydro agricultural development and horticultural production have negative effects on sequestration by reducing carbon sinks (absorption) and increasing emissions (fertilizers, tillage, operation of pump units, etc.). These negative effects are offset by significant carbon sequestration resulting from the following activities: (i) 3 defending plots of 15 hectares each, i.e., 45 hectares have been created, (ii) 5 ha from community nurseries, (iii) 800,000 plants, of which 400,000 plants are produced by communities and 400,000 plants by the forest service, intended for GDTE demonstrations and aimed at land offers and (iv) 32 507 hectares-Forest area benefiting from sustainable management plans.

27. According to the World Bank Guidance note on Shadow Carbon Price in Economic Analysis of Development Projects, it is recommended that economic analysis use a carbon price estimate range with low values (49 USD per ton) and high (98 USD per ton) and for a current social market price of (28 USD per ton). The IERR of the project if the environmental benefits were considered in the economic benefits of the project, are presented as follows:

Table 6: Summary of the Economic Analysis including environmental benefits

Indicators (20 ans)	without ENV. benefits	With ENV.Benefits @market price	with ENV. benefits @low estimate range	wit ENV. benefits @high estimate range
IERR	15,1%	19,6%	22,8%	29,5%
NPV BNA (FCFA, billion @6%)	23,65	37,1	47,9	72,0
NPV BNA (USD, @6%)	40,0	62,8	80,9	121,8

Source: Author's calculations

Project efficiency

28. The present efficiency analysis goes beyond the economic and financial analysis and provides some indications on the use of project resources, as suggested by the ICR guidelines. The information summarized in table 6 provides some relevant insights: (i) while the restructuring has reallocated significant resources from the second component to land use and land securities, investment plans activities in the first component and to the project management and coordination activities in the third component, at the end 89% of the reallocated resources were spent on component 1. (ii) significant over-spending (152%) when compared to budgets has been recorded for the project coordination while very little has been spent on the M&E activities (59% of the AWPB); (iii) under the second component, despite the reduction in the budget for the benefit of other components, the disbursement rate remains very low due to the major delays in the implementation of communities' irrigation infrastructures. But with reference to AWPBs, an appreciable disbursement rate was recorded for matching grant activities to SMEs and smallholder's groups -sub-component 2.2(96%).

**Table 7: Project Costs and expenditures**

IDA+GEF financing Projects components	Amount at approval (US\$)	Amount at restructuring (US\$)	Amount at completion (US\$)	Share of approval	Share of Restructuring
Component 1: Support to sector actors	11 000 000	16 891 512	15 027 279	137%	89%
Component 2: Development of irrigation infrastructures and improvement of natural resource management	68 500 000	60 474 988	44 800 363	65%	74%
Component 3: Project coordination, monitoring-evaluation and Communication	6 500 000	8 633 500	13 123 525	202%	152%
TOTAL	86 000 000	86 000 000	72 951 167	85%	85%

Source: author's calculations based on PDIDAS PMU, PAD paper data

29. The project implementation also significant experienced delays in disbursement before restructuring, i.e. 17% of the expected performances are achieved. As shown in the table below, after the restructuring, it is noted an increase of the disbursement performance with the additional years extension, to reach a disbursement performance rate of 85% at the end of the project with an overall physical achievement rate exceeds expectations.

Table 9: Cumulative disbursement rates per year before and after restructuring

	Before restructuring				After restructuring			
	2014	2015	2016	2017	2018	2019	2020	2021
Planned-disbursements (Million USD)	1,0	11,0	41,0	71,0	81,0	86,0		
Actual-disbursements (Million USD)	0,9	3,2	7,7	12,3	19,2	35,1	55,6	73,0
performance rate per year	86%	29%	19%	17%	24%	41%	65%	85%

Source: author's calculations based on PDIDAS PMU and PAD data

30. The analysis also studied the competitiveness of unit costs of investments especially irrigation compared to those of other developed projects; the Table 10 compares some ex-post unit costs of PDIDAS with unit costs of a recently designed projects that counts entirely on the use of contractors and service providers.

Table 10: Unit costs of project investments

Cost of initial investment	Unit	PDIDAS	PARIIS-Burkina-Faso ¹⁸	PAPFA-Extension, IFAD Project ¹⁹
Irrigation equipment	USD/ha	8350-11900	6648-19376	12400
Storage facility of horticultural product	USD/10 tons	1700 ²⁰	-	2800

¹⁸ Framework note for the implementation of PARIIS sub-projects

¹⁹ PAPFA Extension, designed in Burkina Faso by IFAD in 2019

²⁰ large-scale infrastructure, cost scaled.



ANNEX 5. BORROWER'S COMMENTS/SUMMARY OF THE BORROWER COMPLETION REPORT

BORROWER'S COMMENTS

J'accuse bonne réception du rapport d'achèvement et vous en remercie. C'est bien que le rapport d'achèvement ait ressorti les résultats positifs que nous avions noté pendant la mise en œuvre. Nous sommes convaincus que les impacts du projet seront très significatifs avec la finalisation des travaux d'irrigation et un bon encadrement de la mise en œuvre des accords-cadres qui s'ajoutera aux résultats déjà très probants des sous-projets du fonds à frais partagés. Suite à la revue du rapport d'achèvement, nous vous informons que nous n'avons aucune observation. PDIDAS.

SUMMARY OF THE BORROWER COMPLETION REPORT

Contexte du projet : L'Etat du Sénégal dans sa volonté de développement de la valeur ajoutée des productions horticoles d'exportation - déclinée actuellement à travers le Plan Sénégal Emergent (PSE) et le Programme d'Accélération de la Cadence dans le Secteur Agricole (PRACAS), a bénéficié de l'appui technique et financier de la Banque Mondiale pour mettre en place le Projet de développement inclusif et durable de l'agro-business au Sénégal (PDIDAS). Ce projet d'un financement de 86 millions de dollars des Etats Unis (43 milliards de FCFA) vise à développer une agriculture commerciale inclusive et une gestion durable des terres dans les zones du Lac de Guiers et du Ngalam.

La préparation du PDIDAS a coïncidé avec un contexte politique particulier, correspondant au début de la seconde alternance politique au Sénégal avec l'élection du Président Macky Sall à la tête du Pays le 25 mars 2012. L'émergence est depuis l'an 2014, année de lancement du PDIDAS en juin, l'objectif fixé par les autorités à travers le Plan Sénégal Emergent (PSE). Celui-ci accorde une grande importance à la nécessité d'accélérer le processus de transformation de l'agriculture pour accroître la productivité et la compétitivité afin que celle-ci devienne le moteur de l'économie sénégalaise.

Au moment du lancement du Projet, la mise à disposition d'un foncier indemne de toute contestation pour l'installation d'investisseurs était une problématique majeure. La disponibilité des terres et des sources d'eau de surface est une potentialité incontestable dans la zone du PDIDAS avec la présence du Ngalam et du Lac de Guiers. Les communautés locales qui ne sont pas souvent impliquées dans le processus d'installation des investisseurs contestent les attributions de terre qui leur sont faites qu'elles considèrent comme de l'accaparement. L'amélioration des pratiques de gestion foncières des communes devient donc un impératif pour promouvoir l'investissement privé agricole.

Par rapport aux techniques horticoles, il faut noter que les communautés du Ngalam et du Lac de Guiers, éprouvaient encore des difficultés à assurer une mise en valeur des potentialités agricoles de leurs zones. L'insuffisance des capacités techniques et des moyens de financement de leurs activités agricoles rend les productions encore faibles et l'emploi rare et précaire surtout chez les jeunes et les femmes. Elles ont ainsi des difficultés à avoir des contrats de production avec des partenaires privés. Les capacités des communes et des communautés pour la mise à disposition volontaire des terres indemne de toutes contestation pour intégrer un processus de sélection des investisseurs privés restaient encore faibles.

Au niveau forestier, les domaines classés sont très nombreux dans la zone du projet qui compte dans les trois départements cibles (Dagana, Saint-Louis et Louga), une dizaine de forêts classées et réserves naturelles. Toutes ces aires protégées ont été classées durant la période coloniale.

Le contexte global du projet est donc marqué par l'existence de potentialités foncières et en eau d'irrigation très



importantes, une dynamique importante dans l'implantation des investisseurs qui se fait sans l'implication des communautés qui ont de faibles capacités pour répondre aux besoins de la compétitive agricole.

Le projet : Le PDIDAS a pour objectif stratégique le développement de l'horticulture commerciale dans les régions de Saint-Louis et de Louga précisément dans les bassins des cours d'eau du Ngalam et du Lac de Guiers. L'objectif du projet est de mettre en valeur 10,000 ha pour une production horticole supplémentaire d'environ 70 000 tonnes dont au moins 45 000 tonnes destinées à l'exportation et 25,000 tonnes pour le marché local. Les indicateurs clés de performance du PDIDAS sont : (i) 70 000 tonnes de production agricole commercialisée issue des zones du projet dont; (ii) 6 000 emplois créés dans les zones du projet ; (iii) 5 000 ha de superficies sur laquelle les techniques de gestion durable des terres ont été adoptées grâce au projet ; (iv) 20 000 ha de superficie sécurisée inscrite au niveau des registres fonciers tenus dans les communes ; (v) 10 000 ha de superficie sécurisée ayant fait l'objet d'accords tripartite Commune/Investisseur/Communauté ; (vi) Indicateur 6 : 6 380 bénéficiaires directs du projet ; et (vii) 25 000 ha de surface forestière bénéficiant de plans de gestion. Les différentes activités du PDIDAS étaient exécutées à travers trois (3) composantes : (a) Composante 1. Appui aux Acteurs de la filière ; (b) Composante 2 - Développement des infrastructures d'irrigation et amélioration de la gestion des ressources naturelles et (c) Composante 3 - Coordination, Gestion, Suivi et Évaluation du Projet et Communication.

Atteintes des objectifs du projet : Principaux résultats atteints par le projet : Au niveau de la Production agricole commercialisée issue des zones du projet : sur un objectif de 70 000 tonnes (revu en baisse à la restructuration du Projet), les productions horticoles cumulées de 2018 à juin 2021 sont de 124 873 tonnes soit un taux de 179%. Comparé à l'objectif de départ du Projet qui est de 100.000 tonnes, ce taux serait de 124%. Ces productions ont été obtenues sur les 200 ha de l'opération pilote de Ngnith, le programme d'accompagnement des communautés, les 102 ha d'extension de l'investisseur West Africa Farm (WAF) dans le cadre du DAP1, dans la commune de Ngnith. Le problème majeur rencontré est la faiblesse des productions exportées, qui, sur un objectif de 45 000 tonnes sont de seulement 1 730 tonnes correspondant aux récoltes de WAF enregistrées à travers la mise en œuvre du DAP1. Les deux autres investisseurs sélectionnés n'ont pas encore terminé leurs travaux d'aménagement au moment de la clôture du Projet. Le démarrage des études d'impacts environnementale et sociale a tardé à se matérialiser à leur niveau.

Au niveau du nombre d'emplois créés dans les zones du projet : Sur un objectif global de 6 000 emplois (revu en baisse à la restructuration du Projet), 5 337 ont été créés à travers les interventions du Projet soit un taux d'atteinte de l'objectif de 89%. Comparé à l'objectif de départ du Projet qui est de 9.000 emplois, ce taux serait de 59%. Le nombre d'emplois femmes a été de 2 298 sur un objectif de 1 200 soit un niveau d'atteinte des résultats de 192%. Le fonds à frais partagé aura été l'outil qui aura permis au projet de dépasser ses prévisions revus lors de la restructuration du Projet. Le nombre d'emplois créés par les grands investisseurs est resté faible.

Au niveau des superficies sur laquelle les techniques de gestion durable des terres ont été adoptées grâce au projet : Sur un objectif de 5 000 ha, les superficies sous GDTE ont été de 11 329 ha soit un taux de 227% et 113% par rapport à l'objectif de départ qui est de 10 000 ha. L'utilisation d'engrais organique a été promue par le Projet sur une superficie de 42 ha par les membres des 23 GIE des offres foncières avec la distribution de 120 tonnes de compost. Le projet a aussi mis en place 20 ha de parcelles de démonstration pour la formation des formateurs sur les pratiques de GDTE à travers l'approche Champs Ecoles de Producteurs (CEP). Les formations ont été démultipliées sur une superficie de 376 ha de CEP de 2019 à 2020. Enfin, les 10 200 ha ayant fait l'objet de bornage et de pancartage des forêts classées de la zone d'intervention du Projet ont permis d'avoir une superficie de 11 329 ha sous GDTE. Les superficies sous GDTE dépassent largement la valeur qui est restée fixe même avec la restructuration. Avec l'aménagement tertiaires sur 1059 ha et la plantation des brise-vent et haies qui va intervenir en août (après la clôture



du Projet) la superficies sous GDTE devraient atteindre au moins 12 388 ha soit 248% de l'objectif revu de 5 000 ha et de 124% par rapport à l'objectif de départ de 10 000 ha.

Bénéficiaires directs du projet : Sur un objectif revu de 6 980 bénéficiaires, 20 846 ont été atteints soit un taux de 299%. Comparé à l'objectif de départ du Projet qui est de 10 680 bénéficiaires, ce taux serait de 195%. Les bénéficiaires directs du Projet sont ceux de l'opération pilote de Ngnith, des campagnes de régularisation foncière, du programme d'accompagnement des communautés, des PME et association de producteurs des sous-projets du fonds à frais partagés des régions de Louga et Saint-Louis. 74% (3 323 sur un objectif de 4 500 bénéficiaires femmes) des bénéficiaires directs du PDIDAS sont des femmes. Par rapport au PME, le niveau d'atteinte des résultats a été de 90% principalement obtenus à travers les bénéficiaires des fonds à frais partagés. Les petits et moyens exploitants ont été les principaux bénéficiaires du Projet avec un taux de 693% soit 6102 atteints sur un objectif de 880 bénéficiaires. Quant aux salariés, sur un objectif de 6 000 bénéficiaires, 5 337 ont été enregistrés soit un taux de 89%.

Surface forestière bénéficiant de plans de gestion : Sur un objectif maintenu de 25 000 ha, les superficies forestières qui ont bénéficié de plans de gestion sont de 32 507 ha soit un taux de 130%.

Coordination du projet : La gestion du Projet a été confiée à une Unité de Coordination et de Gestion avec des spécialistes recrutés. Le siège de l'UCP est localisé dans la ville de Saint-Louis, ce qui a permis au Projet d'être le plus proche possible des cibles. La 5^{ème} mission d'appui à la mise en œuvre du Projet, a constaté une grande instabilité du personnel de l'UCP mais aussi des problèmes de capacités dans la conduite de certaines activités par les AGEX et partenaires du projet, ainsi que des insuffisances dans la coordination de ces derniers. La principale stratégie adoptée a été le recentrage des activités autour des programmes majeurs et le cumul de certains postes des experts pour combler le déficit. Un site web a été ouvert (www.pdidas.org) de même que des comptes dans les réseaux sociaux que sont Facebook, Tweeter, YouTube pour le partage avec le grand public des activités et réalisations du PDIDAS.

Efficience du projet : Pour la mise en œuvre des activités sur le terrain, l'Unité de Coordination du Projet (UCP) a établi des conventions cadres avec des agences d'exécution, notamment La SAED, l'APIX SA, l'Agence Nationale de la Grande muraille verte (ANGMV) du Ministère de l'Environnement, la CFAHS et le Programme Clusters, l'Université Gaston Berger (UGB) et les Partenaires Techniques spécialisées. L'efficience du projet mesurant la façon dont le PDIDAS a utilisé ses ressources à bon escient, pour réaliser ses effets escomptés, a été analysée. En regard à ce qui précède, le niveau de réalisation en matière d'efficience est Satisfaisante.

En matière de Respect du calendrier de mise en œuvre : l'exécution du prêt a accusé un grand retard. Le calendrier d'exécution de la phase initiale a connu un retard de quelques années. Les délais d'exécution sont plus importants que les délais planifiés dans le document du Projet. Ceci peut être expliqué par le retard accusé dans l'adoption du Schéma foncier, au démarrage du Projet. Il y a également une sous-estimation des délais du processus de mise à disposition volontaire des terres qui a été prévue sur 3 mois et qui a presque duré 3 ans. Enfin, certains délais ont été rallongés par la pandémie de la Covid 19. Il s'agit principalement les délais de livraisons des équipements d'irrigation (électropompes, tuyaux de gros diamètres, etc.) qui sont, pour l'essentiel, commandés en Europe.

Au niveau de l'efficience dans l'utilisation des ressources : le PDIDAS a progressivement amélioré sa capacité de mobilisation des ressources. Le taux de décaissement du projet est de 82%, lors du passage de la mission (10 juin 2021). L'exécution des travaux est jugée satisfaisante. La quasi-totalité des indicateurs cibles ont été atteints. Le projet a été exécuté avec une bonne efficience car globalement toutes les activités à l'exception des travaux d'irrigation secondaires et tertiaires, ont été réalisées dans les délais aux coûts prévus. Cela illustre l'utilisation très efficiente des ressources financières du projet qui a permis d'atteindre l'essentiel de ses objectifs. Cette efficience dans l'utilisation



des ressources est due en partie au suivi rapproché de la Banque qui a augmenté les missions de supervision sanctionnées par des recommandations pertinentes. La réallocation budgétaire a permis de doter de nouvelles lignes budgétaires pour des activités qui n'étaient pas prévues dans le PAD, elle a permis de revoir à la hausse ou à la baisse certaines activités. Le tableau ci-dessous donne la situation de la réallocation par composante du projet :

Budget révisé par composante							
Composante	Budget initial PAD	Exécuté	Taux d'exécution	Réallocation	Budget révisé	% PAD	% révisé
Composante 1	5 500 000 000	1 904 075 791	35%	2 945 756 248	8 445 756 248	13%	20%
Composante 2	34 250 000 000	851 666 820	2%	-4 012 506 000	30 237 494 000	80%	70%
Composante 3	3 250 000 000	2 600 081 783	80%	1 066 749 752	4 316 749 752	8%	10%
TOTAL	43 000 000 000	5 355 824 394	12%	-	43 000 000 000	100%	100%

Le dépassement constaté sur la composante 3 est dû à la prise en charge du personnel et de certaines dépenses fonctionnement pour une période supplémentaire de 18 mois (2 prorogations). Les ressources injectées ont permis la réalisation des activités et d'obtenir la plupart des résultats et objectifs du Projet.

Facteurs clé ayant affecté la mise en œuvre du projet : pendant la préparation : La planification du projet est intervenue pendant la période où les grands investisseurs agricoles commençaient à être nombreux au Sénégal et à voir l'intérêt du secteur agricole au Sénégal. L'arrivée de ces investisseurs étaient très souvent marqué par des séries de protestations et de conflits avec les populations. La période de préparation du projet a aussi coïncidé avec la période de planification du PRACAS qui est le volet agricole du Plan Sénégal Emergent. Ceci a permis d'aligner les orientations du projet avec les orientations définies dans le PRACAS, rendant ainsi plus simple l'adhésion des structures étatiques et des investisseurs qui voyaient ainsi se lever une opportunité de travailler dans le même des aspirations du gouvernement. **Pendant la mise en œuvre :** La mise en œuvre des activités du projet a pris du retard. Le Projet est entré en vigueur le 26 juin 2014 alors que l'équipe du projet n'a pris fonction qu'en novembre 2014. Les différents manuels de procédures d'exécution de projet n'ont été finalisés et validés qu'en mars 2015 alors qu'ils devraient l'être avant l'entrée en vigueur du Projet. La Firme de Facilitation des Investissement a aussi été recrutée en février 2016, beaucoup plus tard que prévu par le PAD. Ces retards dans la mise en place des moyens humains et matériels ont entraîné des retards successifs dans tout le processus de mise en œuvre du Projet.

Adoption d'un nouveau schéma foncier : Le modèle de sécurisation foncière bail/sous-bail (bail de l'état à la commune, et sous-bail des communes aux bénéficiaires) qui était retenu dans l'Accord de Financement du Projet n'a pu être mis en œuvre. Un système de délibération encadrée, aligné sur un cahier des charges et avec visa de la commune est actuellement retenu et a été adopté et validé par l'Etat du Sénégal. Ce nouveau schéma où les Collectivités Locales ont toujours la responsabilité de la gestion de l'assiette foncière et conservent tous leurs pouvoirs de suivi, de contrôle et aussi de remise en cause de l'affectation si les conditions d'octroi ne sont plus respectées, veut garantir les intérêts des différentes parties (Etat, Collectivités Locales, populations et Investisseurs). Compte tenu du rôle essentiel du foncier dans l'exécution, une nouvelle option de mise en œuvre des activités foncières visant une sécurisation foncière accrue a été retenue. Cela a permis d'accélérer un peu plus le rythme de mise en œuvre quoique cela est intervenu un peu tard. Le projet a donc mis en place des bureaux fonciers dans chaque commune de la zone du projet permettant ainsi de renforcer leurs capacités et rendre leur travail d'affectation des terres plus transparent et plus fiable. Il s'agit là d'un travail conséquent qui constitue un pas important vers la mise en place d'un cadastre rural.



Impact de la Covid-19 sur la mise en œuvre des activités : De façon générale, la pandémie de la COVID-19 a ralenti le niveau d'exécution de la plupart des activités dont le deuxième appel à projets (DAP2) et freiné complément celles de terrain notamment la réalisation des infrastructures d'irrigations secondaires et tertiaires, la campagne de régularisation foncière, la mise en œuvre du programme d'accompagnement des communautés.

Risque en matière de durabilité : Le PDIDAS a mis en place différentes actions afin de garantir la durabilité des activités et des résultats : responsabilisation et formation des bénéficiaires, mise en œuvre d'un processus de structuration (GIE, implication des partenaires techniques et des collectivités territoriales dans la mise en œuvre). Cependant, les communautés sont toujours en train de s'organiser autour des infrastructures ou de négocier pour des infrastructures à venir. Il faudrait pour s'assurer de la durabilité de ces infrastructures qu'il y ait une implication plus forte des Communes et un accompagnement technique et financier des structures de gestion et de valorisation des infrastructures réalisées par le projet. L'implication de structures nationales pérennes au cours de l'exécution (ANIDA, DBRLA, DRDR, etc.) pourrait aussi permettre la poursuite des actions de suivi au terme du projet.

Les signes de satisfaction des bénéficiaires finaux ayant été directement accompagnés à travers les outils d'accompagnement des communautés, sont perceptibles. En effet, la quasi-totalité des personnes interviewées dans ce cadre, ont confirmé que le PDIDAS a permis d'améliorer leur niveau de vie ; elles se sont appropriées le projet. Les bénéficiaires qui devraient utiliser les aménagements faits par les investisseurs, de même que les représentants de leurs communautés ont pour la plupart fait état de leur niveau d'insatisfaction et de surprise par rapport à la non-finalisation des négociations et des infrastructures avant la fin du projet. En effet, plusieurs entreprises sur le terrain sont toujours entrain de faire des travaux qui leurs ont été confiés mais qu'ils ne pourront pas finir dans le court terme. De même, les travaux d'aménagement provenant des premiers investisseurs ne sont pas finis et les négociations avec les investisseurs issus du DAP 2 sont aussi toujours en cours. Des discussions ont débuté pour transférer le suivi et la finition des travaux à certaines structures étatiques mais, elles restent à être finalisées.

Le PDIDAS s'est efforcé à développer une démarche participative impliquant en premier lieu les bénéficiaires et acteurs locaux. Les différentes approches adoptées par le projet permettent une meilleure appropriation des produits du projet par les bénéficiaires. En effet, la mise en place des comités de gestion, l'implication du dispositif d'appui technique de terrain et celle des autorités administratives dans la mise en œuvre du projet sont autant d'éléments qui garantissent l'appropriation des activités du projet par les populations et les différents partenaires. Cependant, il est indispensable de mettre en place un dispositif efficace pour assurer le suivi du comportement des ouvrages et leur entretien courant. Le projet a su nouer des partenariats avec d'autres projets et institutions, et soutenir des initiatives synergiques permettant d'amplifier l'impact de ses interventions. Au niveau des zones concernées, les autorités locales, administratives et coutumières ont été associées étroitement à l'intervention du PDIDAS et ont contribué à l'information et la sensibilisation des bénéficiaires. Le secteur associatif et privé a aussi été impliqué dans de nombreuses activités. L'ensemble de ces dispositions doivent concourir à une meilleure appropriation par les bénéficiaires, ce qui devrait garantir la préservation et la bonne gestion des produits du projet. Cela exigera aussi de la part du Gouvernement et des services techniques régionaux concernés une attention soutenue. On peut retenir qu'il y a une appropriation correcte des réalisations du projet par les communautés. L'adhésion de la population à la démarche du projet peut être mesurée à travers la mise à disposition volontaire des terres avec une superficie de 19.364 ha contre un objectif de 10.000 ha recherchés. L'autre exemple pouvant attester de l'appropriation des populations est le nombre de demandes enregistrées dans le cadre du FFP avec près de 400 demandes reçues par le Projet.



Principales leçons à tirer et recommandations : L'expérience du PDIDAS suscite plusieurs enseignements utiles qui méritent d'être relevés :

- Les stratégies d'intervention proposées reposant sur la participation et la responsabilisation des communautés de base et des populations cibles est un gage réel pour la réussite du projet ;
- Les délais de passation des marchés observés relatifs au choix définitif des adjudicataires des contrats de travaux et de prestation sont longs et perturbent le calendrier d'exécution du projet ;
- Des retards considérables sont enregistrés dans la réalisation des travaux et sont imputables à la défaillance des certaines entreprises choisies mais également au temps mis dans le processus de concertation sur la sécurisation du foncier.
- L'effectif réduit et instable du personnel technique du projet ne permet pas d'assurer la coordination, le contrôle et le suivi régulier et efficace des activités sur le terrain.

Si on note parfois la réticence des communautés à l'installation d'investisseurs dans leur localité, le modèle inclusif promu par le PDIDAS est la preuve qu'il est possible de développer un partenariat gagnant-gagnant entre les populations et les agrobusiness.

Concernant les bureaux fonciers, le transfert de compétences techniques aux bureaux fonciers gérés par les Communes, constitue un élément déterminant de pérennisation des acquis. Il se fait à travers une appropriation des outils et procédures découlant de la mise en oeuvre du processus de sécurisation foncière du PDIDAS.

L'opérationnalisation du schéma foncier a permis d'instaurer un climat favorable à la promotion de l'investissement privé agricole.

La situation de référence est marquée par des conflits fonciers récurrents, des difficultés d'accès à l'information (absence de local dédié), l'insécurité des affectations (délibération), le manque d'outils (GPS, documents fonciers, bornes), la non-maitrise de l'assiette foncière des communes occasionnant des doubles affectations et l'insuffisance des capacités techniques des commissions domaniales.

Sur la base de ce qui précède, la pertinence des bureaux fonciers, outils, procédures et cadres de sécurisation foncière mis en place par le PDIDAS n'est plus à démontrer. Cependant, leur pérennisation nécessite une institutionnalisation dans la nomenclature administrative des collectivités territoriales par le ministère de tutelle.

En ce qui concerne le retrait des titres d'affectation, même si la campagne de régularisation foncière a conduit à la mise à disposition de titre d'affectation avec Numéro d'Identification cadastral (NICAD), leur retrait par les bénéficiaires n'est pas systématique. Des disparités sont notées entre les communes dépendant entre autres : i) du niveau d'urbanisation qui donne plus de valeurs aux terres les plus proches des grandes agglomérations ; ii) de l'aptitude des terres à l'agriculture et iii) de la proximité par rapport à une source d'eau de surface. L'opportunité du bénéficiaire de retirer son titre d'affectation constitue aussi un autre critère qui peut expliquer le niveau de retrait.

La délimitation des aires protégées par consentement des populations et des communes est un préalable avant la matérialisation des limites par bornage et pancartage. Le portage des activités par le service forestier régional (IREF) a été très déterminant dans la réalisation des objectifs. La mise en œuvre de l'activité a permis de révéler que la délimitation des aires protégées suivie de la matérialisation des limites par bornage et pancartage est une activité préalable à toute campagne de régularisation foncière pour sécuriser les forêts et éviter tout empiètement. Ainsi, cette activité revêt une importance capitale dans la sécurisation foncière et la gestion des ressources naturelles et l'Etat gagnerait à la dupliquer plus largement.



ANNEX 6. SUMMARY OF STAKEHOLDERS' COMMENTS²¹

Le Ministre de l'Agriculture et de l'Équipement rural, Moussa Baldé, s'est montré très satisfait des résultats du PDIDAS et a rassuré quant à la capacité du Gouvernement à pérenniser le Projet de développement inclusif et durable de l'agrobusiness au Sénégal (PDIDAS). Le suivi et la pérennisation du Projet de développement inclusif et durable de l'agrobusiness au Sénégal (PDIDAS) constituent des « défis » que l'État devrait être en mesure de relever afin de promouvoir « une agriculture moderne, inclusive, durable, compétitive et porteuse de croissance », a souligné le Ministre de l'Agriculture et de l'Équipement rural. Il s'exprimait à l'issue d'une visite des réalisations du PDIDAS dans des communes de Saint-Louis et de Louga. Ces réalisations devraient, à terme, participer au développement socioéconomique des terroirs grâce à la mise en place de « *partenariats gagnant-gagnant entre les communautés locales et les investisseurs privés et nationaux* », a estimé Moussa Baldé²².

Le Ministre de l'Environnement et du Développement Durable, Abdou Karim SALL, apprécie positivement les réalisations du projet dans le Département de Saint Louis. En effet le vendredi 11 septembre 2020, une visite des travaux de bornage et de pancartage des forêts classées et réserves naturelles situées dans la zone d'intervention du PDIDAS a été réalisée. La cérémonie s'est tenue à la Forêt classée de Rao (département Saint-Louis) où le Ministre a exprimé son satisfaction par rapport aux résultats du projet. Il a d'abord félicité l'équipe du PDIDAS et son ministère de tutelle pour leur engagement envers la protection des forêts. Il a par la suite salué « *un travail important* » du Projet « *permettant à terme d'avoir une exhaustivité des limites des forêts classées dont dispose le Sénégal* » sachant que « *la dernière délimitation connue de ces forêts date d'avant les indépendances* ». Il souhaite que ces activités, par ailleurs inscrites dans le cadre du Plan Sénégal Emergent Vert, soient dupliquées dans les autres régions du Sénégal pour une meilleure protection de nos aires protégées²³.

Le Ministre de la Promotion des Investissements, des Partenariats et du Développement des Téléservices de l'Etat, Madame Khoudia Mbaye, et Maire de la Commune de Gandon, s'est dit également fière des investissements du PDIDAS. En effet à travers son conseil municipal, l'on a procédé à une nouvelle délibération d'affection foncière, le lundi 10 septembre 2018, de 789 parcelles à usage agricole en sa présence. Cette étape de délibération sécurisée, inscrite dans le processus global de sécurisation foncière des communes cibles du PDIDAS, intervient après des enquêtes et des séances de validation sociale dûment menées la commission domaniale avec l'appui de l'équipe de régularisation foncière du Projet. Elle entre dans le cadre de la campagne de régularisation des terres à usage agricole, initiée depuis avril 2017 par le PDIDAS dans ses neuf communes d'intervention des régions de Saint-Louis et Louga. « *Cette nouvelle délibération, après celle portant sur les 351 parcelles à usage agricole de novembre dernier, prouve que nous sommes sur la bonne voie concernant la sécurisation des terres* » a souligné **le premier adjoint au Maire, Khalidou Ba**, en marge de la séance de délibération. Pour cela, poursuit-il, nous remercions le PDIDAS pour son soutien et son appui technique tout au long du processus de régularisation foncière. La démarche du PDIDAS a satisfait et rassuré également l'assistance, à l'image **du chef du Centre d'Appui au Développement Local (CADL) Maïmounatou Diouf**, qui se félicite de la révolution apportée par le Projet dans la campagne de régularisation foncière. « *L'utilisation du GPS à la place du décamètre combinée à la mise en place du Système d'Information Foncière (SIF) ont considérablement contribué à la réduction des litiges fonciers dans notre commune* », précise-t-elle. En termes de requête l'adjoint au Maire de la commune de Gandon, **Khalidou Ba**, souhaite que le PDIDAS responsabilise plus les agents communaux et les équipes domaniales dans le processus de régularisation foncière afin qu'ils soient aussi outillés que les équipes du

²¹ Published in the project's website: www.pdidas.org

²² <http://www.pdidas.org/index.php/fr/moussa-balde-confiant-quant-a-la-perennisation-du-pdidas>

²³ <http://www.pdidas.org/index.php/fr/protection-des-aires-protegees-le-ministre-abdou-karim-sall-magnifie-le-travail-du-pdidas>



PDIDAS déployées sur le terrain. Car, à en croire le Maire, ses agents n'ont pas encore toute la maîtrise nécessaire pour prendre la relève une fois le Projet arrivé à son terme²⁴.

Monsieur Wahabou Niang, Président du GIE Union des Exploitants du Ndiasséw du village de Ndialakhar Wolof se dit également satisfait de l'accompagnement du projet. Il dira que le rêve devient réalité ! Il s'agit des premières récoltes de tomates issues du périmètre agricole à Ndialakhar Wolof (Commune de Gandon, département de Saint Louis), une des parcelles de démonstration appuyée par le PDIDAS. Cette opération est le fruit d'un partenariat entre son GIE et la société RMG Sénégal. Selon lui « *ces récoltes ont déjà généré plus de 6 millions de francs CFA alors que la campagne agricole continue* »²⁵.

Le Dr. Ahmed Tidiane Ndiaye, Maire de la Commune de Ronkh, située à 85 km de Saint-Louis, se dit très satisfait des interventions du PDIDAS en matière de sécurisation foncière. Il a présidé la session de son conseil municipal tenu le vendredi 24 mai 2019, pour délibérer à l'unanimité, pour la régularisation de **949** parcelles à usage agricole (couvrant une superficie de **3418,13 hectares**) au profit des communautés locales. Le Maire de Ronkh, a jugé « *satisfaisants* » les résultats atteints par sa commune dans cette première phase de régularisation foncière des exploitations agricoles. Il précise que sa commune n'est plus dans l'étape « *affectation et désaffectation* » mais plutôt dans la « *gestion et la maîtrise foncière* ». Pour cela, poursuit-il, « *nous remercions le PDIDAS pour son appui technique tout au long de ce processus crucial et souhaitons aussi avoir un accompagnement pour la seconde phase de régularisation afin de satisfaire la demande devenue croissante* »²⁶ ».

Madame Ndeye Sow, présidente du GIE des femmes de Khondental, s'est félicitée de la mobilisation dans le cadre des activités du projet pour la plantation de haies-vives. « *Nous savons toutes que planter un arbre est toujours utile et que ce reboisement ne peut être que bénéfique pour nous* », rassure Mme Sow. En tout cas, poursuit-elle « *je vous garantis que les efforts du PDIDAS ne seront pas vains car mon groupement ne ménagera aucun effort pour assurer la survie de ces plants reboisés tout au long de la clôture* »²⁷.

²⁴ <http://www.pdidas.org/index.php/fr/regularisation-fonciere-la-commune-de-gandon-passe-de-313-a-1140-parcelles-a-usage-agricole-securisees>

²⁵ <http://www.pdidas.org/index.php/fr/les-parcelles-de-demonstration-les-premiers-recoltes-sur-le-marche>

²⁶ <http://www.pdidas.org/index.php/fr/securisation-fonciere-la-commune-de-ronkh-satisfait-de-la-regularisation-de-949-parcelles-a-usage-agricole-par-le-pdidas>

²⁷ <http://www.pdidas.org/index.php/fr/plantation-de-brise-vent-et-haies-vives-a-l-operation-pilote-de-ngnith-forte-mobilisation-des-communautes-de-khondental-et-de-yamane>

**ANNEX 7. SUPPORTING DOCUMENTS**

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