



Global Environment Facility

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May 14, 2009

Dear Council Member,

World Bank as the Implementing Agency for the project entitled: ***Senegal: SIP-Sustainable Land Management in Senegal*** under the ***Strategic Investment Program for SLM in Sub-Saharan Africa (SIP)***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with World Bank procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the CEO and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the World Bank satisfactorily details how Council's comments and those of the STAP have been addressed.

If by June 12, 2009, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

We have today posted the proposed project document on the GEF website at www.TheGEF.org. If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,



Monique Barbut
Chief Executive Officer and Chairperson

Attachment: Project Document
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



REQUEST FOR CEO ENDORSEMENT/APPROVAL
PROJECT TYPE: Full-sized Project
THE GEF TRUST FUND

Submission Date: 4/13/2009
Re-submission Date: 5/13/2009

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID: 3385
GEF AGENCY PROJECT ID: P108144
COUNTRY(IES): Senegal
PROJECT TITLE: SIP: Senegal Sustainable Land Management
GEF AGENCY(IES): World Bank
OTHER EXECUTING PARTNER(S):
GEF FOCAL AREA(S): Land Degradation
GEF-4 STRATEGIC PROGRAM(S): SP-1
NAME OF PARENT PROGRAM/UMBRELLA PROJECT:
 Strategic Investment Program for Sustainable Land Management in Sub-Saharan Africa (SIP)

Expected Calendar	
Milestones	Dates
Work Program (for FSPs only)	June 2007 (SIP)
Agency Approval date	16 June 2009
Implementation Start	16 July 2009
Mid-term Evaluation (if planned)	December 2010
Project Closing Date	31 Dec. 2012

A. PROJECT FRAMEWORK

Project Objective: The Project development objective (PDO) is to promote the adoption of SLM practices in selected priority areas in the Groundnut Basin. The Global Environmental Objective (GEO) is to reduce land degradation and improve ecosystem functions and services in selected priority areas in the Groundnut Basin.								
Project Components	Indicate whether Investment, TA, or STA	Expected Outcomes	Expected Outputs	GEF Financing		Co-financing ¹		Total US\$
				US\$	%	US\$	%	
A. Support to the Agricultural Research System (This component delivers on SIP IR 4)	- Investments - Technical Assistance	SLM technological innovations are developed	- R&D sub-projects ² - Bio-physical/socio-economic studies	0.6	6%	10	94%	10.6
B. Strengthening Agricultural Advisory Services (This component delivers on SIP IR 3)	- Technical Assistance	SLM services are accessible to producers	- Training programs on SLM to service providers - Database on SLM technologies and practices - Farmers' sensitization and awareness creation activities - Dissemination of SLM technologies/ best practices (e.g.	0.7	4%	17.6	93%	18.3

¹ This project is fully blended with the IDA/IFAD Agricultural Services and Producer Organizations Project 2 (PSAOP2) (US\$ 46.4 m). PSAOP2 has 4 components; GEF financing is contributing towards each component.

² R&D sub-projects are demand-driven, short-term research activities aimed at quickly responding to the needs expressed by beneficiaries within a specific local context. R&D sub-projects would focus on addressing issues of land degradation and low soil productivity, e.g. soil protection and restoration technologies, soil and water conservation technologies, agro-forestry technologies, and rehabilitation of salted soils.

			demonstration sites, field trips, farmer-to-farmer exchange events, fairs, etc.)					
C. Support to Producer Organizations (This component delivers on SIP IRs 1 and 2)	- Investments - Technical Assistance	SLM practices are adopted	- Trainings and other capacity building activities on SLM to CLCOPs, CRCR, and cooperatives - Advocacy and other communication and awareness raising activities - Trainings and other capacity building activities to ASPRODEB - Trainings and other capacity building activities to POs' leaders and local representatives - SLM sub-projects	2.8	25%	8.3	75%	11.1
D. Support to Sectoral Coordination ³ (This component delivers on SIP IRs 2 and 4)	- Technical Assistance	SLM is mainstreamed across sectors	- Institutionalization of SLM Committee (ToR, organization/coordination mechanisms, budget, work plan) - National SLM Investment Framework (including studies, consultation/validation workshops) - Knowledge Base on SLM	0.7	6%	10.5	94%	11.2
Total Project Costs				4.8		46.4		51.2

³ This component comprises two sub-components: D.1 - Strengthening cross-sectoral coordination; and D.2 - Technical and fiduciary coordination (i.e. Project Management) and M&E

Project Component	Sub-components		GEF Financing		Co-financing		Total US\$
			US\$	%	US\$	%	
D. Support to Sectoral Coordination	D.1	Strengthening cross-sectoral coordination	0.68	8%	7.5	92%	8.18
	D.2	Technical and fiduciary coordination (i.e. Project Management) and	0.01	1%	1.5	99%	1.51
		M&E	0.01	1%	1.5	99%	1.51
			0.7		10.5		11.2

B. FINANCING PLAN SUMMARY FOR THE PROJECT (\$)

	Project Preparation (US\$)	Project Grant (US\$)	Total (US\$)	Agency Fee (9%) (US\$)	For the record: Project Grant at PIF
GEF	--*	4.8	4.8	0.432	4.8
Co-financing	**	46.4	46.4		46.4
Total		51.2	51.2	0.432	51.2

* 0.2 m were allocated for Project Preparation at PIF submission, but have not been used and are returned.

** The Government contributed to project preparation mobilizing its staff, and organizing/financing a mission to identify/characterize the project sites.

C. SOURCES OF CONFIRMED CO-FINANCING FOR PROJECT PREPARATION AND PROJECT

Name of co-financier (source)	Classification	Type	Project Preparation (US\$)	Project (US\$)	Total (US\$)	%
Government of Senegal	Nat'l Gov't	In-kind	**	20	20	43%
World Bank (IDA)	Multilat. Agency	Soft Loan	--	19.4	19.4	42%
IFAD	Multilat. Agency	Soft Loan	--	6*	6	13%
Producer Organizations	Beneficiaries	In-kind	--	1	1	2%
Total Co-financing				46.4	46.4	100%

* IFAD's co-financing to the PSAOP2.

** The Government contributed to project preparation mobilizing its staff, and organizing/financing a mission to identify/characterize the project sites.

D. GEF RESOURCES REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES)*

* No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

E. PROJECT MANAGEMENT BUDGET/COST

Cost Items	Total Estimated persons/week	GEF (US\$)	Other sources (US\$)	Project total (US\$)
Local consultants*	6	6,000	100,000	106,000
International consultants*	--	--	--	--
Office facilities, equipment, vehicles and communications*	--	4,000	1,000,000	1,004,000
Travel*	--	--	400,000	400,000
Total		10,000	1,500,000	1,510,000

* Details to be provided in Annex C.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS

Component	Estimated person weeks (GEF)	GEF (US\$)	Other sources (US\$)**	Project total (US\$)
Local consultants*	550	595,000	8,818,000	9,413,000
International consultants*	12	30,000	2,222,000	2,252,000
Total	562	625,000	11,040,000	11,665,000

* Details to be provided in Annex C.

** Estimated.

G. BUDGETED M&E PLAN

1. A monitoring and evaluation (M&E) system will be established to verify progress against the objectively verifiable indicators described in the results framework. The system will build on, rely, and be integrated with the M&E systems established and used by the baseline project, i.e. PSAOP. The project M&E system, managed by the Technical and Fiduciary Coordination Unit (TFCU), will be linked to the M&E system of the components, and will deliver consolidated monitoring information on project activities and progress. The system will collate and process information collected from the components as well as additional data derived from special studies and participatory M&E exercises. The M&E system is web-based and participative. The M&E system established by the PSAOP will ultimately become the M&E system for the whole agriculture sector and then for the monitoring of a part of the DSRP-II. The GEF allocation for M&E is US\$ 10,000, as most of M&E activities will be financed through the baseline project.

2. More details on the arrangements for M&E, including indicators, baseline values, target values, data collection instruments, responsibility for data collection, and reporting system are reported in Annex 3 of the PAD.

PART II: PROJECT JUSTIFICATION

A. PROJECT RATIONALE AND THE EXPECTED MEASURABLE GLOBAL ENVIRONMENTAL BENEFITS:

3. *The importance of land resources in Senegal.* Land is a key resource in Senegal. Terrestrial ecosystems make up 99.7% of the country's natural capital (63% for croplands and herding land, 30% for forests and 6% for protected areas) and 13% of total national wealth (Where is the Wealth of Nations, 2006). Seventy percent of the rural population (which represents about 50% of the total population in Senegal) directly depends on land resources for their livelihoods. Despite the fact that the contribution of the agricultural sector to the GDP has declined in the last decades (from 17.3% in 1979 to about 9% at present), this sector still engages about 60% of the population (Senegal Land Action Plan, 1996) and, according to the Government's Poverty Reduction Strategy Paper, still represents one of the major engines for shared growth. Because Senegal's Accelerated Growth Strategy confirms that a sustainable agricultural sector is one of the key drivers of economic growth, it is important to secure the services provided by ecosystems to rural production landscapes.

4. *The impact of land degradation on ecosystem functions and services.* Land degradation is however increasingly affecting land resources in Senegal (a description of the major forms and causes of land degradation is reported in Annex 1 and Annex 4, Table 4.1 of the PAD). According to the Senegal Country Environmental Analysis (SN-CEA, FY08) almost two-thirds of the arable lands in the country are degraded, i.e about 2.5 million hectares. The negative consequences of land degradation are manifold, including on: (i) The country's potential for growth; (ii) poverty and vulnerability of rural people; (iii) social costs; and (iv) ecosystem functions and services. As far as the negative impact of land degradation on the ecosystem functions and services are concerned, Senegal's territorial ecosystems and their products are an important part of Senegal's natural wealth and essential to country's food security. Land degradation is considered one of the key factors of continuing imbalances in the ecosystems and worsening of wildlife habitats. In agriculture lands, key ecosystem functions and services, include (i) system soil structure, (ii) water quality and retention, (iii) mineral nutrition, and (iv) development of root.

5. *Sustainable land management: opportunities and constraints.* Sustainable land management (SLM) offers a means to address land degradation and enhance rural land productivity on a long-term basis, thus supporting economic growth and improving food security, while preserving ecosystems' critical functions and services. However, despite some isolated technical successes, the adoption and replication of SLM has remained relatively limited in Senegal. Some of the key reasons that have prevented the adoption and/or wide-scale replication of SLM include: (i) A weak enabling environment (characterized by inconsistent government policies and regulations, weak institutional capacity to support SLM adoption, and an unfavorable incentive system); and (ii) a single-sector/single-donor/project-specific approach to the problem. There is a growing consensus among the Government and Development Partners that, to effectively address land degradation and successfully promote SLM, a more cross-sectoral and programmatic approach to scale up SLM is needed.

6. ***What if business as usual continues.*** Unless the conditions for a more cross-sectoral and programmatic approach to SLM are created, and the enabling environment for SLM strengthened, the current approach to address land degradation characterized by scattered, fragmented, and un-coordinated interventions and supported by weak institutions would continue, and the issue of land degradation would not be effectively tackled.

7. ***How this project would contribute to SLM scale-up.*** This operation will support activities aimed at (i) *strengthening some key elements of the enabling environment for SLM scale-up* at national and local levels (e.g. strengthening cross-sectoral coordination mechanisms and institutional capacity for SLM; and strengthening the capacity of main agricultural research institutions to generate and disseminate SLM applied research and knowledge), thus creating the conditions/foundations to allow Senegal to progressively adopt a more cross-sectoral and programmatic approach to SLM; and (ii) *supporting the adoption of SLM technologies and practices in selected priority areas* (the Groundnut Basin) by strengthening the capacity of producer organizations to adopt SLM measures; providing financial resources to facilitate the adoption of SLM; and supporting agricultural service providers in delivering SLM opportunities and providing adequate technical backstopping.

8. ***Rationale for blending with PSAOP2.*** The operation will be blended to the IDA/IFAD Agricultural Services and Producer Organizations Project 2 (PSAOP2). PSAOP2 represents a key instrument to promote institutional reforms and support the implementation of policy reforms at field level in the agricultural sector. PSAOP2 recognizes the importance sustainable management of land resources in achieving intensification of production, but does not address land degradation and support SLM systematically. Integrating this project to PSAOP2 offers an opportunity to leverage their impact to influence the wider policy dialogue and institutional reforms in the agricultural sector.

9. ***Rationale for selection of project location.*** The decision to focus on the Groundnut Basin is based on the following considerations:

- (a) *Severity of degradation:* The Groundnut Basin is one of the areas in Senegal where land degradation is more severe⁴, mainly because of inappropriate cropping practices;
- (b) *Population density and potential for agricultural production:* It is the area with the highest population density and where most of the country's agricultural production is concentrated (approximately 2/3 of total production). Where quality production is practiced, integrated agricultural practices that include SLM practices could be certified. This could be incorporated as a quality parameter in the labeling of products derived from sustainable agriculture;
- (c) *Importance of ecosystem functions and services for agricultural productivity:* Senegal's territorial ecosystems and their products are important to provide services to rural production landscapes. Land degradation, in its various forms, has negative consequences on both ecosystem functions and agricultural productivity. In the Groundnut Basin, soil fertility depletion represents one of the main causes of stagnation of agricultural productivity and, consequently, one of the major constraints to the sustainability of livelihoods.
- (d) *Synergies with PSAOP2, PDMAS and WAAPP:* It is an area where the World Bank is already operating through the IDA funded PSAOP2. Synergies between the three projects are therefore expected.

10. ***Expected global environmental benefits of the Project.*** The implementation of this operation is expected to generate the following national and global environmental benefits: (i) Help prevent and reduce the impact of land degradation on the health and integrity of the ecosystems (particularly agro-sylvo ecosystems) in

⁴ About 1.15 million ha are degraded in the groundnut basin alone, about one-third of all arable land in the country. A LADA study (L'évolution de la Dégradation des Terres au Sénégal, FAO/UNEP/CSE) shows that 20% of the sylvo-agricultural zones has been affected by substantial degradation. In the agro-pastoral zone, land use characteristics have been changed on almost 65 percent of the area, notably with degradation of natural vegetation in just 11 years, with woody savannah evolving towards poorer types of scrub savannah. Detailed studies in Kaffrine between 1989 and 1999 show that land use on 64 percent of the study area became more degraded, while only 1 percent improved (LADA 2005).

the Groundnut Basin, the most seriously degraded area in Senegal; (ii) help fill the adaptation deficit being experienced by Senegal and its rural land users; and (iii) contribute to increased ground cover and soil quality, and reduced sedimentation in rivers and streams with the corresponding ability of terrestrial ecosystems to maintain carbon storage rates, biodiversity value, and hydrological cycles. Progress towards these objectives will be measured through: (a) An increase of the percentage of organic matter in the soil (organic matter is used as an indicator of soil fertility, which is considered as a proxy for land quality and agricultural productivity and ecosystem health⁵); and (b) an increase of the percentage of land with SLM practices.

11. More details on the rationale for this operation, project components and on the expected Global Environmental Benefits are reported in Sections I, II, Annex 1, and Annex 15 of the PAD.

B. CONSISTENCY OF THE PROJECT WITH NATIONAL PRIORITIES/PLANS:

12. ***Recipient's key policies and strategies.*** Land degradation has been repeatedly recognized by the Senegalese Government as a key constraint to development at both local and national levels. Addressing land degradation and promoting sustainable use of natural resources have been indicated as key objectives in virtually all national policies and strategies since the *National Action Plan for the Environment* in 1993. More recently, the *Poverty Reduction Strategy* (DSRP-II, 2007) indicates combating land degradation and promoting sustainable agriculture and forestry as priority objectives to reduce poverty. The *Agro-Sylvo-Pastoral Orientation Law* (LOASP, 2004) includes promotion of better land exploitation and improvement of soil fertility as key strategic objectives of the national rural development policy. The *Accelerated Growth Strategy* (2006) identifies 'sustainable agriculture' as a key driver for Senegal economic growth. The Senegalese Government has ratified the United Nation Convention to Combat Desertification (UNCCD) in 1995, and has submitted its *National Action Program to Combat Desertification* (NAP) in 2000. The NAP identifies the main priorities and actions to prevent and reduce the effects of desertification. The *Plan d'Action National pour l'Adaptation aux Changements Climatiques* (PANAC, 2006) identifies sustainable land management as an effective adaptation activity. Finally, the Government of Senegal has increasingly recognized that, to effectively address land degradation and promote SLM, a more cross-sectoral and programmatic approach to scale up SLM (as opposed to a project-based approach) is needed.

13. ***Contribution to Recipient's high-level objectives.*** Combating land degradation and promoting sustainable agriculture are priority objectives to reduce poverty in the Poverty Reduction Strategy (DSRP-II). Better land exploitation and improvement of soil fertility are key strategic objectives of the national rural development policy (in LOASP). Sustainable agriculture is considered a key driver for Senegal economic growth in the Accelerated Growth Strategy. Land management is an effective adaptation activity as highlighted in the *Plan d'Action National pour l'Adaptation aux Changements Climatiques* (PANAC, 2006). The proposed operation is expected to contribute to reduce poverty and stimulate income generation among rural populations in Senegal. Particularly, the proposed operation is expected to leverage the impact of rural investments in Senegal as it will provide an additional instrument to address land degradation and promote SLM in the sector.

14. ***Contribution to CAADP and EAP, UNCCD-NAP, new UNCCD 10 years Strategic Plan, and UNFCCC-NAPA objectives.*** Extending the area under sustainable land management is the key objective of pillar 1 of the NEPAD's Comprehensive African Agriculture Development Program (CAADP) and one of the key objectives of program area 1 (degradation) of the Environmental Action Plan (EAP). The proposed operation would directly contribute to these objectives. In addition, this Project is one of the instruments through which the UNCCD-NAP, the new UNCCD 10 years Strategic Plan, and the UNFCCC-NAPA will be implemented.

⁵ In agriculture lands, soil quality is a key factor in the provision of ecosystem functions and services, including, (i) system soil structure, (ii) water quality and retention, (iii) mineral nutrition, and (iv) development of root.

C. CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES, STRATEGIC PROGRAMS, AND THE SIP:

15. **Consistency with GEF Strategies and the GEF-SIP.** This operation is one of the operations under the regional GEF Strategic Investment Program for SLM in Sub-Saharan Africa (SIP). It would contribute to the SIP objectives as it would: (a) Support Senegal in adopting a more programmatic approach to SLM by addressing some of the weaknesses in the enabling environment that hinder SLM adoption and replication; and (b) support Senegal in applying sustainable practices that increase land productivity while securing ecosystem services in selected priority areas, and it will contribute to deliver on SIP IRs 1, 2, 3 and 4 (ref. to Section D - Project Components). As part of the GEF-SIP, this operation will directly contribute to the implementation of the GEF Land Degradation Focal Area Goal (i.e. arrest and reverse current trends in land degradation), and Strategy (i.e. Strategic Objectives 1: creating an enabling environment for SLM; and 2: generating benefits for the global environment through the upscaling of SLM investments). More specifically, this operation will support the objective of LD-Strategic Program 1 (i.e. support sustainable agriculture and rangeland management).

16. **Consistency with TerrAfrica.** The proposed operation would contribute to the implementation of the Business Plan of TerrAfrica, particularly Activity Line 3 (Country Investments), as it would contribute to creating the enabling conditions for SLM scale-up.

D. COORDINATION WITH OTHER RELATED INITIATIVES:

17. **Blending with PSAOP2.** The operation will be blended to the IDA/IFAD Agricultural Services and Producer Organizations Project 2 (PSAOP2). The two projects will have the same design (4 components; GEF is contributing towards each component), and the same institutional arrangements and implementation mechanisms. PSAOP2 represents in fact a well established instrument for engaging the Government on broader policy issues and institutional reforms in the agricultural sector. It is therefore believed that this GEF-funded project would have more leverage in influencing the policy dialogue and mainstreaming SLM into the agricultural sector if integrated into the PSAOP2.

18. **Coordination with other Bank-funded projects.** The Bank has a well integrated rural portfolio in Senegal, which includes the Agricultural Markets and Agribusiness Development Project (PDMAS), the Participatory Local Development Program (PLDP), the Africa Emergency Locusts Project (AELP), and the West Africa Agricultural Productivity Program (WAAPP), in addition to the PSAOP2. PSAOP2 and PDMAS recognize the importance of sustainable management of land resources to achieve intensification of production, but do not specifically promote the adoption of SLM. The proposed operation would strategically complement the Bank's rural portfolio in Senegal, and increase the impact of the Bank's rural investments in the country, as it will provide an additional instrument to specifically address land degradation and mainstream sustainable land management in the sector.

19. **Coordination with UNDP under the GEF-SIP.** The proposed operation is one of the two operations developed under the GEF-SIP in Senegal, together with UNDP's Innovation in Micro-Irrigation for Dryland Farmers Project. The two operations will use the same approach and will be coordinated. Both would focus on improving the enabling environment for SLM adoption. They will however target two different geographical areas of the country: The proposed operation would focus on the Groundnut Basin, while UNDP's operation will be implemented in the Bakel Region, situated in the Senegal River Valley. In addition, the planned third phases of the UNDP/GEF Groundnut Basin Soil Management and Regeneration Project (PROGERT), and of the UNDP/GEF Program for Integrated Soil and Water Management (PGIES) will be fully aligned with the principles and approach of the GEF-SIP.

20. **Partnership with IFAD.** PSAOP2 is co-financed (parallel) by the International Fund for Agricultural Development (IFAD). IFAD contributes to PSAOP2 with a loan of US\$6.0 million. IFAD has been closely associated in the definition of the content of PSAOP2, from preparation to negotiations. IFAD funds are pooled into the Project's designated account. IFAD plays a role in the learning processes of PSAOP2 by testing, in the context of its other projects in Senegal, a number of pro-poor approaches that can both benefit from and feed into the institutional reform process through ad-hoc mechanisms, including exchange visits and thematic workshops.

21. **Partnership with Israeli Embassy.** Within the framework of PSAOP2 and PDMAS, the Bank is developing a partnership initiative with the Israeli Embassy to support the scale-up of the Techno-agricultural Innovation for Poverty Alleviation (TIPA) irrigation system in the Niayes area (about US\$ 400,000, under preparation). This system is well adapted to smallholders' community production systems, while contributing to sustainable land and water management.

22. **Coordination with other DPs' initiatives.** USAID and JICA have recently started a dialogue with the Government for the preparation of an Agricultural Productivity and Natural Resource Management (about US\$ 20 million, under preparation) and of a Land Restoration operation, respectively. The cross-sectoral coordination mechanism for SLM that this operation supports (Component D) will ensure coordination with these two proposed operations. The Swiss Cooperation and the French Cooperation continue to support some activities linked to PSAOP. In particular, the Swiss Cooperation supports agricultural and rural training activities. The French Cooperation supports the professional evolution of POs through its Promotion of Competitive and Sustainable Agriculture (PACD) Project.

23. **Linkages with previous and ongoing Bank-led analytical works.** The recently completed Senegal CEA (SN-CEA), which was supported by the World Bank, the Royal Netherlands Embassy and TerrAfrica, provides an in-depth analysis of the key issues in the environment and natural resource management sector in Senegal, and a set of recommendations to address these issues. The proposed operation is one of the instruments through which the recommendations of the SN-CEA would be implemented. In particular, the proposed operation would support the development of a national framework for SLM investments, favor the establishment of platforms for SLM and other coordination mechanisms, and support the strengthening of a knowledge management system for SLM. In addition, the ongoing AFR study on regional implications of climate change and the global study on territorial development and adaptation to climate change will provide some detailed information on the capacity of local institutions, including those targeted by the proposed operation, to adapt to climate change.

24. More details on coordination of this operation with other related activities are reported in Annex 2 of the PAD.

E. INCREMENTAL REASONING OF THE PROJECT:

25. **Baseline scenario.** A number of development partners have directly or indirectly (through many agriculture, forestry and rural development projects) invested in NRM over the years, but these efforts have had limited impacts. This is due to the nature of the project-based, single-sector approach to the problem, and to a lack of attention to the factors that enable the adoption and replication of SLM (e.g. knowledge management, institutional capacity, financing, and cross-sectoral coordination mechanisms). Under the existing (baseline) scenario (characterized by weak knowledge generation and dissemination on SLM; inadequate capacity of service providers and land users to integrate SLM in their production systems; insufficient financing among land users to invest in SLM; and lack of cross-sectoral coordination mechanisms), current approaches to address land degradation will continue. As a result, the key factors leading to land degradation will not be substantively or comprehensively addressed. This would result in continued degradation of productive and non-productive landscapes with consequent damage to the ecosystem functions and services.

26. **Value added of GEF involvement.** GEF resources will be strategically and incrementally used to support activities aimed at creating the enabling conditions to allow Senegal to progressively adopt a more cross-sectoral and programmatic approach to SLM, e.g. by: (i) Strengthening the capacity of key research institutions to generate SLM applied knowledge; (ii) strengthening capacity of service providers and producer organizations to offer/adopt SLM technologies; (iii) facilitating SLM adoption on-the-ground; and (iv) establishing cross-sectoral coordination mechanisms and developing a common SLM investment framework (Ref. Annex 4.B for details on project design and on the specific activities of each component). By supporting the progressive shift towards a more programmatic approach to SLM scale-up, this Project would facilitate the alignment and harmonization of current and future interventions and the sharing of experiences, thus reducing transaction costs and increasing the impact of interventions. This is expected to eventually generate greater economies of scale and improve the cost-effectiveness of the interventions. As explained below, GEF resources, integrated to the PSAOP2, will in addition leverage and influence insitutional support/reforms (including sectoral coordination), and policy dialogue.

27. **Value added of GEF investment in relation to PSAOP2.** Alternatives to reduce pressure on land and therefore land degradation would require a drastic shift of the Senegalese economy towards the secondary and tertiary sectors. However, given the high dependence of a large part of the population on the agricultural sector, particularly the poor, this shift cannot be realistically achieved in the short to medium term. The most effective approach to reduce the negative effects of unsustainable agricultural practices on land resources in a medium term horizon is therefore to mainstream sustainable land management in the agricultural sector, as proposed by this operation. GEF resources could have been used to finance a conventional operation on SLM. However, integrating this project to PSAOP2 offers an opportunity to leverage their impact to influence the wider policy dialogue and institutional reforms in the agricultural sector. This makes the use of GEF resources the most cost-effective. Thus, the proposed GEF operation will strategically leverage the impact of rural investments in Senegal, as it will provide an additional instrument to address land degradation and promote sustainable land and management in the sector. PSAOP2 recognizes the importance sustainable management of land resources in achieving intensification of production, but does not address land degradation and support SLM systematically. GEF resources would help cover this gap. In addition, as PSAOP2 is a well recognized instrument to promote institutional reforms and support the implementation of policy reforms in the agricultural sector, GEF resources would help mainstreaming SLM into the sectoral policy dialogue.

28. More details on the incremental reasoning for this operation are reported in Annex 15 of the PAD.

F. RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND RISK MANAGEMENT MEASURES:

29. Critical risks that may prevent the project objectives from being achieved and mitigation measures are described in details in Section III.E of the PAD.

30. Risks associated to the effect of climate change: While the ongoing AFR study on the regional implications of climate change will provide detailed information on SLM measures to adapt to climate change, some of the possible SLM solutions to be scaled-up identified during project preparation (ref. Table 4.3 in Annex 4 of the PAD), could already improve resilience to the negative effects of climate change (increased climate variability).

G. COST-EFFECTIVENESS:

31. **Economic and financial analysis.** An economic and financial analysis was carried out to assess whether the investment costs of this operation (i.e. the investment costs associated to the promotion of sustainable land management technologies and practices among farmers) were economically and financially profitable. The results of the economic assessment show the economic viability of the SLM operation from the perspective of the national economy. The economic Internal Rate of Return (IRR) calculated from the project is 35%, with a Net Present Value (NPV) of FCFA 1.8 billion (US\$ 3.5 million) over the three years of the operation, with an assumed capital opportunity cost of 20%. The IRR would be 93%, with a NVP of FCFA 19 billion (US\$ 38 million) for the horizon 2009-2013. The results of the financial analysis show an IRR of 27% over the opportunity cost of capital estimated at 20% and farmer NVP of FCFA 49 millions (US\$ 98,000).

32. More details on the methodology used for and the results of the economic and financial analyses are reported in Section IV.A and Annex 9 of the PAD.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

A. PROJECT IMPLEMENTATION ARRANGEMENT:

33. *Institutional set-up and implementation arrangements.* As an operation blended with the PSAOP2, this operation will adopt the same institutional framework and the same implementation arrangements as PSAOP2, which comprise: (a) A Steering Committee; (b) a Technical and Fiduciary Coordination Unit; and (c) one implementing agency per component or sub-component.

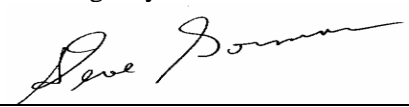
34. More details on the institutional set-up and project implementation arrangements, including financial management, flow of funds, and disbursement arrangements, are reported in Section III.B and Annex 6 and 7 of the PAD.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

35. The design of the project is fully aligned with the design proposed in the original PIF:

- (a) *Components:* components and activities per component remain the same, except for Component E of the PIF (Project Management), which has been moved as a sub-component under Component D of the project (Sub-component D.2 - Technical and fiduciary coordination and M&E) to fully align the design of the project with the design of the baseline project.
- (b) *Budget allocation:* total budget and co-financing remain the same as those indicated in the PIF. Allocation per component remain the same, except for Project Management, whose allocation has been reduced from US\$ 0.4 m in the PIF to 30,000 in the project document. This reduction is due to the fact that, by fully integrating this project to its baseline project, the implementation mechanisms of the two projects will be the same. Therefore, most of the costs for managing this operation are already covered by PSAOP2, and the additional incremental costs of this project are minimal.
- (c) *Objective:* the objective of the project has been slightly reworded to make it more sharp, but the substance of it has not changed.
- (d) *Project location:* project location (i.e. the Groundnut Basin) has not changed, but the project has defined the specific departments/rural communities where it will be implemented (ref. Section II.C).

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation.	
Steve Gorman GEF Agency Coordinator 	Christophe Crepin Regional Coordinator Project Contact Person
Date: 13 April 2009	Tel. and Email: 1.202.473.9727 ccrepin@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

PDO/GEO	Project Outcome Indicators	Use of Project Outcome Information
To promote the adoption of SLM practices and improve ecosystem functions and services in selected priority areas in the Groundnut Basin	<ul style="list-style-type: none"> • Increase land covered with SLM practices⁶ in target areas (%) • Increase organic matter in the soil⁷ in target areas (%) 	<ul style="list-style-type: none"> • To assess the scope of SLM adoption in the areas targeted by the Project • To assess the impact of the adoption of SLM on the fertility of the soil in the areas targeted by the Project
Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
A. Support to the Agricultural Research System		
SLM technological innovations are developed	<ul style="list-style-type: none"> • At least 3 new technologies have been tested and proven successful by the end of the Project 	<ul style="list-style-type: none"> • To measure the performance of research services on SLM
B. Strengthening Agricultural Advisory Services		
SLM services are accessible to producers	<ul style="list-style-type: none"> • SLM activities are integrated into the annual work plan of the Rural Advisory Agency in 30 Rural Councils within the project target area by the end of the Project 	<ul style="list-style-type: none"> • To assess the Rural Advisory Agency's capacity to provide advisory services on SLM
C. Support to Producer Organizations		
SLM practices are adopted	<ul style="list-style-type: none"> • 30 project proposals submitted by Producer Organizations to implement SLM technologies are implemented by the end of the Project 	<ul style="list-style-type: none"> • To measure the degree of adoption of SLM technologies by producers
D. Support to Sectoral Coordination		
SLM is mainstreamed across sectors	<ul style="list-style-type: none"> • An SLM Investment Framework is prepared by the end of the project 	<ul style="list-style-type: none"> • To measure the capacity of planning and cross-sectoral coordination

⁶ Percentage of land with SLM practices is defined as land with SLM practices over total land. SLM practices include both 'technologies' and 'approaches' applied to raise land quality. Technologies refer to agronomic, vegetative, structural, and management measures that reduce the effects of land degradation. Approaches include means that help to introduce, apply and implement SLM technologies. Examples of SLM practices (i.e. technologies and approaches) are reported in Table 3.1.

⁷ Organic matter is used an indicator of soil fertility, which is considered a proxy for land quality, agricultural productivity, and ecosystem health.

ANNEX B: RESPONSES TO PROJECT REVIEWS

Comments to PIF from GEFSec to be addressed during project preparation	Response to comments
1. Issues raised:	
(6) Provide baseline and target information for the GEBs	<ul style="list-style-type: none"> ▪ Baseline and target values for the key indicators, i.e. vegetation cover (used as a proxy for ecosystems health), organic matter in the soil (proxy for land quality), and land with SLM practices is included in the PAD (ref. Annex 3). Collection of baseline information on the bio-physical characteristics of the project sites will be carried out during the first months of implementation (ref. Component A.2)
(8.1) Are the recipient audiences likely to change their behaviors by receiving short-term training	<ul style="list-style-type: none"> ▪ While immediate changes in the recipients' behavior are expected thanks to the immediate opportunities offered by the project (e.g. trainings and grants to support SLM sub-projects), long-term changes in the recipients' behavior is expected thanks to (i) recognized benefits from the adoption of SLM; (ii) mainstreaming of SLM concepts in the agricultural sector (e.g. in the agricultural advisory system, etc.)
(8.2) What are the climate-proof measures that will be included	<ul style="list-style-type: none"> ▪ While the ongoing AFR study on the regional implications of climate change will provide detailed information on SLM measures to adapt to climate change, some of the possible SLM solutions to be scaled-up identified during project preparation (ref. Table 4.3 in Annex 4 of the PAD), could already improve resilience to the negative effects of climate change (increased climate variability)
(8.3) What is the record of the financial incentive mechanism proposed to facilitate the adoption of SLM	<ul style="list-style-type: none"> ▪ Component C.3 of the project will provide financial resources (grants) to implement SLM sub-projects. Proposals are presented by Producer Organizations with technical support from SRA, INP, and ANCAR.
(8.4) What are the proposed interventions to integrate SLM in policy formulation	<ul style="list-style-type: none"> ▪ Two interventions are proposed to facilitate the integration of SLM in policy formulation: (i) Strengthening the capacity of POs' leaders and local representatives to improve their awareness on SLM and strengthen their capacity in the formulation of local development plans and sectoral strategies (ref. Component C.2), and (ii) Strengthening the capacity of institutions to better integrate SLM in their national development plans (ref. Component D.1).
(8.5) What are the proposed interventions for the appropriate institutions to support SLM	<ul style="list-style-type: none"> ▪ Major interventions to improve the capacity of institutions to support SLM include: (i) support to ISRA to generate, disseminate and monitor SLM-targeted research and knowledge (ref. Component A.3); (ii) support to ANCAR to deliver SLM packages and provide adequate technical support (ref. Component B.1); and (iii) support cross-sectoral coordination mechanisms to improve the efficiency and effectiveness of SLM activities in the country. This would include the institutionalization of the inter-ministerial SLM Committee, the formulation of a National Framework for SLM Investments, and the

<p>(10) Mechanisms to coordinate activities</p> <p>(14) Detailed description and analysis of the proposed mitigation measures</p> <p>(15) Institutional support and reforms (including sectoral coordination) and policy dialogue which the GEF funding is responsible for</p>	<p>development of a Knowledge base on SLM (ref. Component D.1)</p> <ul style="list-style-type: none"> ▪ The institutionalization of the National SLM Committee (ref. Component D.1), a national multi-sectoral forum in charge of overseeing the development and implementation of SLM activities in the country, would facilitate the coordination of ongoing and future SLM investments ▪ A detailed analysis and description of risks associated to this project and mitigation measures is reported in Section III.C of the PAD ▪ The project would specifically provide support to ISRA (Component A.3), and ANCAR (Component B.1). It will in addition strengthen the cross-sectoral coordination through the institutionalization of the National SLM Committee, the formulation of a National SLM Investment Framework, and the development of a Knowledge Base on SLM (Component D.1)
<p>2. Confirm the co-financing for all components</p> <p>3. Confirm co-financing</p>	<ul style="list-style-type: none"> ▪ The GEF project is blended with PSAOP2. The financing plan for this project is US\$ 51.2 m, of which US\$ 46.4 m co-financing is confirmed.
<p>4. Confirm the M&E Framework of the project is consistent with SIP Result Framework</p>	<ul style="list-style-type: none"> ▪ The M&E Framework is consistent with the SIP Result Framework: the three outcome indicators of the project (increase of organic matter in the soil; increase in vegetation cover; increase of land with SLM practices) coincide with three of the four key performance indicators of the SIP's long-term program goal (i.e. change in soil quality; change in vegetation cover; area under SLM).

Response to comments in the Review sheet (May 12, 2009)

Comment 1: The project document is answering comments and questions raised at PIF level. - Please, correct the total in the table B: the right total should be \$51,2M and not 51,4 as the PPG is not included anymore (CEO endorsement, p3).

Response: The figure has been corrected.

Comment 2: Please, confirm the non duplication of efforts on the field with the UNDP \$ 3,6 million project entitled Groundnut Basin Soil Management and Regeneration.

Response: Please note that the proposed project has been designed to be complimentary to the UNDP project. Although both the projects target the same geographical area, they target different communities within.

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT

Position Titles	Cost of person/week (US\$)	Estimated n. person/weeks	Total (US\$)	Tasks to be performed
(I) For Project Management				
A. Local				
- Auditor	1,000	6	6,000	- Annual audits
(II) For Technical Assistance				
A. Local				
1. Component A - Support to Agricultural Research System				
- Geographer/ GIS Specialist	2,000	45	90,000	- Mapping & GIS Services
- Soil Scientist/ Ecologist/ Environmental Economist	1,000	50	50,000	- Bio-physical and socio-economic studies, inventories, surveys
- Land Management Specialist/ Soil Scientist/ Agronomist/ Agronomic Engineer	1,000	30	30,000	- Technical support to implementation of R&D sub-projects
2. Component B - Strengthening Agricultural Advisory Services				
- Agronomist/ Land Management Specialist	1,000	15	15,000	- Identification of agriculture service providers and update of the database of service providers
- Land Management Specialist(s)	1,000	17	17,000	- Elaboration and delivery of training modules on SLM for agricultural service providers
- Land Management Specialist/ Agronomist/ Agronomic Engineer	1,000	7	7,000	- Identification and inventory of proven SLM technologies
3. Component C - Support to Producer Organizations				
- Various specialists (including Land Management Specialists, Agronomists, etc.), and Trainers	1,000	292*	292,000	- Design and delivery of training and capacity building activities on SLM for producer organizations and cooperatives
4. Component D - Support to Sectoral Coordination				
- Institutional Specialist/ Land Management Specialist/	1,000	70	70,000	- Stocktaking, studies and other analytical activities for the preparation of the National SLM Investment Framework

Development Planner				
- Communication Specialist	1,000	24	24,000	- Development and implementation of Communication Strategy and Action Plan
Justification for Travel, if any:	Field trips are expected to allow consultants .carry out their tasks (e.g. surveys, collection of data, delivery of trainings, etc.)			
B. International				
4. Component D - Support to Sectoral Coordination				
- Climate Change/ Adaptation Specialist/ Integrator	2,500	12	30,000	- Stocktaking, studies and other analytical activities for the preparation of the National SLM Investment Framework
Justification for Travel, if any:	A total of 4 missions of 2 weeks each are planned.			

* Several trainings and other capacity building activities will be conducted in parallel and will engage various trainers at time.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

In order to speed up the preparation of the project (and thus ensure full alignment with the implementation schedule of the baseline project), and considering that a number of information necessary for the design of the project were already available, it has been decided (in agreement with the Government) that most of the preparation activities could be carried-out ‘in-house’, and that the PPG funds were not necessary. The Government and the Bank used some of their own resources (including from the baseline project) to conduct the key activities necessary for the preparation of the project as described below:

More specifically:

- (a) *Environmental analysis and baseline assessments*: identification and characterization of project areas (i.e. form, causes and severity of degradation, already existing SLM practices, and possible SLM interventions) completed with Government’s own resources. A few baseline information (e.g. vegetation cover, quantity of organic matter in the soil, etc.) captured from secondary data. Detailed inventory of all information will be part of project activities (Component A.3).
- (b) *SLM technology assessment*: a quick stocktaking of existing SLM technologies and possible SLM technologies to be scaled-up conducted as part of the identification and characterization of project areas.
- (c) *Economic and financial analysis*: conducted with Bank budget.
- (d) *Project formulation and design*: completed with Bank and Government’s own resources.
- (e) *Establishment of a SLM Platform and development of a ‘preliminary’ Country SLM Investment Framework*: this activity has been included in the project (ref. Component D.1).
- (f) *Stakeholder consultations*: members of the SLM Committee and Development Partners consulted at several stages during project preparation. Beneficiary communities consulted during the identification of project areas exercise with Government’s own resources

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

Project Preparation Activities Approved	Implementati on Status	GEF Amount (\$)				Co-financing (\$)
		Amount Approved	Amount Spent Todate	Amount Committed	Uncommitted Amount*	
Total						

* Uncommitted amount should be returned to the GEF Trust Fund. Please indicate expected date of refund transaction to Trustee.

Document of
The World Bank

Report No:-SN

PROJECT APPRAISAL DOCUMENT
ON A
PROPOSED GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND
IN THE AMOUNT OF USD 4.8 MILLION
TO THE
REPUBLIC OF SENEGAL
FOR A
SUSTAINABLE LAND MANAGEMENT PROJECT

May 13, 2009

CURRENCY EQUIVALENTS

(Exchange Rate Effective {Date})

Currency Unit = FCFA
= US\$1
US\$ = SDR 1

FISCAL YEAR

January 1 - December 31

ABBREVIATIONS AND ACRONYMS

AAP	Africa Action Plan
AELP	Africa Locusts Project
AFD	<i>Agence Française de Développement</i> (French Development Agency)
ANCAR	<i>Agence Nationale de Conseil Agricole et Rural</i> (National Agricultural and Rural Advisory Agency)
APL	Adaptable Program Loan
ASPRODEB	<i>Association Sénégalaise pour la Promotion du Développement à la Base</i> (Senegalese Association for Grassroots-level Development)
CAADP	Comprehensive African Agriculture Development Program
CAS	Country Assistance Strategy
CFAA	Country Financial Accountability Assessment
CEA	Country Environmental Analysis
CLCOP	<i>Cadre Local de Consultation des Organisations de Producteurs</i> (Producer Organisations' Local Consultation Forum)
CONGAD	<i>Conseil des Organisations Non Gouvernementales d'Appui au Développement</i> (Council of NGOs for Development)
CRCR	<i>Cadres Régionaux des Concertation des Ruraux</i> (Regional Rural Consultation Fora)
DA	<i>Direction de l'Agriculture</i> (Directorate for Agriculture)
DAPS	<i>Direction de l'Analyse, de la Prévision et de la Statistique</i> (Planning, Analysis and Statistics, Ministry of Agriculture)
DAT	<i>Direction de l'Aménagement du Territoire</i> (Directorate for Territorial Management)
DCEF	<i>Direction de la Coopération Economique et Financière</i> (Directorate for Economic and Financial Cooperation)
DDI	<i>Département de la Dette et de l'Investissement</i> (Directorate for Debt and Investment)
DEEC	<i>Direction de l'Environnement et Des Etablissements Classés</i> (Directorate for the Environment and Registered Lands)
DSRP	<i>Document de Stratégie pour la Croissance et la Réduction de la Pauvreté</i> (Poverty Reduction Strategy Paper)
EC	European Commission

ESMF	Environmental and Social Management Framework
FAO	Food and Agriculture Organization
FCFA	<i>Franc de la Communauté Financière Africaine</i> (Franc of the African Financial Community)
FM	Financial Management
FNRAA	<i>Fond National de Recherche Agricole et Agro-Alimentaire</i> (National Agricultural and Agro-processing Research Fund)
FY	Fiscal Year
GDP	Gross Domestic Product
GDT	<i>Gestion Durable des Terres</i> (Sustainable Land Management)
GEF	Global Environment Facility
GEO	Global Environmental Objective
GPP	Global Partnership Program
GPS	Global Positioning System
Ha	Hectare
HIPC	Heavily Indebted Poor Country
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFR	Interim Financial Report
IMF	International Monetary Fund
INP	<i>Institut National de Pédologie</i> (National Institute of Pedology/National Institute of Pedology)
IRD	<i>Institut de Recherche et Développement</i> (Research and Development Institute)
IRR	Internal Rate of Return
ISA	International Standards on Auditing
ISRA	<i>Institut Sénégalais de Recherche Agricole</i> (Senegalese Institute for Agricultural Research)
ITA	<i>Institut de Technologie Alimentaire</i> (Food Technology Institute)
JICA	Japanese International Cooperation Agency
Kg	Kilogram
LADA	Land Degradation Assessment in Dryland Areas
LD	Land Degradation
LERG	<i>Laboratoire d'Etudes et de Recherches Geophysiques</i> (Laboratory for Studies and Geographic Researches)
LOASP	<i>Loi d'Orientation Agro-Sylvo Pastorale</i> (Agro-Sylvo Pastoral Orientation Law)
M&E	Monitoring and Evaluation
MA	Ministry of Agriculture
MDTF	Multi-Donor Trust Fund
MEPN	<i>Ministère de l'Environnement et de la Protection de la Nature</i> (Ministry of the Environment and of the Natural Resources Protection)
MTEF	Medium-Term Expenditure Framework
NAP	National Action Program to Combat Desertification
NAPA	National Adaptation Program of Action
NARS	National Agricultural Research System

NEPAD	New Partnership for Africa's Development
NGO	Non-Governmental Organization
NPV	Net Present Value
OP/BP	Operational Policy/Bank Procedure
PACD	<i>Projet de Promotion d'une Agriculture Compétitive et Durable</i> (Promotion of Competitive and Sustainable Agriculture)
PANAC	<i>Plan d'Action National pour l'Adaptation aux Changements Climatiques</i> (National Action Plan for Adapotation to Climate Changes)
PDMAS	<i>Projet de Développement des Marchés Agricoles et agroalimentaires au Sénégal</i> (Agricultural Markets and Agribusiness Development Project)
PDO	Project Development Objective
PEFA	Public Expenditure and Financial Assessment
PFDS	<i>Projet du Fonds de Développement Social</i> (Social Development Fund Project)
PFM	Public Financial Management
PGIES	<i>Program de Gestion Intégrée des Eaux et des Sols</i> (Program for Integrated Soil and Water Management)
PIM	Project Implementation Manual
PLDP	Participatory Local Development Program
PMP	Pest Management Plan
PNIR	National Rural Infrastructure Project
PO	Producer Organization
PROGERT	<i>Projet de Gestion et Restauration des Terres dégradées du Bassin Arachidier</i> (Groundnut Basin Soil Management and Regeneration Project)
PRSP	Poverty Reduction Strategy Paper
PSAOP	<i>Projet de Services Agricoles et Organisations des Producteurs</i> (Agricultural Services and Producer Organization Project)
R&D	Research and Development
RPF	Resettlement Policy Framework
SBD	Standard Bidding Documents
SIP	Strategic Investment Program for SLM in Sub-Saharan Africa
SITAR	<i>Système d'Information Technologique Agricole et Rurale</i> (Agricultural and Rural Technological Information System)
SLM	Sustainable Land Management
SN-CEA	Senegal Country Environmental Analysis
SNRASP	<i>Système National de Recherche Agro-Sylvo-Pastorale</i> (National Agricultural Research System)
SODEVA	<i>Société de Développement et de Vulgarisation Agricole</i> (Agricultural Extension and Development Company)
TIPA	<i>Innovation Technico-agricole pour la Lutte contre la Pauvreté</i> (Techno-agricultural Innovation for Poverty Alleviation)
TFCU	Technical and Fiduciary Coordination Unit (<i>Unité de Coordination Technique et Fiduciaire</i>)
TFESSD	Trust Fund for Environmentally and Socially Sustainable Development
UCTF	<i>Unité de Coordination Technique et Fiduciaire</i> (Technical and Fiduciary Coordination Unit)
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme

UNEP United Nations Environment Programme
UNFCCC United Nations Framework Convention to Climate Change
USD United States Dollar
USAID United States Agency for International Development
WAAPP Western African Agriculture Productivity Program
WB World Bank

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SENEGAL
Sustainable Land Management Project

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I N S E R T
D A T A S H E E T
H E R E

AFTER APPROVAL BY THE COUNTRY DIRECTOR
THE DATA SHEET SHOULD BE INSERTED IN THIS SECTION

MANUALLY IN HARD COPY

BEFORE SENDING A FINAL PAD TO THE PRINT SHOP.

DO NOT INCLUDE THIS INSTRUCTION PAGE IN THE PAD SENT TO THE PRINT SHOP.

NOTE: The Data Sheet can be found in the “Data Sheet” tab of the PAD section of the Operations Portal. Information in it is updated whenever such information is manually changed in the “Data Sheet” tab at any stage during project preparation/appraisal. Prior to sending the final PAD to the Print Shop, it is best practice to confirm the information in the data sheet before printing it out and inserting it here.

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

1. ***The importance of land resources in Senegal.*** Land is a key resource in Senegal. Seventy percent of the rural population (which represents about 50 percent of the total population) directly depends on land resources for its livelihood. Despite the fact that the contribution of the agricultural sector to the Gross Domestic Product (GDP) has declined in the last decades, this sector still engages about 60 percent of the population (Senegal Country Environmental Analysis: SN-CEA, FY08) and, according to the Government's Poverty Reduction Strategy Paper (DRSP-II), still represents one of the major engines for shared growth.
2. ***The main causes of land degradation include*** (i) overgrazing and unsustainable agricultural practices that contributed to deforestation; (ii) population growth that led to an extension of cultivated lands and to increased pressure on forest resources; and (iii) drought.
3. ***The impact of land degradation.*** Land degradation is increasingly affecting land resources in Senegal; a description of the major forms and causes of land degradation is reported in Annex 1 and Annex 4, Table 4.1. According to the SN-CEA, FY08 almost two-thirds of the arable lands in the country are degraded, i.e. about 2.5 million hectares. The negative consequences of land degradation are manifold:
 - (a) *On the country's potential for growth.* Soil fertility depletion (one of the forms of land degradation) represents one of the main causes of stagnation of agricultural productivity and, consequently, one of the major constraints to agricultural and economic growth.
 - (b) *On poverty and vulnerability of rural people.* According to the SN-CEA, the linkage between poverty and land degradation is well established. Because most of the rural population (which represents the poorest and therefore the most vulnerable part of the population) heavily depends on land resources for its livelihood, increasing land degradation reduces their livelihood options and income generation opportunities, thus exacerbating their poverty and increasing their vulnerability.
 - (c) *On social costs.* Declining soil productivity of agricultural lands and population growth contribute to the abandonment of previously productive lands and increased migration to urban centers (particularly to Dakar), with potentially high social costs, including unemployment.
 - (d) *On ecosystem functions and services.* Senegal's territorial ecosystems and their products are an important part of Senegal's natural wealth and essential to the country's food security. Land degradation is considered one of the key factors of continuing imbalances in the ecosystems (including water resources) and worsening of wildlife habitats.
4. ***Costs of land degradation.*** Rough estimates suggest that the annual economic cost of land degradation in Senegal may be in the order of 1 percent of GDP (ref. SN-CEA).
5. ***Sustainable land management (SLM) as a means to address land degradation: Opportunities and constraints.*** According to the SN-CEA, sustainable land management could offer a means to address land degradation and enhance rural land productivity on a long-term

basis. However, despite some isolated technical successes (e.g. the SLM system supported by the Rodale Institute¹ and the Agricultural Extension and Development Company (Société de Développement et de Vulgarisation Agricole: SODEVA), interventions to stabilize sand dunes in the Niayes, etc.), the adoption and replication of SLM has remained relatively limited. Some of the key reasons that have prevented the adoption and/or replication of SLM include: (a) *a weak enabling environment* (characterized by inconsistent government policies and regulations, weak institutional capacity to support SLM adoption, and an unfavorable land tenure and incentive system); and (b) *a single-sector/project-specific approach* to the problem.

6. ***Recipient's key policies and strategies.*** Land degradation has been repeatedly recognized by the Senegalese Government as a key constraint to development at both local and national levels. Addressing land degradation and promoting sustainable use of natural resources have been indicated as key objectives in virtually all national policies and strategies since the *National Action Plan for the Environment* in 1993. The Senegalese Government has ratified the United Nations Convention to Combat Desertification (UNCCD) in 1995, and has submitted its *National Action Program to Combat Desertification* (NAP) in 2000. The NAP identifies the main priorities and actions to prevent and reduce the effects of desertification. The *Agro-Sylvo-Pastoral Orientation Law* (LOASP, 2004) includes promotion of better land exploitation and improvement of soil fertility as key strategic objectives of the national rural development policy. The *Accelerated Growth Strategy* (2006) identifies 'sustainable agriculture' as a key driver for Senegal economic growth. The *Plan d'Action National pour l'Adaptation aux Changements Climatiques* (PANAC, 2006) identifies sustainable land management as an effective adaptation activity. More recently, the *Poverty Reduction Strategy* (DSRP-II, 2007) indicates combating land degradation and promoting sustainable agriculture and forestry as priority objectives to reduce poverty. Finally, the Government of Senegal has increasingly recognized that, to effectively address land degradation and promote SLM, a more cross-sectoral and programmatic approach to scale up SLM (as opposed to a project-based approach) is needed.

B. Rationale for Bank involvement

7. ***The rationale for the Bank's involvement*** is based on the following elements:

- (a) *Long-term involvement in the sectoral dialogue:* The Bank has led the policy dialogue on the agricultural sector since the sectoral adjustment programs in the 1990s. Recently, the first and second phase of the Agricultural Services and Producer Organizations Project (PSAOP and PSAOP2) have been instrumental in defining sector strategies and implementing sector reforms in the agricultural sector, e.g. the implementation of the Agricultural Sector Law, the implementation of the Policy Letter of Development of the Groundnut Sector, among other measures. The recently completed Senegal CEA (SN-CEA) provides in addition an important instrument to strengthen the policy dialogue in the natural resource management sector.
- (b) *Opportunity to complement the Bank's rural portfolio:* The Bank has a well integrated rural portfolio in Senegal, which includes the Agricultural Markets and

¹ The implementation of an SLM system by farmers supported by the Rodale Institute has improved yield of millet 75-195% and of groundnuts 176-265%.

Agribusiness Development Project (PDMAS), the Participatory Local Development Program (PLDP), the Africa Emergency Locusts Project (AELP), and the West Africa Agricultural Productivity Program (WAAPP), in addition to the PSAOP2. PSAOP2 and PDMAS recognize the importance of sustainable management of land resources to achieve intensification of production, but do not specifically promote the adoption of SLM. The proposed operation would strategically complement the Bank's rural portfolio in Senegal, and increase the impact of the Bank's rural investments in the country, as it will provide an additional instrument to specifically address land degradation and mainstream sustainable land management in the sector.

- (c) *Linkages with previous and ongoing AAAs:* The recently completed Senegal CEA (SN-CEA), which was supported by the World Bank, the Royal Netherlands Embassy and TerrAfrica, provides an in-depth analysis of the key issues in the environment and natural resource management sector in Senegal, and a set of recommendations to address these issues. The proposed operation is one of the instruments through which the recommendations of the SN-CEA would be implemented. In particular, the proposed operation would support the development of a national framework for SLM investments, favor the establishment of platforms for SLM and other coordination mechanisms, and support the strengthening of a knowledge management system for SLM. In addition, the ongoing AFR study on regional implications of climate change and the global study on territorial development and adaptation to climate change will provide some detailed information on the capacity of local institutions, including those targeted by the proposed operation, to adapt to climate change.
- (d) *Capacity to leverage partners and mobilize technical and financial resources towards SLM:* The Bank's convening power will be critical to leverage sectoral support from the development partners and other stakeholders. The proposed operation is expected to influence investment choices by other development partners (DPs) working in the country, such as the EC, JICA, USAID, and stimulate an increase in expenditures to SLM by the Government, by demonstrating concrete results in terms of improvements in land management and increased agricultural productivity. As organization hosting the TerrAfrica Secretariat, the Bank is in a unique position to catalyze and harmonize support among TerrAfrica partners in Senegal (NEPAD, UNDP, UNEP, FAO, IFAD, the Global Mechanism of the UNCCD, etc.).
- (e) *Regional and global experience in developing and implementing SLM programmatic responses and investments:* The Bank is well placed to draw upon regional and global experience in designing and implementing programmatic responses and investment operations to scale up SLM (e.g. the Ethiopia, Mali, Ghana, and Nigeria' SLM Investment Frameworks; the Ethiopia SLM Program, etc.). In addition, as key partner of TerrAfrica, the Bank is well placed to draw from the experience, best practices, lessons, and knowledge generated by TerrAfrica partners.
- (f) *Implementation of the TerrAfrica GPP:* TerrAfrica is a Bank Global Partnership Program (GPP) that aims at scaling-up SLM in Sub-Saharan Africa. The proposed operation would contribute to the implementation of the Business Plan of

TerrAfrica, particularly Activity Line 3 (Country Investments), as it would contribute to creating the enabling conditions for SLM scale-up.

8. ***Consistency with GEF Strategies and the GEF-SIP.*** This operation is one of the operations under the regional GEF Strategic Investment Program for SLM in Sub-Saharan Africa (SIP). It would contribute to the SIP objectives as it would: (a) *Support Senegal in adopting a more programmatic approach to SLM* by addressing some of the weaknesses in the enabling environment that hinder SLM adoption and replication; and (b) *support Senegal in applying sustainable practices* that increase land productivity while securing ecosystem services in selected priority areas, and it will contribute to deliver on SIP IRs 1, 2, 3 and 4 (ref. to Section D - Project Components). As part of the GEF-SIP, this operation will directly contribute to the implementation of the GEF Land Degradation Focal Area Goal (i.e. arrest and reverse current trends in land degradation), and Strategy (i.e. Strategic Objectives 1: creating an enabling environment for SLM; and 2: generating benefits for the global environment through the upscaling of SLM investments). More specifically, this operation will support the objective of LD-Strategic Program 1 (i.e. support sustainable agriculture and rangeland management).

C. Higher level objectives to which the project contributes

9. ***Contribution to Recipient's high-level objectives.*** Combating land degradation and promoting sustainable agriculture are priority objectives to reduce poverty in the Poverty Reduction Strategy (DSRP-II). Better land exploitation and improvement of soil fertility are key strategic objectives of the national rural development policy (in LOASP). Sustainable agriculture is considered a key driver for Senegal economic growth in the Accelerated Growth Strategy. Land management is an effective adaptation activity as highlighted in the *Plan d'Action National pour l'Adaptation aux Changements Climatiques* (PANAC, 2006). The proposed operation is expected to contribute to reduce poverty and stimulate income generation among rural populations in Senegal. Particularly, the proposed operation is expected to leverage the impact of rural investments in Senegal as it will provide an additional instrument to address land degradation and promote SLM in the sector.

10. ***Contribution to CAS objectives.*** The Bank's Country Assistance Strategy (CAS, 2007) recognizes the importance of enhancing land productivity on a sustainable basis to help to unlock economic growth that benefits rural populations, and includes time-bound and quantifiable targets to scale up SLM. One of the targets of outcome 7 of the CAS is 100,000 ha of land sustainably managed in priority areas, like sylvo-pastoral zones in the Groundnut Basin. The related target for the intermediate outcome is 20,000 ha of land with pilot sustainable management system in place in these priority areas. The proposed operation would directly contribute to achieve these targets by promoting the implementation of SLM practices in the Groundnut Basin. By the end of the Project it is expected that 20,000 ha will be under sustainable land management.

11. ***Contribution to CAADP and EAP, UNCCD-NAP, new UNCCD 10 years Strategic Plan, and UNFCCC-NAPA objectives.*** Extending the area under sustainable land management is the key objective of pillar 1 of the NEPAD's Comprehensive African Agriculture Development Program (CAADP) and one of the key objectives of program area 1 (degradation) of the Environmental Action Plan (EAP). The proposed operation would directly contribute to

these objectives. In addition, this Project is one of the instruments through which the UNCCD-NAP, the new UNCCD 10 years Strategic Plan, and the UNFCCC-NAPA will be implemented.

II. PROJECT DESCRIPTION

A. Lending instrument

12. **Financing instrument.** The proposed GEF Grant is a 3-year operation. The proposed operation would be implemented with support from the GEF with a US\$ 4.8 million grant. The operation will be integrated (partially blended) to the IDA/IFAD Agricultural Services and Producer Organizations Project 2 (PSAOP2), i.e. the two projects will have the same structure and the same institutional arrangements and implementation mechanisms. PSAOP2 represents in fact a well established instrument for engaging the Government on broader policy issues and institutional reforms in the agricultural sector. It is therefore believed that this GEF-funded project would have more leverage in influencing the policy dialogue and mainstreaming SLM into the agricultural sector if integrated into the PSAOP2.

B. [If Applicable] Program objective and Phases

13. N/A

C. Project development objective and key indicators

14. **Project development objective (PDO)** is to promote the adoption of SLM practices in selected priority areas in the Groundnut Basin. **The Global Environmental Objective (GEO)** is to improve ecosystem functions and services in selected priority areas in the Groundnut Basin. ..

15. **Geographical scope and location.** Project activities will focus on the Groundnut Basin (GB), and more precisely will target the departments and rural communities listed in the table below, but may in addition include other rural communities approved by the Bank. A map of the project areas is reported in Annex 4. About 20,000 ha are expected to be converted to SLM.

Zone/Department	Rural Community	Zone/Department	Rural Community
Northern Groundnut Basin (Louga, Kébémér, Tivaouane Departments)	Notto Djobass	Southern Groundnut Basin (Kaolack, Sud Fatick, Kaffrine)	Fimela
	Mewane		Niakhar
Central Groundnut Basin (Thiés, Diourbel, Goassas, Nord Fatick)	Dealy		Nganda
	Touba Mosquee		Latmingue

16. **Key indicators.** Proposed outcome indicators include:

- (a) **Increase of land with SLM practices in the GB (%)**. Percentage of land with SLM practices is defined as land with SLM practices over total land. SLM practices include both ‘technologies’ and ‘approaches’ applied to raise land quality.

Technologies refer to agronomic, vegetative, structural, and management measures that reduce the effects of land degradation. Approaches include means that help to introduce, apply and implement SLM technologies (Ref. table 3.1 in Annex 3). (Baseline: 0%; target value: 20%).

- (b) *Increase of organic matter in the soil in the GB (%)*. Organic matter is used as an indicator of soil fertility, which is considered as a proxy for land quality and agricultural productivity and ecosystem health² (Baseline: 0.20%; target value: 0.23%).

D. Project description and components

17. **Project description.** The proposed operation would contribute to above described objectives by:

- (a) *Strengthening some key elements of the enabling environment for SLM scale-up* at national and local levels (e.g. strengthening cross-sectoral coordination mechanisms and institutional capacity for SLM; and strengthening the capacity of main agricultural research institutions to generate and disseminate SLM research and knowledge);
- (b) *Supporting the adoption of SLM technologies and practices in selected priority areas*, i.e. the seed producing areas of the Groundnut Basin such as by strengthening the capacity of producer organizations to adopt SLM measures; setting-up financial mechanisms to facilitate the adoption of SLM; and supporting agricultural service providers in delivering SLM opportunities and providing adequate technical backstopping. Considering that the yet uncertain effects of climate change may undermine the gains made from SLM investments, special attention will be given to adequately take into consideration risks associated with climate change and to design adaptation measures. To this end, the World Bank study on territorial development and adaptation to climate change will provide some information on the capacity of local institutions, including those targeted by the proposed operation, to adapt to climate change; and
- (c) *Strengthening synergies between the ministries engaged on SLM*, particularly the ministry in charge of agriculture, livestock and environment sectors.

18. **Rationale for selection of Project location.** The decision to focus on the seed producing areas of the Groundnut Basin is based on the following considerations:

- (a) *Severity of degradation:* The Groundnut Basin is one of the areas in Senegal where land degradation is more severe³, mainly because of inappropriate cropping practices.

² In agriculture lands, soil quality is a key factor in the provision of ecosystem functions and services, including, (i) system soil structure, (ii) water quality and retention, (iii) mineral nutrition, and (iv) development of root.

³ About 1.15 million ha are degraded in the groundnut basin alone, about one-third of all arable land in the country. Detailed studies in Kaffrine in the southern groundnut basin show that, between 1989 and 1999, land on 64 percent of the study area was degraded, while only 1 percent improved (LADA 2005).

- (b) *Population density and potential for agricultural production:* It is the area with the highest population density and where most of the country's agricultural production is concentrated (approximately 2/3 of total production). Where quality production is practiced, integrated agricultural practices that include SLM practices could be certified. This could be incorporated as a quality parameter in the labeling of products derived from sustainable agriculture.
- (c) *Importance of ecosystem functions and services for agricultural productivity.* Senegal's territorial ecosystems and their products are important to provide services to rural production landscapes. Land degradation, in its various forms, has negative consequences on both ecosystem functions (e.g. system soil structure, water quality retention, and mineral nutrition) and agricultural productivity. In the Groundnut Basin, soil fertility depletion represents one of the main causes of stagnation of agricultural productivity and, consequently, one of the major constraints to the sustainability of livelihoods.
- (d) *Synergies with PSAOP2, PDMAS and WAAPP:* It is an area where the World Bank is already operating through the WB/IDA Agricultural Services and Producer Organizations Project 2 (PSAOP2). Synergies between the three projects are therefore expected.

19. **Project components.** As an operation integrated (partially blended) to the PSAOP2, the activities proposed are organized along the four components of PSAOP2. Each component would be incremental to and/or complement the respective PSAOP2 component.

- (a) **Component A - Support to the Agricultural Research System⁴** (US\$ 0.6 million): In PSAOP2, this component seeks to increase the capacity of the National Agricultural Research System (NARS). The Project would be used to strengthen the capacity of the Senegal Agricultural Research Institute (*Institut Sénégalais des Recherches Agricoles*, ISRA) to specifically generate and disseminate SLM-targeted research and knowledge. More specifically, this component would:

A.1 *Support the implementation of demand-driven SLM research and development (R&D) activities.* Activities in this sub-component will mainly focus on providing technical and financial support to the development of R&D activities⁵.

A.2 *Finance baseline studies.* Activities in this sub-component would include collection of baseline information on the bio-physical and socio-economic characteristics of the project sites. Information collected will be used for M&E and the SLM Knowledge Base (ref. Component D1).

A.3 *Strengthen the capacity of ISRA to generate, disseminate, and monitor SLM-targeted research and knowledge.*

- (b) **Component B - Strengthening Agricultural Advisory Services⁶** (US\$ 0.7 m): In PSAOP2, this component is aimed at supporting the extension of the agricultural

⁴ This component is in line with SIP IR 4.

⁵ R&D activities are demand-driven, short-term research activities aimed at quickly responding to the needs expressed by beneficiaries within a specific local or regional context.

⁶ This component delivers on SIP IR 3.

advisory system and the consolidation of a pluralistic network of service providers. The GEF-supported Project would complement these interventions by:

B.1 Strengthening the capacity of the agricultural extension system in SLM. This sub-component aims at strengthening the capacity of ANCAR, farmer intermediaries, and service providers to deliver SLM packages and provide adequate technical backstopping on SLM. Main activities of this sub-component would include the development and delivery of a training program for service providers on SLM technologies and practices, the integration of SLM approaches in existing farmer production systems, land use planning, etc.

B.2 Delivering SLM packages. This sub-component aims at developing and delivering demand-driven, customer-tailored SLM advisory programs through the agricultural extension system. Examples of SLM technologies are presented in Annex 3 (Tables 3.1) and Annex 4 (Table 4.3) and comprise land use regimes, agronomic, vegetative and structural measures. Main activities of this sub-component would include: (i) The creation of a database on SLM technologies and practices, and conditions for their applicability; (ii) farmers' sensitization and awareness creation activities; (iii) activities aiming at disseminating SLM technologies and sharing lessons/best practices, including set-up of demonstration sites, organization of field trips, farmer-to-farmer exchange events, SLM fairs, and specific training events; and (iv) provision of technical support and backstopping on SLM.

- (c) ***Component C - Support to Producer Organizations***⁷ (US\$ 2.8 m): In PSAOP2, this component is aimed at strengthening the capacity of producer organizations (POs) to access technical and economical services, and to participate in policy formulation. The GEF-supported Project would provide additional resources to:

C.1 Strengthen the capacity of POs to integrate SLM in their production systems (US\$ 0.4 m). Main activities of this sub-component would include: (i) Training and other capacity building activities (e.g. workshops, animation activities, study tours, etc.) to Producer Organizations' Local Consultation Forum (CLCOP), , and cooperatives on SLM; (ii) advocacy and other communication and awareness raising activities targeting the rural population about SLM, and how to get access to available resources and services; and (iii) training and other capacity building activities to the staff of ASPRODEB to enable them to provide adequate support to POs.

C.2 Strengthen the capacity of POs' leaders and of local political leaders to integrate SLM in the formulation of sectoral policies (US\$ 0.3 m). This component will finance training and other capacity building activities to POs' leaders and local representatives to improve their awareness on SLM and strengthen their capacity to integrate SLM in the formulation of local development plans and sectoral policies (e.g. formulate proposals and negotiate with other rural development actors).

C.3 Support the adoption of SLM practices (US\$ 2.1 m). This sub-component will provide financial resources to implement SLM sub-projects. CLCOPs and

⁷ This component delivers on SIP IRs 1 and 2.

cooperatives identify suitable POs⁸ that could present proposals to adopt SLM practices. With the technical support of ISRA, INP, and ANCAR, the identified POs prepare the proposals. The proposals are assessed and approved by local assemblies (rural councils). To be selected, the proposals for SLM sub-projects should satisfy the following eligibility criteria: (i) the SLM sub-project shall be implemented by a Producer Organization; (ii) the SLM sub-project shall not fall within any of the negative list of ineligible activities set forth in the Project Implementation Manual, including without limitation activities that would adversely affect forest areas and/or natural habitats; (iii) the sub-grants will support activities promoting SLM in the Target Area. The selected proposals are financed through this sub-component. ASPRODEB will sign a contract with the selected POs. The producer organizations will implement their activities in close collaboration with other institutions, including ANCAR, ISRA, and local governments. This sub-component will in addition cover the costs ASPRODEB will bear to implement this activity (e.g. travel costs of staff, technical assistance and consultancy services, and the costs related to monitoring and evaluation of the sub-projects).

- (d) ***Component D - Support to Sectoral Coordination***⁹ (US\$ 0.7 m): In PSAOP2, this component is aimed at strengthening the capacity of sectoral ministries (e.g. Agriculture and Livestock) for policy formulation, planning, coordination, monitoring and evaluation. The GEF-supported Project would be used to strengthen the enabling conditions to allow the Government to move towards a more cross-sectoral and programmatic approach to SLM, and to support incremental costs of project management. This component comprises two sub-components:

D.1 Strengthening cross-sectoral coordination (US\$ 0.6 m). Main activities within this sub-component include: (i) The institutionalization of the (already existing) SLM Committee (*Groupe Fonctionnel GDT*) as a national multi-sectoral forum in charge of promoting, coordinating and overseeing the development and implementation of SLM activities in the country; (ii) the formulation and adoption of a National SLM Investment Framework (*Cadre National d'Investissement en Gestion Durable des Terres*); and (iii) the development of a Knowledge Base on SLM, i.e. a national database collecting key information concerning SLM technologies and approaches (the WOCAT methodology is proposed) and other SLM geo-referenced data and information (e.g. extent and severity of land degradation, soil fertility, vegetation cover, land use and land use change, etc.), including those collected during the preparation of the SLM Investment Framework. These activities are key to guaranteeing the sustainability of the project outcomes.

D.2 Technical and fiduciary coordination and M&E (US\$ 0.1 m). This sub-component will support incremental operating costs of the team responsible for coordinating and monitoring the overall activities of the Project.

⁸ To be selected, POs should satisfy the eligibility criteria defined in the Project Implementing Manual, i.e. (i) to be a legal entity pursuant to the law; (ii) to be constituted at least with twenty members; (iii) to be a member of CLOP.

⁹ This component delivers on SIP IRs 2 and 4.

E. Lessons learned and reflected in the project design

20. The design of this operation reflects: (a) Lessons learnt in implementing projects in Senegal, particularly PSAOP; (b) lessons learnt in implementing SLM operations in Africa; and (c) findings and recommendations of the recently completed Senegal Country Environmental Analysis, and of three analytical works on SLM (i.e. ‘Diagnostic Report on Land Degradation and Sustainable Land Management in Senegal’, ‘Land Management Options Plan’, and ‘Review Public Expenditure in Land and Environment Management’). Main lessons learnt reflected in the project design include:

- (a) *Need to integrate enabling activities with on-the-ground investments:* The findings of the SN-CEA highlight the importance of improving the enabling environment (i.e. rectify perverse incentives, build institutional capacity, mainstream SLM in sectoral policies, etc.) to scale up SLM. Lessons from past experiences suggest however that enabling activities are not sufficient alone, and need to be accompanied by on-the-ground investments. If successful, on-the-ground activities have a great impact on beneficiaries’ motivation, and usually generate a positive momentum for rapid up-scaling of SLM practices. The proposed operation will therefore support both activities aiming at improving the enabling environment for SLM and on-the-ground investments that could generate quick wins.
- (b) *Improvement of cross-sectoral coordination is critical to scaling up SLM:* One of the conclusions of the SN-CEA is that, in order to scale-up SLM, it is critical to improve coordination among stakeholders and agencies. To improve coordination, avoid duplication of efforts, and better target and prioritize interventions, the SN-CEA recommends the development of a National Investment Framework for Sustainable Land Management (*Cadre National d’Investissement en Gestion Durable des Terres*). This framework would help: (i) Set objectives, thematic and geographic priorities, and investment needs; (ii) prioritize and cost them; and (iii) identify and select the most appropriate mechanisms to achieve them, thus facilitating alignment and harmonization of SLM interventions. The proposed operation will specifically support cross-sectoral coordination mechanisms (e.g. through the establishment of a multi-stakeholder SLM Platform), and provide technical and financial support to develop the National Investment Framework for SLM.
- (c) *POs are key drivers to foster change and ensure sustainability:* PSAOP1 showed that institutional reforms and the development of new relationships between clients and service providers can be fostered if producers are empowered and able to contribute to the services they need. Demand-driven services become relevant, efficient, and accountable thanks to producer empowerment that builds the demand side. PSAOP2 is deepening this approach by channeling more financial resources through producer organizations to increase accountability and client-orientation of agricultural services. Focus on strengthening the capacity of POs will remain a central element of the proposed operation.
- (d) *Need to shift the focus from commodity production to land productivity and environmental sustainability in the agricultural sector:* In the 1990s, the Government invested, with the support of several DPs, about US\$ 1 billion in

agricultural and livestock development and rural water supply. Interventions however focused mainly on commodity production and intensification rather than on sustainable management of land resources and productivity. The impact and long-term sustainability of these interventions was therefore limited. SLM needs to better be integrated in the agricultural sector.

F. Alternatives considered and reasons for rejection

21. ***Stand-alone versus integrated operation.*** The proposed operation will be integrated to the IDA/IFAD Agricultural Services and Producer Organizations Project 2 (PSAOP2), i.e. the two projects will have the same structure and the same institutional arrangements and implementation mechanisms. The alternative would have been to develop an independent operation. However, considering that PSAOP2 represents a well established instrument for engaging the Government on broader policy issues and institutional reforms, it is believed that the the GEF-supported Project would have more leverage in influencing the policy dialogue and mainstreaming SLM into the agricultural sector if integrated into the PSAOP2.

22. ***Component A: Applied research programs versus research and development (R&D).*** Strategic and applied research programs are aimed at achieving medium and long-term national priorities. Adaptive research and R&D are demand-driven, short-term research activities aimed to quickly respond to the needs expressed by beneficiaries within a specific local or regional context. While PSAOP2 supports both applied research programs and R&D, the proposed operation will support R&D only. This choice was made on the basis of two considerations. First, there is already a sufficient level of knowledge on SLM technologies. Producers and land users do not demand the generation of new technologies, but information on the conditions under which existing technologies can be applied. Second, the relatively short duration of the project (3 years) would likely be insufficient for the applied research programs to produce results, considering the time needed for selecting and financing applied research programs under the competitive mechanism of FNRAA.

III. IMPLEMENTATION

A. Partnership arrangements

23. ***Coordination with UNDP under the GEF-SIP.*** The proposed operation is one of the two operations developed under the GEF-SIP in Senegal, together with UNDP's *Innovation in Micro-Irrigation for Dryland Farmers* Project. The two operations will use the same approach and will be coordinated. Both would focus on improving the enabling environment for SLM adoption. They will however target two different geographical areas of the country: The proposed operation would focus on the Groundnut Basin, while UNDP's operation will be implemented in the Bakel Region, situated in the Senegal River Valley. In addition, the planned third phases of the UNDP/GEF *Groundnut Basin Soil Management and Regeneration* Project (PROGERT), and of the UNDP/GEF *Program for Integrated Soil and Water Management* (PGIES) will be fully aligned with the principles and approach of the GEF-SIP.

24. **Partnership with IFAD.** PSAOP2 is co-financed (parallel) by the International Fund for Agricultural Development (IFAD). IFAD contributes to PSAOP2 with a loan of US\$6.0 million. IFAD has been closely associated in the definition of the content of PSAOP2, from preparation to negotiations. IFAD funds are pooled into the Project's designated account. IFAD plays a role in the learning processes of PSAOP by testing, in the context of its other projects in Senegal, a number of pro-poor approaches that can both benefit from and feed into the institutional reform process through ad-hoc mechanisms, including exchange visits and thematic workshops.

25. **Partnership with Israeli Embassy.** Within the framework of PSAOP2 and PDMAS, the Bank is developing a partnership initiative with the Israeli Embassy to support the scale-up of the Techno-agricultural Innovation for Poverty Alleviation (TIPA) irrigation system (about US\$ 400,000, under preparation). This system is well adapted to smallholders' community production systems, while contributing to sustainable land and water management.

26. **Coordination with other DPs' initiatives.** USAID and JICA have recently started a dialogue with the Government for the preparation of an Agricultural Productivity and Natural Resource Management (about US\$ 20 million, under preparation) and of a Land Restoration operation, respectively. The cross-sectoral coordination mechanism for SLM that this operation supports (Component D) will ensure coordination with these two proposed operations. The French Cooperation continues to support some activities linked to PSAOP. In particular, the French Cooperation supports the professional evolution of POs and agricultural and rural training activities through its Promotion of Competitive and Sustainable Agriculture (PACD) Project.

B. Institutional and implementation arrangements

27. **Institutional set-up and implementation arrangements.** The operation will adopt the same institutional arrangements as PSAOP2, which comprise:

- (a) *A Steering Committee (Comité de Pilotage; the same as for PSAOP2¹⁰), which includes representatives of the implementing agencies and is responsible for: (i) Approving the work program and consolidated budget; and (ii) assessing project performance;*
- (b) *A Technical and Fiduciary Coordination Unit (Unité de Coordination Technique et Fiduciaire - UCTF), the same as PSAOP2's, which is responsible for: (i) Monitoring the overall implementation of the Project; (ii) promoting and facilitating the exchange of information and cooperation between implementing agencies; (iii) preparing quarterly progress reports by consolidating the components' reports; (iv) consolidating, supervising, and monitoring the procurement plans prepared by the different components; (v) managing the designated account, in liaison with the Direction de la Dette et de l'Investissement (DDI) of the Ministry of Finance; (vi) supporting the components as needed; and (vii) liaising regularly with the World Bank. The Coordination Unit is located at the Ministry of Agriculture.*
- (c) *One implementing agency per component or sub-component, and specifically:*

¹⁰ INP will be included as an observer.

- (i) Component A - Support to the Agricultural Research System: This will be implemented by ISRA (see details in Annex 2).
- (ii) Component B - Strengthening Agricultural Advisory Services: This will be implemented by ANCAR (whose legal status is *Société à participation publique minoritaire*).
- (iii) Component C - Support to Producer Organizations: This will be implemented by ASPRODEB (an NGO which represents 19 national federations of producers).
- (iv) Component D - Support to Sectoral Coordination: This will be implemented by: (i) The National Institute of Pedology (*Institut National de Pédologie*, INP), which reports to the Ministry in charge of Agriculture, for the sub-component D1 (Sectoral Coordination); and (ii) the Technical and Fiduciary Coordination Unit for the sub-component D2 (Technical and Fiduciary Coordination).

28. The only difference with respect to PSAOP2 is the addition of the INP, which will play a key role in coordinating the activities aiming at strengthening cross-sectoral coordination mechanisms and building a national coalition for SLM (Component D).

29. **Financial management.** The operation will adopt the same financial management arrangements as PSAOP2 but new agreements will be signed. ASPRODEB manage its funds directly through a management services contract. This contract is signed between ASPRODEB and the Technical and Fiduciary Coordination Unit (TFCU). Funds are withdrawn from the designated account or from the credit following the disbursement and financial management provisions of the management services contract. The other implementing agencies send their funding requests to the TFCU. Each implementing agency has its own financial and accounting system in place, certified by an independent auditor, and manages its own procurement activities, under the overall guidance and quality control of the procurement specialist of the TFCU. Procedures concerning coordination, implementation, management, monitoring and evaluation, procurement, and administration are detailed in the Project Implementation Manual (PIM).

30. **Flow of funds.** The funds for this operation will flow from the World Bank to a new Designated Account opened under the DDI at the Ministry of Economy and Finance. The Designated Account will be managed by DDI in coordination with the TFCU. Reporting on the use of funds for the Designated Account and the sub-accounts will be based on statements of expenditures. Reporting on the use of funds for the management contracts will be based on financial and technical reports. Payments will be made in installments. The initial installment will be determined based on the disbursement plan. Subsequent payments will be based on progress reports (physical and financial).

C. Monitoring and evaluation of outcomes/results

31. The PSAOP2 Monitoring and Evaluation (M&E) system will be updated for the purposes of the SLM project in order to verify progress against the objectively verifiable indicators described in the results framework (Annex 3). The system will build on, rely, and be integrated with the M&E systems established and used by the PSAOP. It is important to note that establishing an effective M&E system for the whole agriculture sector, and thus for monitoring

part of the DSRP-II (Poverty Reduction Strategy Paper), is the ultimate expected outcome of the M&E system established by the PSAOP. The project M&E system, managed by the TFCU, will be linked to the M&E system of the components, and will deliver consolidated monitoring information on project activities and progress. The system will collate and process information collected from the components as well as additional data derived from special studies and participatory M&E exercises. The M&E system is web-based and participative.

32. As in PSAOP, the M&E system comprises two elements:

- (a) *Financial monitoring*, which allows to track the resources used to carry-out the activities of the Project. It will indicate the budgeted costs for planned activities and completed activities as well as the real costs of completed activities. Financial monitoring will allow monitoring the financial performance of the Project.
- (b) *Technical and physical monitoring*, to evaluate progress on indicators identified in the PTBA.

33. The overall performance of each component will be assessed by combining the financial and technical monitoring.

34. The Coordination Unit is responsible for the overall monitoring of the Project. It will improve the information and communication system to ensure collection and transmission of technical and economic information produced by the Project. The M&E system will be measuring yields and production and vegetation cover in order to show possible improvements. However, given its short (3 years) duration, the Project will not be directly accountable for them, as substantial impact on increased productivity and vegetation cover may not be significant during the course of project implementation. Baseline values for vegetation cover in the areas targeted by the project are reported in Fig. 3.1 in Annex 3. .

D. Sustainability and replicability

35. ***Sustainability.*** Expected long-term sustainability of the Project is based on the following elements:

- (a) *Institutional sustainability:* The Agro-Sylvo-Pastoral Orientation Law (LOASP, 2004) includes promotion of better land exploitation and improvement of soil fertility among its key strategic objectives. This law, which provides the policy framework for PSAOP2, can be considered a sign of the Government's political commitment. Through the institutionalization of the *Groupe Fonctionnel GDT* and the formulation of an SLM Investment Framework, SLM is expected to be better integrated in the Senegalese policy framework. An expected intermediate outcome of the Project is an increase in the Government's budget allocation to SLM.
- (b) *Project sustainability:* This will ultimately depend on the impact of innovations and advisory services on agricultural productivity and income. Based on the results of the participatory SLM program between the Rodale Institute and farmers in Senegal, it is expected that adopting sustainable land management technologies will enhance soil productivity; therefore wide-scale adoption of SLM is expected to have positive effects on agricultural productivity and farmers' income. The Project will promote a demand-driven approach, where supported SLM interventions are generated in

response to the needs expressed by beneficiaries (through the producer organizations).

- (c) *Financial sustainability*: The financial analysis carried out for this Project shows an Internal Rate of Return (IRR) of 27% and farmer Net Present Value (NVP) of FCFA 49 millions (US\$ 98,000; ref. Annex 9).

36. **Replicability**. Strengthening the capacity of the agricultural advisory system in SLM and the capacity of POs to integrate SLM in their production system, the development of a national Knowledge Base on SLM and of a National Investment Framework, and the institutionalization of a national multi-sectoral forum in charge of promoting, coordinating and overseeing the development and implementation of SLM activities in the country, are expected to facilitate the replicability of the results of the Project on a wide scale. In addition, a possible third phase of PSAOP -- which will fully mainstream sustainable land management in its design – will further support the consolidation and replication of the results of this Project.

E. Critical risks and possible controversial aspects

Risk factors	Description of risk	Rating of risk	Mitigation measures	Rating of residual risk
I. Country and/or Sub-National Level Risks				
Macro-economic Framework	The global economic slowdown is likely to have a number of impacts, negative (channels of transmission include exports, tourism, remittances and postponed FDI) or positive (reversal of previous years' shocks from oil and food).	Substantial	Sustaining sound macro policy stance: The authorities are pursuing corrective fiscal actions undertaken at end-2008, including the settlement of domestic arrears, which should partly offset external shocks.	Substantial
IDA Portfolio	The accumulation of government arrears led to delays in the payment of counterpart funding (CF) in FY08.	Moderate	Eliminate arrears and place country's fiscal stance on sustainable track. Ensure payment of counterpart funds: The Bank team is working closely with Government so that all 2008 CF arrears are paid in early 2009, and adequate funding is secured.	Moderate
II. Sector Governance, Policies and Institutions				
Sector-specific Risks	Uncertainty of land tenure status for farmers may discourage SLM investments: Lack of tenure security may discourage SLM investments, which are long-term in nature.	Moderate	PSAOP2 will support the land reform process. Activities and SLM investments will be directed to pilot zones with no land tenure issues.	Moderate
	Increase in extreme climate events (e.g. droughts and/or floods) due to climate change: Effects of climate change may undermine the gains made from SLM related investments, and/or may render rapidly obsolete the SLM technologies/ strategies to promote SLM.	Moderate	Risks associated with the effects of climate change will be taken into consideration and mitigated by assessing vulnerability to climate change and integrating adaptation measures into the proposed activities.	Likely
III. Operation-specific Risks				
Technical Design	Failure to involve the main users in the SLM technology generation and dissemination process may lead to several inefficiencies including: (i) The generation and extension of technologies do not correspond to the diversity of socioeconomic and agro-ecological	Moderate	The Project is designed to bring together technology users and suppliers, based on collaboration of producer organizations, research, and extension. Producer organizations have a crucial role to play in accelerating the diffusion of	Low

	constraints and fail to take into account the producers' indigenous knowledge; and (ii) delays in technology dissemination and adoption.		information, and in providing services to producers to facilitate technology adoption. However, producer organizations need support to build their capacity before they can play an effective role in the technology development and diffusion process, which is why a support-to-producer organizations component is included.	
	Lack of appropriate SLM technologies	Moderate	The project will support the generation, dissemination, and adoption of SLM via NARS, advisory systems, and POS.	Low
Implementation Capacity and Sustainability	Implementing agencies may lack technical and managerial capacity to adequately implement the project activities.	Moderate	The project will adopt the same implementation arrangements adopted in PSAOP2. The capacity of implementing agencies was already strengthened during PSAOP1 and 2. The only difference with respect to PSAOP is the addition of the National Soil Science Institute (INP) to play a role in cross-sectoral coordination. Capacity of the INP will be strengthened through the Project.	Low
	Institutional conflicts among sectoral ministries and other institutions may prevent the adoption of a multi-sectoral approach to SLM.	Moderate	The project will specifically support the establishment of a national SLM coordination mechanism.	Moderate
Financial Management	Inherent risks, such as: <ul style="list-style-type: none"> - Poor governance/corruption in the areas where activities will be implemented - Low capacity of the Ministry of Agriculture to implement and monitor the Project Control risks such as: <ul style="list-style-type: none"> - Limited knowledge of Bank's FM and procurement procedures - No internal audit functions in place - Lack of strong systems of external audit - Risk of mingling funds with other projects (see details in Annex 7) 	Substantial	The CFAA and PEFA action plan is under implementation and the government has created an Executive Secretariat for follow up. Key FM oversight elements of the Project are entrusted to the Government system. Capacity for external audit is enhanced by the recruitment of the external private sector audit firm to carry out the external audit. The Project will be implemented by a TFCU, and the Bank will pay special attention during the supervision mission to the adequacy of the FM system implemented (see details in Annex 7).	Moderate
	The implementation entities in charge of the implementation of the Project may not have acceptable financial management capacity.	Moderate	The Project will use the financial management arrangements of PSAOP1 and 2, which have already benefited from capacity building in financial management and which was rated satisfactory by the last assessment of the financial management review.	Low
Procurement	The implementation entities in charge of the implementation of the Project may not have acceptable knowledge of Bank procurement guidelines.	Moderate	The Project will use the procurement staff who has already been trained in and exposed to Bank procurement procedures under PSAOP1 and 2, and which is satisfactory according to the procurement assessment review carried out in November 2008.	Low

Social and Environmental Safeguards	Although the Project is expected to have positive environmental impacts because it will finance interventions to reduce land degradation, some localized negative environmental impacts may be possible if environmental concerns are not taken into consideration in the design and maintenance of small scale infrastructures (e.g. small dams, storage tanks, etc.).	Moderate	The Environmental and Social Management Framework (ESMF) prepared for PSAOP2 will be updated to take into consideration and address the potential negative impacts associated to the implementation of the activities of the proposed Project.	Low
IV. Overall Risk (including Reputational Risks)				
Overall Risk				Low

F. Loan/credit conditions and covenants

37. **Financial covenants.** The Recipient (Government) shall maintain or cause to be maintained a financial management system including records, accounts and preparation of related financial statements in accordance with accounting standards acceptable to the Bank. The Recipient shall finalize the Terms of Reference (TORs) for external auditor before the negotiation and appoint the external auditor on terms and conditions acceptable to the Association not later than six (6) months after the Project's effectiveness date. The Financial Statements will be audited in accordance with acceptable international auditing standards. The Audited Financial Statements for each period shall be furnished to the Association not later than three (3) months after the end of the Project fiscal year. The Recipient shall prepare and furnish to the Association not later than 45 days after the end of each calendar quarter, interim unaudited financial reports for the Project, in form and substance satisfactory to the Association. The existing software TOMPRO and the Financial and Administrative Manual of the TFCU will be update before the effectiveness date to conform to the GEF financed project.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

38. This operation aims at increasing the productivity of land resources in the Senegal Groundnut Basin by promoting the use of sustainable land management technologies and practices among farmers. The key issue is whether the investment costs of this operation are economically and financially profitable. An economic and financial analysis was carried out for this purpose. The methodology used for and the results of these analyses are summarized below. Details are reported in Annex 9.

39. **Economic analysis.** A cost-benefit approach was used for the economic analysis. The analysis compared the additional costs for farmers in adopting new technologies with expected benefits. The analysis assessed trends in the cost and benefit parameters "with" or "without" project. The profits resulting from the Project come from the increase in agricultural yield and cultivated land achieved in different crops by introducing the technologies proposed in the Project. Three different types of costs were considered: SLM 'public investments' (in the collective agricultural support sector and producer organizations), 'private investments' (individual investment in agricultural equipment to maximize available opportunities), and 'additional costs of production' caused by the adoption of new technologies. Economic prices were considered in this assessment and were obtained by adjusting observed distortions in financial prices (taxes, export duties, etc.). Three sub-agro-ecological zones in the Groundnut Basin (i.e. north, center, and south) have been chosen to assess incremental production over years with and without project. The key assumption made was that the technology adoption rate would vary between 20% and 45%, depending on the zones and crops under technologies used. Under these assumptions, the economic assessment showed the economic viability of the SLM operation from the perspective of the national economy. The economic Internal Rate of Return (IRR) calculated from the project is 35 %, with a Net Present Value (NPV) of FCFA 1.8 billion (US\$ 3.5 million) over the three years of the operation, with a capital opportunity cost of 20%. The IRR would be 93%, with a NVP of FCFA 19 billion (US\$ 38 million) for the 2009-2013 period. The project profitability appears sensitive to decrease in targeted yields (switching value

of -5%) to the rate of adoption (-10%); and extremely sensitive to decrease in market prices (-3%).

40. **Financial analysis.** For the financial analysis a “with” and “without” project assessment was made on the basis of the standard farm model and cultivated crops within each of the three above-mentioned sub-agro-ecological zones (ref. Table 1 in Annex 9). For each farm model/agricultural crop, the rates of change in land area, yield and production over the fifteen last years (1994-2008) at the department and regional level were observed. The “without-project” scenario was developed using the current fluctuating trends in land area and average yields. The “with-project” scenario took into account the option for improving yields and cultivated land with the support of project components, using a technology-estimated adoption rate. The financial analysis shows an IRR of 27% over the opportunity cost of capital estimated at 20 % and a farmer NVP of FCFA 49 millions (US\$ 98,000).

B. Technical

41. The rationale for the proposed approach and technical design is based on the following considerations and lessons learnt:

- (a) *Need to better integrate sustainable management of land resources in the agricultural sector:* Most of past interventions in the agricultural sector focused on intensification and commodity production rather than on the issues of resource management and land productivity. This approach however led to results that were not sustainable in the long-term.
- (b) *Need to integrate enabling activities with on-the-ground investments:* Lessons from past experiences suggest that enabling activities need to be accompanied by on-the-ground investments. If successful, on-the-ground activities have a great impact on beneficiaries’ motivation, and generate a positive momentum for rapid up-scaling of SLM practices.
- (c) *POs are key drivers to foster changes and ensure sustainability:* PSAOP showed that institutional reforms and the development of new relationships between clients and service providers can be fostered if producers are empowered and able to contribute to the services they need.
- (d) *Improvement of cross-sectoral coordination is critical to scale-up SLM:* There has been an increasing recognition (supported for instance by the conclusions of the SN-CEA) that, in order to scale-up SLM, it is critical to improve coordination among stakeholders and implementing agencies.

42. To address these issues, the Project is designed to:

- (a) *Contribute to mainstream SLM in the agricultural sector:* PSAOP is an important instrument to promote institutional reforms and support the implementation of policy reforms in the agricultural sector. By integrating this operation to PSAOP2 and using the same institutional arrangements and implementation mechanisms of PSAOP2, this operation is expected to mainstream SLM in the agricultural sector.

- (b) *Disseminate and scale up SLM technologies at the local level:* A significant share of financial resources in this operation is allocated to strengthen the capacity of the agricultural extension system to deliver SLM packages and to support Producer Organizations to adopt SLM technologies (Components B and C). An Operational Matrix that identifies the most appropriate SLM technologies for each geographical location and form of degradation, and their conditions for success, has been prepared during project preparation to guide users in the selection of the technological solutions (ref. Table 4.3 in Annex 4).
- (c) *Empower and strengthen the capacity of local leaders on SLM:* A focus on strengthening the capacity of local leaders (political leaders as well as POs' leaders) to integrate SLM in local development plans and policy formulation is a central element of the proposed operation (Component C).
- (d) *Strengthen cross-sectoral coordination mechanisms for SLM:* The proposed operation will specifically support cross-sectoral coordination mechanisms (e.g. through the establishment of a multi-stakeholder SLM Platform), and provide technical and financial support to develop a national framework for SLM investments (Component D). This investment framework would help: (i) Set objectives as well as thematic and geographic priorities and investment needs; (ii) prioritize and cost them; and (iii) identify and select the most appropriate mechanisms to achieve them, thus facilitating alignment and harmonization of SLM interventions.

C. Fiduciary

43. **Financial management.** A financial management assessment was carried out to determine whether the TFCU in charge of the implementation of the Project has acceptable financial management arrangements. The conclusion of the assessment is that the financial management system in place satisfies the Bank's minimum requirements under OP/BP10.02, and therefore is adequate to provide, with reasonable assurance, accurate and timely financial management information on the status of the Project required by the World Bank. The financial management arrangements will be implemented by the TFCU. The Staff and the auditor will be recruited on a competitive basis. The information system installed in the TFCU and the manual of procedures elaborated, will also be updated.

44. **Procurement.** The last Procurement Assessment Review for TFCU (Technical and Fiduciary Coordination Unit) was conducted during the period November 14-19, 2008. The results of the review revealed a generally acceptable procurement environment. Nonetheless, training on the Bank procurement procedures will be required for INP's Procurement Officer. The TFCU Procurement Specialist will be responsible for verifying that all procurement activities adhere to the quality standard defined in the implementation manual and comply with the procurement guidelines. The TFCU Procurement Specialist will clear all procurement documents before they are reviewed by the Bank (including for activities subject to ex-post review). The Procurement Specialist will also be responsible for consolidating the components' procurement plans into a single procurement and for monitoring its implementation. .

D. Social

45. As a supplemental to PSAOP2, the SLM project is intended to reinforce the positive social impacts of the operation. These positive impacts include: Employment creation and revenue generation, and improvement of social capital for producer organizations, participating stakeholders and institutions. Producer organizations and their consultative bodies such as CLCOP (*Cadre Local de Concertation des Organisations de Producteurs*, i.e. Producer Organisations' Local Consultation Fora) are at the center of innovations generated in terms of sustainable land management. These positive effects will trickle down to local development and complement the impact of the Participatory Local Development Project (PLDP) in terms of improved access to social services and community infrastructure in health and education at the community level.

46. In addition, the updated ESMF will help mitigate the potential negative social impacts of sub-projects. These include conflicts between agriculturalists and pastoralists, conflicts over land due to the new investments.

E. Environment

47. The SLM supplemental to PSAOP2 will promote environmentally friendly technologies such as the rehabilitation of acid and salted soils, rehabilitation of degraded lands, improved irrigation systems for efficient water consumption by scaling up, for instance, a sustainable land and water management system such as the TIPA. Though the location of future sub-projects of SLM is not determined yet, the ESMF of PSAOP2 is valid and has specified standard approaches and procedures to address environmental as well as social issues in screening for design, implementation and follow-up. In addition, it included institutional arrangements where roles and responsibilities of key actors and stakeholders are defined with respect to the screening, approval process, and eventually outlining mitigation measures.

48. The Pest Management (OP 4.09) safeguard was triggered under PSAOP2 because the Project aimed at increasing agricultural productivity, consequently increasing the use of pesticides. Again, it is expected that with the emphasis on land use regimes, structural, agronomic, vegetative and biological methods for improving the physical land capital, and the eventual use of drip irrigation, the proposed operation will positively impact on OP 4.09, and continue to implement the Government's Pest Management Plan (PMP) prepared under PSAOP2 (annex ESMF). The updated ESMF was disclosed in-country on September 5, 2008 and in the Bank's Infoshop on April 17, 2009. The SLM project will precisely support the promotion and adoption of these sustainable and environmentally friendly methods.

F. Safeguard policies

49. Safeguard documentation is already prepared in the framework of the PSAOP2. The Environmental and Social Management Framework (ESMF) and the Resettlement Policy Framework (RPF) were updated in May 2008 to reflect screening requirements for SLM sub-projects. The ESMF outlines: (i) An environmental and social screening process for pilot sub-projects supported by ANCAR and ASPRODEB; (ii) environmental assessment criteria for ANCAR and ASPRODEB sub-projects; (iii) a separate screening form for research sub-projects, including environmental evaluation criteria; and (iv) a summary of environmental impacts to be taken into account in research sub-projects. The updated ESMF and RPF can thus be applied to

future SLM sub-projects. The ESMF and RPF reflecting the adjustments for SLM sub-projects were disclosed in Senegal and at the Bank's Infoshop prior to appraisal. The following table presents the Safeguard policies triggered by the Project.

50. The Safeguards Screenings Category is S2 and the Environmental Screening is Category B. The following table presents the Safeguard Policies triggered by the project.

Safeguard Policies Triggered by the Project	Yes	No
<u>Environmental Assessment (OP/BP 4.01)</u>	[x]	[]
Natural Habitats (OP/BP 4.04)	[]	[x]
Pest Management (OP 4.09)	[x]	[]
Physical Cultural Resources (OP/BP 4.11)	[]	[x]
Involuntary Resettlement (OP/BP 4.12)	[x]	[]
Indigenous Peoples (OP/BP 4.10)	[]	[x]
Forests (OP/BP 4.36)	[]	[x]
Safety of Dams (OP/BP 4.37)	[]	[x]
Projects in Disputed Areas (OP/BP 7.60)*	[]	[x]
Projects on International Waterways (OP/BP 7.50)	[]	[x]

51. The OP/BP 4.01, 4.09 and 4.12 are triggered as this is an operation focusing on the agriculture sector in general and having an objective dealing with pest management. The OP/BP4.04 (Natural Habitats) and OP/BP4.36 (Forests) are not triggered, because the project will only intervene in degraded agricultural lands. No sub-project will be approved if forests or natural habitats are affected. As such it requires an update of the PSAOP2 environmental assessment prior to appraisal. There may be some indirect environmental and social impacts by encouraging the use of pesticides in sub-projects of all components but these impacts are expected to be generally minimal or even reversed to positive impacts because of project-supported land improvements with: (i) Structural, agronomic and vegetative measures; and (ii) capacity building of project staff and participants in safeguard measures. The Resettlement Policy Framework of PSAOP2 has also been updated and reviewed by the Bank Specialists in view of integrating the SLM project. During implementation of individual sub-projects, consultations will continue to take place with non-governmental and community based organizations, and farmers regarding agriculture sector environmental and social issues.

G. Policy Exceptions and Readiness

52. **Exceptions.** No policy and readiness exceptions are foreseen.

53. **Streamlined processing.** The proposed operation is processed following the streamlined procedures. The Project meets the streamlined processing eligibility criteria as follows:

(a) **Simple Design:**

(i) **Simple development objective:** The proposed operation aims at reducing land degradation and increasing agricultural productivity in priority agro-ecological

* By supporting the proposed Project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

zones in the Groundnut Basin in Senegal, by integrating sustainable land management in agricultural practices;

- (ii) *Simple project design*: The proposed activities are organized along the four components of the baseline project (PSAOP2);
 - (iii) *simple institutional, legal and financial arrangements*: The proposed operation will adopt the same institutional, legal and financial arrangements of PSAOP2;
 - (iv) *No controversial policy reforms*: The proposed operation will not deal with any policy reform;
 - (v) *No exceptions to Bank policies*: The proposed operation does not require any exception to Bank policies;
 - (vi) *Not a complicated programmatic approach*: While one of the objectives of the proposed operation is to support the Government of Senegal in establishing the basis for a more programmatic approach to sustainable land management, the operation itself is a simple GEF-supported project integrated to an IDA operation, and is not implementing a programmatic approach;
 - (vii) *Not a first-time operation in the country or the sector*: The Bank has a well established policy dialogue in the agricultural and rural development sector in Senegal.
- (b) *Strong Country Ownership*: The proposed operation is consistent with and contributes to the objectives of the key Senegal policies and strategies. Land degradation has been repeatedly recognized by the Government of Senegal as a key constraint to development at both local and national levels. Addressing land degradation and promoting sustainable use of natural resources have been indicated as key objectives in virtually all national policies and strategies, including the Poverty Reduction Strategy (DSRP-II, 2007). The proposed operation is one of the instruments to implement the recommendations of the Senegal Country Environmental Analysis, recently endorsed by the Government.
- (c) *Sufficient Institutional Capacity*: The implementation of this operation is under the overall supervision of the PSAOP2 Coordination Unit, which has already proven sufficient implementation and fiduciary capacity.
- (d) *Low to Moderate Risks*: The proposed operation does not present any significant risk or controversial aspect, and the overall risk is considered low. The Project is Category B with regard to Safeguard policies.
- (e) *Strong Bank Inputs*: The team has strong operational and country experience and mastery of Bank operational policies, including fiduciary and safeguards. The budget for supervision is adequate.

Annex 1: Country and Sector or Program Background

SENEGAL: Sustainable Land Management Project

A. Land resources and land degradation in Senegal: An overview

1. ***Land resources and land use patterns in Senegal.*** Senegal covers a surface area of 19.5 million ha, of which 19% are arable (3.8 million ha¹¹), 32% (6.3 million ha) are covered by forest, savannah and protected zones; the rest is shared between desertified lands and unclassified brush and urban lands (PGIES, 2005). About 65% of the arable land (2.4 million ha) are used for rainfed crops, nearly 3% for floodplain crops and irrigated crops (100,000 ha), and the rest is uncultivated and is mainly used for herding (1.3 million ha).

2. ***The importance of land resources in Senegal.*** Land is a key resource in Senegal. Terrestrial ecosystems make up 99.7% of the country's natural capital (63% for croplands and herding land, 30% for forests and 6% for protected areas) and 13% of total national wealth (Where is the Wealth of Nations, 2006). Seventy percent of the rural population (which represents about 50% of the total population in Senegal) directly depends on land resources for its livelihood. Despite the fact that the contribution of the agricultural sector to the GDP has declined in the last decades (from 17.3% in 1979 to about 9% at present), this sector still engages about 60% of the population (Senegal Land Action Plan, 1996) and, according to the Government's Poverty Reduction Strategy Paper (DRSP-II), still represents one of the major engines for shared growth.

3. ***Land degradation in Senegal: Scope and geographical distribution.*** Land degradation is increasingly affecting land resources in Senegal. About 65% of the arable land in the country, i.e. about 2.5 million ha (SN-CEA, 2008), is considered degraded. The Groundnut Basin and the sylvo-pastoral zone in the west and center of the country are the areas most affected by land degradation¹².

4. ***Major forms of land degradation in Senegal.*** Major forms of land degradation include the following:

- (a) ***Reduction of vegetation cover:*** It is estimated that forest lands outside the national park system decreased at a rate of 80,000 ha per year between 1980 and 1990. Over the same period, the wood potential decreased at a rate of 1.8% per year. In 1998, the FAO estimated this decrease at 50,000 ha per year and the decrease in wood potential at 0.7% per year (CSE, 2005).
- (b) ***Soil erosion:*** Erosion due to rainfall is mainly prevalent in the country's south-eastern regions (Casamance) and Western Senegal. It is estimated that water erosion

¹¹ The Groundnut Basin represents 57% of these lands, Casamance represents 20%, Eastern Senegal 10%, and the Senegal River valley 8% (PROGERT, 2007).

¹² About 1.15 million ha are degraded in the Groundnut Basin alone, representing about one-third of all arable land in the country. A LADA study (*L'évolution de la Dégradation des Terres au Sénégal, FAO/UNEP/CSE*) shows that 20% of the sylvo-agricultural zones have been affected by substantial degradation. In the agro-pastoral zone, land use characteristics have been changed on almost 65 percent of the area, notably with degradation of natural vegetation in just 11 years, with woody savannah evolving towards poorer types of scrub savannah. Detailed studies in Kaffrine show that, between 1989 and 1999, land on 64 percent of the study area degraded, while only 1 percent improved (LADA 2005).

has led to the degradation of 9,080,100 ha, which represents 77% of total degraded soils (MEPN, 2005). Wind erosion is particularly severe in the country's northern regions (Senegal River valley, Center-north and North of the Groundnut Basin) where soils are very sandy on the surface and are subjected to the Harmattan seven to nine months per year. This form of degradation represents 3% of degraded soils.

- (c) *Salinization and acidification*: Salinization represents about 9% of degraded soils (MEPN, 2005), and it is mainly observed in the Senegal River Delta, in Casamance, in the Saloum River Delta and in the lower reaches of the Gambia River. The areas affected by salinization are estimated to be about 1,000,000 ha, including 650,000 ha in Lower Casamance, 225,000 ha in the Senegal River Delta and 125,000 ha in the Sine Saloum. The degradation of soils through acidification is particularly present in the Peanut Basin (Thiès, Diourbel, Sine Saloum), in the Senegal River valley and in Casamance. According to 1987 estimates, acid soils or soils undergoing acidification cover about 1,600,000 ha (PRONARES, 1997).

5. ***Main causes of land degradation.*** Main causes of land degradation include the following:

- (a) *Overgrazing and unsustainable agricultural practices*: Extensive agriculture, the inadequate integration of agriculture and animal husbandry, the progressive abandonment of fallow lands and increased monoculture practices, and the disintegration of traditional land management systems are all factors that have strongly contributed to deforestation, loss of soil fertility and soil degradation.
- (b) *Population growth*: Demographic growth at a rate of 2.9% per year has led to an extension of cultivated lands and to increased pressure on forest resources due to high demand for charcoal in urban centers. Anthropogenic pressure is at the source of 11% of degraded soils (PROGERT, 2007).

6. ***The impact of land degradation.*** The negative consequences of land degradation are manifolds.

- a) *On the country's potential for growth.* Soil fertility depletion (one of the forms of land degradation in Senegal) represents in fact one of the main causes of stagnation in the agricultural productivity and, consequently, one of the major constraints to agriculture and economic growth.
- b) *On poverty and vulnerability of rural people.* According to the SN-CEA, the linkage between poverty and land degradation is well established in Senegal. Because most of the rural population (which represents the poorest and therefore the most vulnerable part of the population) heavily depends on land resources for their livelihoods, increasing land degradation reduces their livelihoods options and income generation opportunities, thus exacerbating their poverty and increasing their vulnerability.
- c) *On social costs.* Declining soil productivity in rural lands and population growth contribute to the abandonment of previously productive lands and increased migration to urban centers (particularly to Dakar), with potentially high social costs, including unemployment.

d) *On ecosystem functions and services.* Senegal's territorial ecosystems and their products are an important part of Senegal's natural wealth and essential to country's food security. Land degradation is considered one of the key factors of continuing imbalances in the ecosystems (including water resources) and worsening of wildlife habitats.

7. ***Economic implications of land degradation.*** Rough estimates suggest that the annual economic cost of land degradation in Senegal may be in the order of 1% of GDP (ref. SN-CEA).

8. ***Sustainable land management (SLM) as a means to address land degradation: Opportunities and constraints.*** According to the SN-CEA, sustainable land management could offer a means to address land degradation and enhance rural land productivity on a long-term basis. However, despite some isolated technical successes (e.g. interventions to stabilize sand dunes in the Niayes), the adoption and replication of SLM has remained relatively limited. Some of the key reasons that have prevented the adoption and/or wide scale replication of SLM include: (a) A weak enabling environment (characterized by inconsistent government policies and regulations, weak institutional capacity to support SLM adoption, and an unfavorable incentive system); and (b) a single-sector/project-specific approach to the problem.

9. ***Recipient's key policies and strategies.*** Land degradation has been repeatedly recognized by the Senegalese Government as a key constraint to development at both local and national levels. Addressing land degradation and promoting sustainable use of natural resources have been indicated as key objectives in virtually all national policies and strategies since the *National Action Plan for the Environment* in 1993. The Senegalese Government has ratified the United Nation Convention to Combat Desertification (UNCCD) in 1995, and has submitted its *National Action Program to Combat Desertification* (NAP) in 2000. The NAP identifies the main priorities and actions to prevent and reduce the effects of desertification. The *Agro-Sylvo-Pastoral Orientation Law* (LOASP, 2004) includes promotion of better land exploitation and improvement of soil fertility as key strategic objectives of the national rural development policy. The *Accelerated Growth Strategy* (2006) identifies 'sustainable agriculture' as a key driver for Senegal economic growth. The *Plan d'Action National pour l'Adaptation aux Changements Climatiques* (PANAC, 2006) identifies sustainable land management as an effective adaptation activity. More recently, the *Poverty Reduction Strategy* (DSRP-II, 2007) indicates combating land degradation and promoting sustainable agriculture and forestry as priority objectives to reduce poverty. Finally, the Government of Senegal has increasingly recognized that, to effectively address land degradation and promote SLM, a more cross-sectoral and programmatic approach to scale up SLM (as opposed to a project-based approach) is needed.

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies
SENEGAL: Sustainable Land Management Project

A. Bank-funded projects

1. The World Bank has a well integrated rural portfolio in Senegal, which includes the Agricultural Markets and Agribusiness Development Project (PDMAS), the Participatory Local Development Program (PLDP), and the West Africa Agricultural Productivity Program (WAAPP):

- (a) The **Agricultural Markets and Agribusiness Development Project** (PDMAS, P083609, ongoing, IDA US\$ 35 million) aims at increasing non-traditional agricultural exports and revenues for project beneficiaries. The PDMAS is based on the supply chain approach, and the use of public-private partnerships. The Project involves the integration of family-farms and small-scale enterprises into farm-to-market value chains in ways that enhance the competitiveness of the entire supply chain. The Project focuses on strengthening selected export and domestic food chains by improving the business environment for vendor integration, upgrading the technology, and integrating production and marketing processes. While the PSAOP supports producer organizations and provides them with basic farm management services, the PDMAS works with more advanced producers and enterprises, as well as with exporters' associations.

Overall Implementation Progress: Moderately Satisfactory (27 October 2008);

Progress towards achievement of PDO: Satisfactory (27 October 2008).

- (b) The **Participatory Local Development Project** (PLDP, P088656, ongoing, IDA US\$ 50 million) is a follow-up of both the National Rural Infrastructure Project (PNIR) and the Social Development Fund Project (PFDS). The PLDP supports the Government's decentralization and local development agenda. The Project allocates resources to local governments and poor communities to improve the provision of social and economic infrastructures, as well as for productive and income-generating activities. The Project provides small grants to community-based and producer organizations for technical assistance in the design and implementation of productive, income-generating, and natural resource management activities identified through participatory approaches, following key strategic local development objectives spelled out in local development plans. The implementation of this project is closely linked to the PSAOP in that both projects intervene in the same areas (all 320 rural councils).

Overall Implementation Progress: Moderately Unsatisfactory (14 November 2008);

Progress towards achievement of PDO: Moderately Unsatisfactory (14 November 2008).

- (c) The **West Africa Agricultural Productivity Program** (WAAPP, P094084, ongoing, IDA US\$ 15 million) aims at generating and disseminating improved technologies in the participating countries' top priority areas that are aligned with the region's top priorities as identified by West and central African Council for

Agricultural Research and Development (WECARD). The WAAPP is based on pillar 4 (Agricultural Research and Technologies Dissemination and Adoption) of NEPAD's CAADP for growth in agricultural GDP. The beneficiaries of the Program are consumers in the region, particularly those affected by extreme poverty, and agricultural producers and agribusiness, as user of the improved technologies. The key participants are researchers, extension agencies, and universities in generation and dissemination of technology that is directly supported by the WAAPP. By evidence, the WAAPP complements the PSAOP and the SLM in the support to the agricultural services (national agricultural research and extension systems) and producers for generating and disseminating improved technologies.

Overall implementation Progress: Moderately Satisfactory (23 December 2008);

Progress towards achievement of PDO: Moderately Satisfactory (23 December 2008).

2. The proposed operation would strategically complement the Bank's rural portfolio in Senegal, and increase the impact of the Bank's rural investments in the country, as it will provide an additional instrument to specifically address land degradation and mainstream sustainable land management in the sector.

3. Finally, this operation will benefit from the results of the ongoing World Bank's (1) **AFR Regional implications of Climate Change** (P108965, ongoing), and (2) **Global Study on Territorial Development and Adaptation to Climate Change** (P112517, ongoing, TFESSD), which will provide some detailed information on the capacity of local institutions, including those targeted by the proposed operation, to adapt to the effects of climate change.

B. Projects funded by other Development Partners

4. Projects funded by other Development Partners include:

- (a) **UNDP/GEF Groundnut Basin Soil Management and Regeneration Project** (*Projet de Gestion et Restauration des Terres dégradées du Bassin Arachidier*, PROGERT, ongoing, total budget: US\$ 14 million, with contributions from GEF and UNDP of US\$ 3.6 and 4 million, respectively) is a five-year Project complementing on-going initiatives to address land degradation in the Groundnut Basin, focusing in particular on introducing and up-scaling innovative sustainable land management technologies and practices (i.e. agro-sylvo-pastoral technologies to intensify production and methods to rehabilitate degraded soils), favoring partnerships among local populations (Grassroots Community Organizations), and promoting income-generating activities. The Project works in five local units (and selected communities) within the Groundnut Basin, covering a total surface area of 46.67 sq. km.
- (b) **Program for Integrated Soil and Water Management** (PGIES): This Program was prepared by the Government (Ministry of Agriculture) in 2005. The program aims at increasing agricultural production and soil and water management in the Groundnut Basin and Casamance. The components of the PGIES are: (a) Strengthening communities' capacity in soil and water management; (b) restoration

and intensification of agro-sylvo-pastoral systems; (c) improvement of the enabling environment; and (d) coordination, management, monitoring and evaluation. Four demonstration sites (i.e. wildlife migration corridors) are chosen to test land use planning models: (a) The Wildlife and Sylvo-pastoral Reserves in the Ferlo Steppe; (b) the Niokolo-Koba National Park and its associated Classified Forests in the South-East Sudanin-Guinean zone; (c) the Niayes coastal dunes and classified reserves along the northern sea front; and (d) the Saloum Delta National Park and associated classified forests and mangrove/marine systems in the South-eastern coastal area. The cost of the Program was estimated in 2004 at 17.5 billion FCFA (about US\$ 32.8 million). UNDP, in partnership with GEF and within the framework of the GEF-SIP, is committed to support the implementation of the Program over a 10 year period. A first phase, which focused on strengthening the enabling environment, has been completed. A second phase (US\$ 7.279 million, with contributions from GEF and UNDP of US\$ 3.640 and 1.251 million, respectively) is currently under implementation.

- (c) **UNDP's Innovation in Micro-Irrigation for Dryland Farmers Project** (under preparation, total budget: US\$ 1.9 million, with a contribution from GEF of US\$ 0.9 million). This operation, one of the two operations developed under the GEF-SIP together with the World Bank GEF-SLM Project, aims at supporting communities in dryland areas to improve their management of water resources. More specifically this operation would: (a) Pilot innovative water management practices, particularly small-scale dryland irrigation systems, in the Bakel Region; and (b) support communities in adopting integrated land use planning. In addition, this operation would also contribute to strengthen the SLM knowledge management system by conducting a diagnosis of Senegal's small-scale irrigation sector (including barriers to technology transfer); developing a database of small-scale irrigation practices; and compiling baseline information on natural resources in the pilot sites. These activities would provide important information for the development of the SLM investment framework, which the World Bank SLM Project supports. As operations under the GEF-SIP, the World Bank SLM Project and the UNDP Innovation in Micro-Irrigation for Dryland Farmers Project use a similar approach, but are geographically complementary. The two operations use for instance some of the same indicators (i.e. area under SLM), but while the World Bank SLM Project focuses on the Groundnut Basin, the UNDP's operation will be implemented in the Bakel Region, situated in the Senegal River Valley.
- (d) **UNDP/GEF Integrated Ecosystem Management in Four Representative Landscapes of Senegal - Phase 2** (ongoing, total budget: US\$ 11.4 million, with a contribution from the GEF of US\$ 3.6 million): This project, one of those under the GEF-SIP, aims at preventing and reducing environmental degradation in four major ecosystems in the country (i.e. the Wildlife and Sylvo-pastoral Reserves in the Ferlo Steppe; the Niokolo-Koba National Park and its associated Classified Forests in the South-East Sudanin-Guinean zone; the Niayes coastal dunes and classified reserves along the Northern sea front; and the Saloum Delta National Park and associated classified forests and mangrove/marine systems in the South-eastern coastal area) by promoting sustainable use of natural resources through community-based integrated ecosystem management.

(e) **Israeli Embassy - TIPA** (under preparation, total budget: US\$ 400,000). Within the framework of PSAOP2 and PDMAS, the Bank is developing a partnership initiative with the Israeli Embassy to support the scale-up of the TIPA irrigation system. This system well adapts to smallholders' community production systems while contributing to sustainable land and water management.

5. In addition, **USAID** and **JICA** have recently started a dialogue with the Government for the preparation of an Agricultural Productivity and Natural Resource Management (about US\$ 20 million, under preparation) and of a Land Restoration operation, respectively. The **Swiss Cooperation** and the **French Cooperation** continue to support some activities linked to PSAOP.

6. The proposed operation does not only complement other DPs' existing and planned investments but, thanks to the cross-sectoral coordination mechanism for SLM that this operation supports (Component D), it also helps strengthen coordination and enhance harmonization of approaches among these interventions.

Annex 3: Results Framework and Monitoring
SENEGAL: Sustainable Land Management Project

C. Results Framework

PDO/GEO	Project Outcome Indicators	Use of Project Outcome Information
Promote adoption of SLM practices and improve ecosystem functions and services in selected priority areas in the Groundnut Basin	<ul style="list-style-type: none"> • Increase land covered with SLM practices¹³ in target areas (%) • Increase organic matter in the soil¹⁴ in pilot sites (%) 	<ul style="list-style-type: none"> • To assess the scope of SLM adoption in the areas targeted by the Project • To assess the impact of the adoption of SLM on the fertility of the soil in pilot sites

¹³ Percentage of land with SLM practices is defined as land with SLM practices over total land. SLM practices include both ‘technologies’ and ‘approaches’ applied to raise land quality. Technologies refer to agronomic, vegetative, structural, and management measures that reduce the effects of land degradation. Approaches include means that help to introduce, apply and implement SLM technologies. Examples of SLM practices (i.e. technologies and approaches) are reported in Table 3.1.

¹⁴ Organic matter is used an indicator of soil fertility, which is considered a proxy for land quality, agricultural productivity, and ecosystem health.

Intermediate Outcomes	Intermediate Outcome Indicators	Use of Intermediate Outcome Monitoring
A. Support to the Agricultural Research System¹⁵		
SLM technological innovations are developed	<ul style="list-style-type: none"> At least 3 new technologies have been tested and proven successful by the end of the Project 	<ul style="list-style-type: none"> To measure the performance of research services on SLM
B. Strengthening Agricultural Advisory Services¹⁶		
SLM services are accessible to producers	<ul style="list-style-type: none"> SLM activities are integrated into the annual work plan of the Rural Advisory Agency in 30 Rural Councils within the project target area by the end of the Project 	<ul style="list-style-type: none"> To assess the Rural Advisory Agency's capacity to provide advisory services on SLM
C. Support to Producer Organizations¹⁷		
SLM practices are adopted	<ul style="list-style-type: none"> 30 project proposals submitted by Producer Organizations to implement SLM technologies are implemented by the end of the Project 	<ul style="list-style-type: none"> To measure the degree of adoption of SLM technologies by producers
D. Support to Sectoral Coordination¹⁸		
SLM is mainstreamed across sectors	<ul style="list-style-type: none"> An SLM Investment Framework is prepared by the end of the project 	<ul style="list-style-type: none"> To measure the capacity of planning and cross-sectoral coordination

¹⁵ This component delivers on the SIP IR 4.

¹⁶ This component delivers on SIP IR 3.

¹⁷ This component delivers on SIP IRs 1 and 2.

¹⁸ This component delivers on SIP IRs 2 and 4.

D. Arrangements for results monitoring

1. The PSAOP2 Monitoring and Evaluation (M&E) system will be updated for the purposes of the SLM project in order to verify progress against the objectively verifiable indicators described in the results framework. The system will build on, rely, and be integrated with the M&E systems established and used by the PSAOP. The project M&E system, managed by the TFCU, will be linked to the M&E system of the components, and will deliver consolidated monitoring information on project activities and progress. The system will collate and process information collected from the components as well as additional data derived from special studies and participatory M&E exercises. The M&E system is web-based and participative. The M&E system established by the PSAOP will ultimately become the M&E system for the whole agriculture sector and then for the monitoring of a part of the DSRP-II.
2. As in PSAOP, the M&E system comprises two elements:
 - (a) *Financial monitoring*, which allows to track the resources used to carry out the activities of the Project. It will indicate the budgeted costs for planned activities and completed activities as well as the real costs of completed activities. Financial monitoring will allow monitoring the financial performance of the Project.
 - (b) *Technical and physical monitoring*, to evaluate progress on indicators identified in the PTBA.
3. The overall performance of each component will be assessed combining the financial and technical monitoring.
4. The total organic matter content of the soil will be measured at the end of the rainy season. The technique to measure organic matter is through total carbon content (organic matter content equals carbon content*1.72).The measurements will be undertaken by the ISRA which has experience conducting these tests.
5. The tests are relatively easy to analyze. The M&E system will be measuring yields; production and vegetation cover in order to show possible improvements. This information is expected to be useful when preparing the ICR. Given the project's short (3 years) duration, however, it will not be directly accountable for improved yields and vegetation cover given that a number of factors outside of this project's scope can influence these indicators. Baseline values for vegetation cover in the areas targeted by the project are reported in Fig. 3.1.
6. An Impact evaluation will be undertaken to assess the impact of SLM practices. Surveys will be conducted at the start of the project and at least once a year according to the framework defined in the monitoring matrix during the assessment/planification workshops. The impact surveys will be done together with PSAOP. The PSAOP already established food security and poverty level baselines for each of the agro-ecologic zones. The PSAOP baseline study already integrated several sets of data related to the ecosystems but it would be important to do more in-depth studies of the ecosystems in order to propose relevant indicators for the M&E of the GDT. The data generated will then be integrated in the agricultural sector information system and the country's CDMT. Monitoring and evaluation specialists in each implementing agency will report the results of the surveys to PSAOP, which will be responsible for compiling disseminating of all data.

7. The Coordination Unit is responsible for the overall monitoring of the Project. It will improve the information and communication system to ensure collection and transmission of technical and economic information produced by the Project.

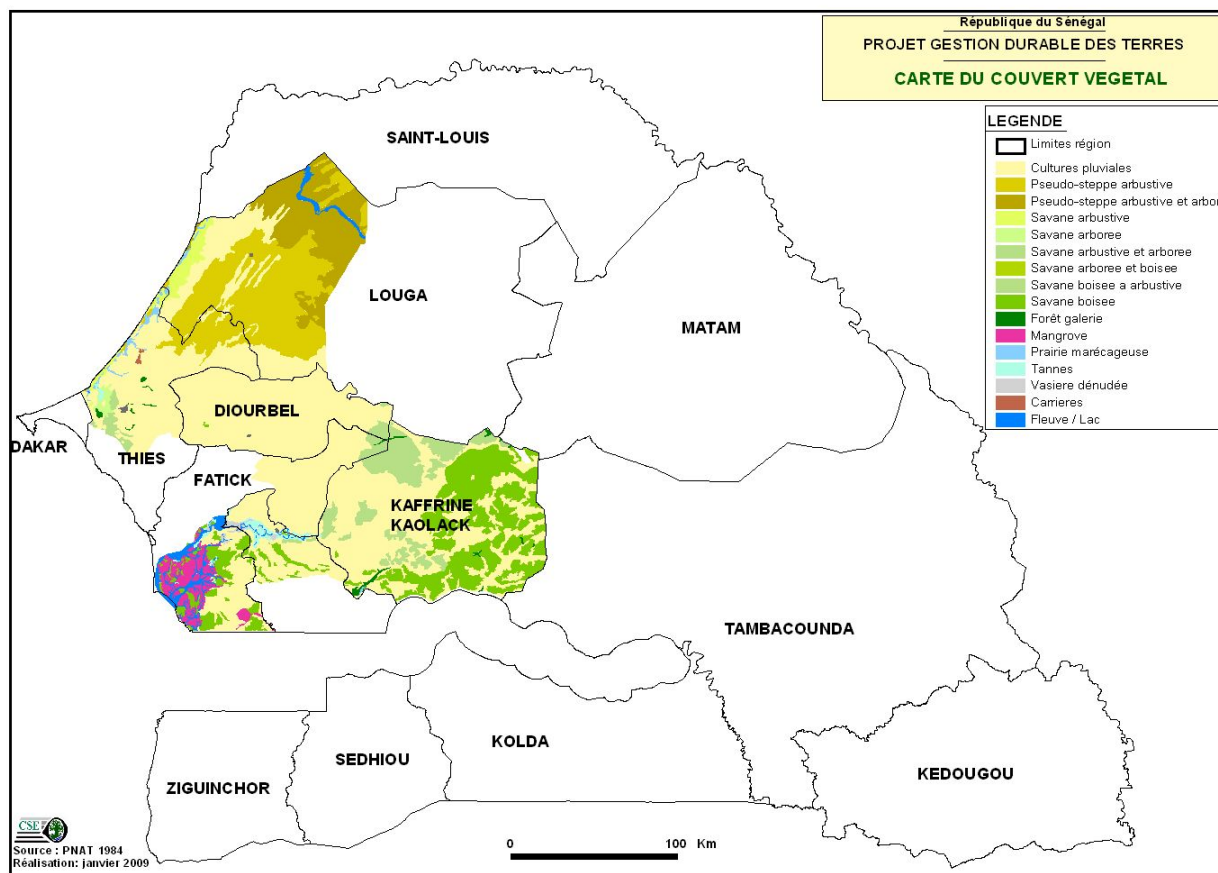
E. Table of Arrangements for results monitoring

Project Outcome Indicators	Target Values							Data Collection and Reporting		
	Baseline			Target value	YR1	YR2	YR3	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
<ul style="list-style-type: none"> Increase of organic matter in the soil in target areas (%) 	Northern Groundnut Basin	Notto Djobass	0.2% ¹⁹	0.23%	0.20%	0.22%	0.23%	Yearly (Annual progress reports)	Impact surveys	TFCU, INP, ISRA
		Mewane								
	Central Groundnut Basin	Delay								
		Touba Mosquee								
	Southern Groundnut Basin	Fimela								
		Niakhar								
		Nganda								
Latmingue										
<ul style="list-style-type: none"> Increase of land with SLM practices in target areas (%) 	Northern Groundnut Basin	Notto Djobass	0%	20%	5%	10%	20%	Yearly (Annual progress reports)	Impact surveys	TFCU, INP
		Mewane	0%	20%	5%	10%	20%			
	Central Groundnut Basin	Delay	0%	20%	5%	10%	20%			
		Touba Mosquee	0%	20%	5%	10%	20%			
	Southern Groundnut Basin	Fimela	0%	20%	5%	10%	20%			
		Niakhar	0%	20%	5%	10%	20%			
		Nganda	0%	20%	5%	10%	20%			
Latmingue	0%	20%	5%	10%	20%					

¹⁹ Baseline value refers to average values in the Groundnut Basin in 2008 (Badiane A., Khouma M., Sène M., 2000: Gestion et transformation de la matière organique: Synthèse des travaux de recherches menées au Sénégal depuis 1945. ISRA-CILSS-CTA). Specific values for each targeted area will be determined through the baseline studies that will be carried out in year 1 of the Project (Component A).

Project Outcome Indicators	Target Values					Data Collection and Reporting		
	Baseline	Target value	YR1	YR2	YR3	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Intermediate Outcome Indicators								
A. SLM technological innovations are developed and disseminated								
<ul style="list-style-type: none"> At least 3 new technologies have been tested and proven successful by the end of the Project 	0	3	0	0	3	Yearly (Annual progress reports)	Routine	TFCU and ISRA
B. Strengthening Agricultural Advisory Services								
<ul style="list-style-type: none"> SLM activities are integrated into the annual work plan of the Rural Advisory Agency in 30 Rural Councils within the project target area by the end of the Project 	0	30	6	12	30	Quarterly (Quarterly progress reports)	Routine	TFCU and ANCAR
C. Support to Producer Organizations								
<ul style="list-style-type: none"> 30 project proposals submitted by Producer Organizations to implement SLM technologies are implemented by the end of the Project 	0	30	10	20	30	Quarterly (Quarterly progress reports)	Routine	TFCU and ASPRODEB
D. Support to Sectoral Coordination								
<ul style="list-style-type: none"> An SLM Investment Framework (SIF) is approved by the end of the Project 	SIF non-existent	SIF developed and approved	SIF developed	SIF approved	SIF developed and approved	Yearly (Annual progress reports)	Routine	TFCU and INP

Figure 3.1 - Vegetation cover in areas targeted by the Project (Baseline, February 2009)



Classes	Hectares
Rainfed crops	2,022,519
Pseudo-shrub steppe	493,035
Pseudo-shrub and wooded steppe	272,073
Shrubby savanna	52,539
wooded to shrubby savanna	85,595
Open to wooded savanna	135,002
Tree savanna	11,443
Woodland savanna	469,658
gallery forest	15,402
Mangroves	75,827
Swamp grassland	18,476
Saline soils	26,678
Bare midflats	10,127
Water body	71,485
Urban areas	2,729
Open Quarries	1,984

Source: Centre de Suivi Ecologique (2009)

Table 3.1 - Examples of SLM practices (technologies and approaches)

SLM practices		
Land/water mgt technologies		Land/water mgt approaches
Agronomic and vegetative measures	Structural measures	Land use regimes
<ul style="list-style-type: none"> ▪ Intercropping ▪ Agro-forestry in crop or grazing systems ▪ Afforestation and reforestation ▪ Mulching and crop residue ▪ Crop rotation ▪ Fallowing ▪ Low till ▪ Composting/green manure ▪ Integrated pest management ▪ Vegetative strip cover ▪ Contour planting ▪ Re-vegetation of rangelands ▪ Integrated crop-livestock systems ▪ Woodlots ▪ Alternatives to woodfuel ▪ Sand dune stabilization ▪ Other 	<ul style="list-style-type: none"> ▪ Terraces and other physical measures (e.g. soil bunds, stone bunds, bench terraces, etc.) ▪ Flood control and drainage measures (e.g. rock catchments' water harvesting, cutoff drains, vegetative waterways, stone-paved waterways, flood water diversion, etc.) ▪ Water harvesting, runoff management, and small-scale irrigation (shallow wells/ boreholes, micro ponds, underground cisterns, percolation pits, ponds, spring development, roof water harvesting, river bed dams, stream diversion weir, farm dam, tie ridges, inter-row water harvesting, half-moon structures, etc.) ▪ Gully control measures (e.g. stone checkdams, brushwood checkdams, gully cut/reshaping and filling, gully revegetation, etc) ▪ Other 	<ul style="list-style-type: none"> ▪ Watershed plans ▪ Community land use plans ▪ Grazing agreements, closures, etc. ▪ Other

Annex 4: Detailed Project Description

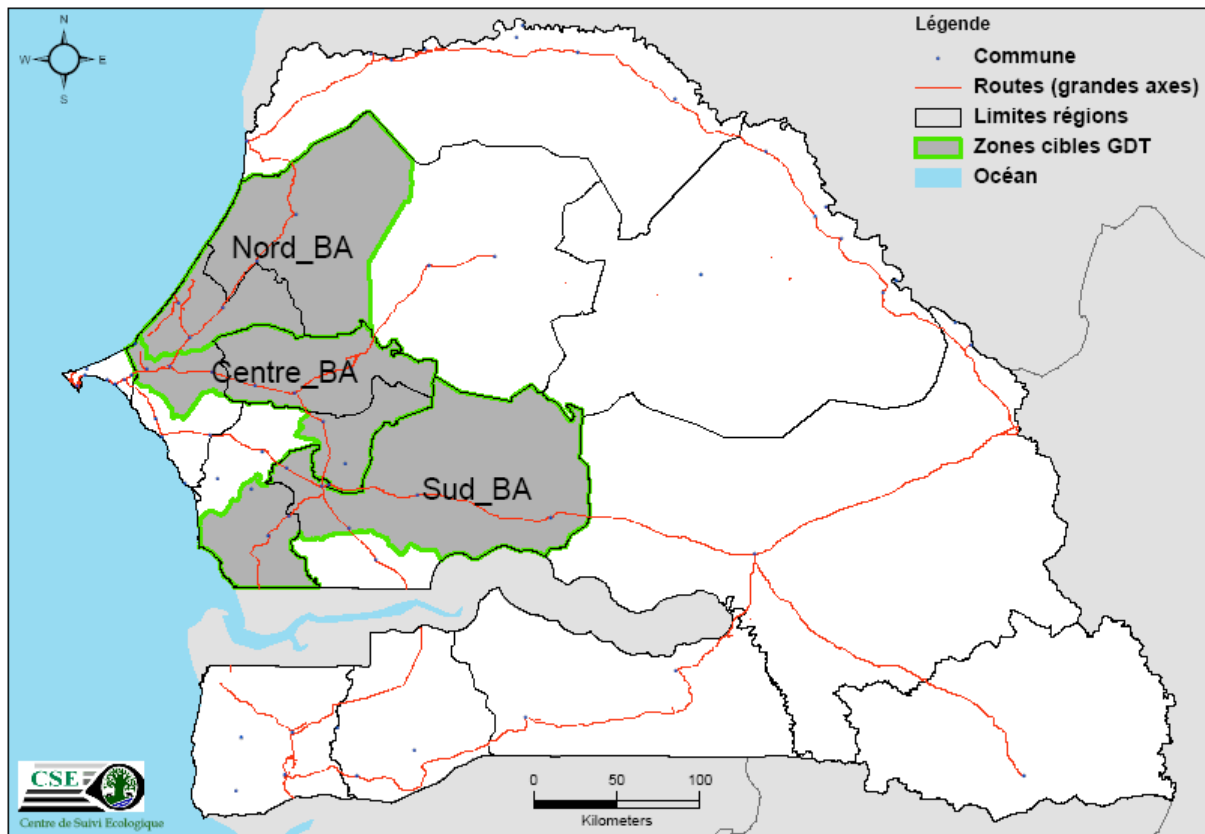
SENEGAL: Sustainable Land Management Project

A. Project description

1. **Project development objective (PDO)** is to promote the adoption of SLM practices in selected priority areas in the Groundnut Basin. **The Global Environmental Objective (GEO)** is to improve ecosystem functions and services in selected priority areas in the Groundnut Basin.

2. **Geographical location.** Project activities will focus on the Groundnut Basin, and more precisely will target the departments and rural communities listed in Table 4.1, but may include other rural communities approved by the Bank. The map below shows the areas targeted by the Project.

Figure 4.1 - Areas targeted by the Project



Source: Centre de Suivi Ecologique (2009)

Table 4.1 - Project location: Communities targeted by the Project, and form, severity and causes of degradation

Zone/Department	Rural Community	Form and severity of degradation	Causes of degradation
Northern Groundnut Basin (Louga, Kébémér, Tivaouane Departments)	Notto Djobass	• Strong water erosion	• Deforestation/Strong pressure on forest resources
		• Low fertility	• Continuous cropping/No fallow
	Mewane	• Severe low fertility	• No fallow/Low use of organic matter/Industrial pollution
		• Strong wind erosion	• Deforestation/Strong pressure on agro-sylvo-pastoral resources
Central Groundnut Basin (Thiés, Diourbel, Goassas, Nord Fatick)	Dealy	• Severe low fertility	• Continuous cropping/No fallow/Low use of organic matter
		• Medium/Strong wind erosion	• Deforestation/Strong pressure on agro-sylvo-pastoral resources
	Touba Mosquee	• Severe low fertility	• No fallow/Lack of use of organic matter and fertilizer
		• Medium/Strong wind erosion	• Deforestation/Strong pressure on agro-sylvo-pastoral resources
Southern Groundnut Basin (Kaolack, Sud Fatick, Kaffrine)	Fimela	• Severe low fertility	• No fallow/Lack of use of organic matter and fertilizer
		• Medium/Strong salinization	• Destruction of mangroves and strong pressure on agro-sylvo-pastoral resources
	Niakhar	• Severe low fertility	• No fallow/Lack of use of organic matter and fertilizer
		• Medium/Strong salinization	• Strong pressure on agro-sylvo-pastoral resources
	Nganda	• Severe low fertility	• The upstream ascent of salt water as a result of anthropic pressure on agro-sylvo-pastoral resources
		• Strong water erosion	• No fallow and lack of use of organic matter and fertilizer
	Latmingue	• Severe low fertility	• Deforestation/Strong pressure on agro-sylvo-pastoral resources
		• Salinization	• No fallow and lack of use of organic matter and fertilizer
• Strong water erosion		• Overgrazing	
			• Upstream ascent of salted water
			• Deforestation/Strong pressure on agro-sylvo-pastoral resources

3. About 20,000 ha are expected to be converted to SLM.
4. The decision to focus on the seed producing areas of the Groundnut Basin is based on the following considerations:
 - (a) *Severity of degradation*: The Groundnut Basin is one of the areas in Senegal where land degradation is more severe, mainly because of inappropriate cropping practices;
 - (b) *Population density and potential for agricultural production*: It is the area with the highest population density and where most of the country's agricultural production is concentrated (approximately 2/3 of total production). Where quality production is practiced, integrated good agricultural practices that include SLM practices could be certified. This could be incorporated as a quality parameter in the labeling of products derived from sustainable agriculture;
 - (c) *Synergies with PSAOP2*: It is an area where the World Bank is already operating through the WB/IDA Agricultural Services and Producer Organizations Project 2 (PSAOP2). Synergies between the two Projects are therefore expected.
5. **Project approach**. The proposed operation would contribute to the above-described objectives by:
 - (a) *Strengthening some key elements of the enabling environment for SLM scale-up* at national and local levels (e.g. strengthening cross-sectoral coordination mechanisms and institutional capacity for SLM; and strengthening the capacity of main agricultural research institutions to generate and disseminate SLM applied research and knowledge); and
 - (b) *Supporting the adoption of SLM technologies and practices in selected priority areas*, i.e. the producing areas of the Groundnut Basin, e.g. by strengthening the capacity of producer organizations to adopt SLM measures; setting-up financial/incentive mechanisms to facilitate the adoption of SLM; and supporting agricultural service providers in delivering SLM opportunities and providing adequate technical backstopping. Considering that the yet uncertain effects of climate change may undermine the gains made from SLM investments, special attention will be given to adequately take into consideration risks associated with climate change and to design adaptation measures. To this end, the World Bank study on territorial development and adaptation to climate change will provide some information on the capacity of local institutions, including those targeted by the proposed operation, to adapt to the effects of climate change.
6. **Lessons learned and reflected in the project design**. The design of this operation reflects: (a) Lessons learnt in implementing projects in Senegal, particularly PSAOP; (b) lessons learnt in implementing SLM operations in Africa; and (c) findings and recommendations of the recently completed Senegal Country Environmental Analysis and of three analytical works on SLM (i.e. 'Diagnostic Report on Land Degradation and Sustainable Land Management in Senegal', 'Land Management Options Plan', and 'Review Public Expenditure in Land and Environment Management'). Main lessons learnt reflected in the project design include:
 - (a) *Need to integrate enabling activities with on-the-ground investments*: The findings of the SN-CEA highlight the importance of improving an enabling environment (i.e. rectify perverse incentives, build institutional capacity, mainstream SLM in sectoral

policies, etc.) to scale-up SLM. Lessons from past experiences suggest however that enabling activities are not sufficient alone, and need to be accompanied by on-the-ground investments. If successful, on-the-ground activities have a great impact on beneficiaries' motivation, and usually generate a positive momentum for rapid up-scaling of SLM practices. The proposed operation will therefore support both activities aimed at improving the enabling environment for SLM and on-the-ground investments that could generate quick wins.

- (b) *Improvement of cross-sectoral coordination is critical to scale-up SLM:* One of the conclusions of the SN-CEA is that, in order to scale-up SLM, it is critical to improve coordination among stakeholders and agencies. To improve coordination, avoid duplication of efforts, and better target and prioritize interventions, the SN-CEA recommends the development of a National Investment Framework for Sustainable Land Management (*Cadre National d'Investissement en Gestion Durable des Terres*). This framework would help: (i) set objectives as well as thematic and geographic priorities and investment needs; (ii) prioritize and cost them; and (iii) identify and select the most appropriate mechanisms to achieve them, thus facilitating alignment and harmonization of SLM interventions. The proposed operation will specifically support cross-sectoral coordination mechanisms (e.g. through the establishment of a multi-stakeholder SLM Platform), and provide technical and financial support to develop the National Investment Framework for SLM.
- (c) *POs are key drivers to foster changes and ensure sustainability:* PSAOP1 showed that institutional reforms and the development of new relationships between clients and service providers can be fostered if producers are empowered and able to contribute to the services they need. Demand-driven services become relevant, efficient, and accountable thanks to producer empowerment that builds the demand side. PSAOP2 is deepening this approach by channeling more financial resources through producer organizations to increase accountability and client-orientation of agricultural services. Focus on strengthening the capacity of POs will remain a central element of the proposed operation.
- (d) *Need to shift the focus from commodity production to land productivity in the agricultural sector:* In the 1990s, the Government invested, with the support of several DPs, about US\$ 1 billion in agricultural and livestock development and rural water supply. Interventions however focused mainly on commodity production and intensification rather than on sustainable management of land resources and productivity. The impact and long-term sustainability of these interventions was therefore limited. SLM needs to better be integrated in the agricultural sector.

B. Project components

7. As integrated (partially blended) to the PSAOP2, the activities proposed in this operation are organized along the four components of PSAOP2. Each component would be incremental to and/or complement the respective PSAOP2 component.

I. Component A - Support to the Agricultural Research System (US\$ 0.6 million)

8. In PSAOP2, this component seeks to increase the capacity of the National Agricultural Research System (NARS). The GEF-supported Project would be used to strengthen the capacity of ISRA to specifically generate and disseminate SLM-targeted research and knowledge. More specifically, this component would:

A.1 Support the implementation of demand-driven SLM research and development (R&D) activities. These R&D activities should (i) derive from a diagnostic done by producer’ organizations, (ii) be composed of Package of SLM practices, (iii) cover at least a terroir. The eligibility mechanism for SLM R&D activities will be detailed in the Project Implementation Manual. Activities in this sub-component will mainly focus on providing technical and financial support to the development of R&D activities. R&D activities are demand-driven, short-term research activities aimed at quickly responding to the needs expressed by beneficiaries within a specific local or regional context. R&D activities would focus on addressing issues of land degradation and low soil productivity, e.g. soil protection and restoration technologies, soil and water conservation technologies, agro-forestry technologies, and rehabilitation of salted soils (ref. Table 4.2).

For the component A, differently from PSAOP2, the proposed operation will support R&D only, and not strategic and applied research programs. This choice was made on the basis of two considerations: First, there is already a sufficiently good level of knowledge on SLM technologies. Producers and land users do not demand the generation of new technologies, but information on the conditions under which existing technologies can be applied. Second, the relatively short duration of the project (3 years) would likely be insufficient for applied research programs to produce results, considering the time needed for selecting and financing applied research programs under the competitive mechanism of FNRAA.

These R&D activities will be assessed by the FNRAA’ Scientific and Technical Committee, and validated by the Steering Committee of NARS (*Comité de Pilotage du SNRASP*), the institutional entity responsible for decision-making and scientific and financial management (through FNRAA) of the national research system. Members of the two Committees will also be involved in the monitoring and evaluation of the R&D activities on SLM.

The sub-component will finance the operating costs of the R&D activities, particularly (small) equipment and supplies, the wages of short-term contract workers (for the life of the R&D activities), and travel costs of experts, technical assistance and consultancy services, and the costs related to monitoring and evaluation of the R&D activities. Large construction projects, the acquisition of major equipment, training programs leading to a diploma, and salaries of permanent staff are ineligible.

Table 4.2 - Possible Research and Development Activities

Zone/Department	Form and severity of degradation	Identified R&D activities
Northern Groundnut Basin	<ul style="list-style-type: none"> • Water erosion 	

(Louga, Kébémér, Tivaouane Departments)	• Low fertility	<ul style="list-style-type: none"> • Production of ramial chipped wood • Use of peanut shells • Reclamation of quarries with tree plantations
	• Wind erosion	
Central Groundnut Basin (Thiès, Diourbel, Goassas, Nord Fatick)	• Low fertility	<ul style="list-style-type: none"> • Production of ramial chipped wood • Use of peanut shells • Fish residues • Types of adapted crop rotations
	• Wind erosion	
Southern Groundnut Basin (Kaolack, Sud Fatick, Kaffrine)	• Water erosion	
	• Low fertility	• Ramial chipped wood
	• Salinization	• Mechanical land reclamation

A.2 Finance baseline studies. Activities in this sub-component would include collection of baseline information on: (i) The bio-physical characteristics of the project sites (including vegetation cover, soil quality, carbon sequestration, extent and severity of degradation, area of land under SLM, agricultural productivity, and global environmental benefits, e.g. name and extension of ecosystem of global significance that will benefit from project intervention); and (ii) socio-economic characteristics (e.g. size and composition of the population, population density, household incomes, etc.). All information will be geo-referenced. Information collected will be used for M&E and provided to the SLM Knowledge Base (ref. Component D1). The component will finance the purchase of the necessary equipment (e.g. GPS, hypsometer, computer software) and travel costs (fuel and per diem) to carry out the studies.

A.3 Strengthen the capacity of ISRA to generate, disseminate and monitor SLM-targeted research and knowledge. The sub-component will finance vehicles, supplies and equipment (including maintenance), technical assistance and studies, training, and participation in research networks and workshops, etc., to strengthen the capacity of ISRA and other research institutions to carry out their tasks, including monitoring and evaluation of the R&D.

9. The implementation of this component will be coordinated by the Senegalese Agricultural Research Institute (*Institut Sénégalais de Recherche Agricole*, ISRA), and would involve other research institutions, e.g. the Food Technology Institute (*Institut de Technologie Alimentaire*, ITA), the National Soil Science Institute (*Institut National de Pédologie*, INP), the Research and Development Institute (*Institut de Recherche et Développement*, IRD), the Agricultural Research Center for Agricultural Development (*Centre de Coopération Internationale en Recherche Agronomique pour le Développement*, CIRAD); various university centers, e.g. *Université Cheikh Anta Diop* (UCAD), *Laboratoire d'Etudes et de Recherches Géophysique* (LERG), *Centre de Suivi Ecologique*, (CSE) *Université de Thiès*; and other rural development partners, e.g. *Direction des Eaux, Forêts, Chasse et Conservation des Sols*, ANCAR, ASPRODED, etc., according to their specific mandate and comparative advantage.

II. Component B - Strengthening Agricultural Advisory Services (US\$ 0.7 million)

10. In PSAOP2, this component is aimed at supporting the extension of the agricultural advisory system and the consolidation of a pluralistic network of service providers. The GEF-supported Project would complement these interventions by: (a) Strengthening the capacity of the agricultural extension system to specifically deliver SLM packages and provide adequate technical backstopping on SLM to farmers; and (b) supporting the actual delivery of SLM packages to producers through the agricultural extension system. This component comprises two sub-components:

B.1 Strengthening the capacity of the agricultural extension system in SLM. This sub-component aims at strengthening the capacity of ANCAR, farmer intermediaries, and service providers to deliver SLM packages and provide adequate technical backstopping on SLM. Main activities of this sub-component would include the development and delivery of a training program on SLM technologies and practices; integration of SLM approaches in existing farmer production systems, land use planning, etc. to service providers. The training program will be elaborated in consultation with other technical partners, including la *Direction des Eaux et Forêts*, l'*Institut National de Pédologie*, l'ISRA, etc. The Agricultural and Rural Technological Information System (*Système d'Information Technologique Agricole et Rurale*, SITAR), under development under the PSAOP2, will be used in the training activities as a training tool and as a source of technical and statistical information and data.

B.2 Delivering SLM packages. This sub-component aims at developing and delivering demand-driven, customer-tailored SLM advisory programs through the agricultural extension system. Main activities of this sub-component would include: (i) The creation of a database on SLM technologies and practices, and conditions for their applicability; (ii) farmers' sensitization and awareness creation activities; (iii) activities aiming at disseminating SLM technologies and sharing lessons/best practices, including set-up of demonstration sites, organization of field trips, farmer-to-farmer exchange events, SLM fairs, and specific training events; and (iv) provision of technical support and backstopping on SLM.

11. This component would finance vehicles; supplies and equipment (including maintenance); technical assistance; trainings; workshops; study-tours and production and dissemination of informative material on SLM best practices and technologies; and costs necessary to set up demonstration sites.

12. ANCAR will be responsible for the implementation of this component. ANCAR will work in partnership with public service providers (decentralized departments, and regional rural development companies), private service providers, research institutions (e.g. ISRA, IRD), and public and private training institutions.

III. Component C - Support to Producer Organizations (US\$ 2.8 million)

13. Producer organizations are the main channel of access to the program's resources. As a result, their inclusiveness and their effectiveness are key factors in ensuring that producers really benefit from the program. In PSAOP2, this component is aimed at strengthening the capacity of producer organizations (POs) to access technical and economic services, and participate in policy

formulation. The GEF-supported Project would provide additional resources to: (a) Improve the awareness of POs on SLM and strengthen the capacity of their members to integrate SLM in their production systems; (b) strengthen the capacity of POs' leaders and local political leaders to integrate SLM in the formulation of sectoral policies and local development plans; and (c) facilitate the adoption and replication of SLM on-the-ground. This component comprises three sub-components:

C.1 *Strengthening the capacity of POs to integrate SLM in their production systems* (US\$ 0.4 m). This sub-component will help mobilize POs and strengthen their capacity to integrate SLM in their production systems. Main activities of this sub-component would include: (i) Training and other capacity building activities (e.g. workshops, animation activities, study tours, etc.) to Producer Organizations' Local Consultation Fora (*Cadre Local de Consultation des Organisations de Producteurs*, CLCOPs), and cooperatives on SLM; (ii) advocacy and other communication and awareness raising activities (e.g. developing and disseminating information material: posters, radio and audiovisual products, etc.) targeting the rural population about SLM, and how to get access to available resources and services; and (iii) training and other capacity building activities for the staff of ASPRODEB to enable them to provide adequate support to POs.

C.2 *Strengthening the capacity of POs' leaders and of local political leaders to integrate SLM in the formulation of sectoral policies and in local development plans* (US\$ 0.3 m). This component will finance training and other capacity building activities to POs' leaders and local representatives to improve their awareness on SLM and strengthen their capacity to integrate SLM in the formulation of local development plans and sectoral policies (e.g. formulate proposals and negotiate with other rural development actors).

C.3 *Supporting the adoption of SLM practices* (US\$ 2.1 m). This sub-component will provide financial resources to implement SLM sub-projects (ref. Table 4.3). CLCOPs, and cooperatives identify suitable POs²⁰ that could present proposals to adopt SLM practices. With the technical support of ISRA, INP, and ANCAR, the identified Producer Organizations prepare the proposals. The proposals are assessed and approved by local assemblies (rural councils). To be selected, the proposals for SLM sub-projects should satisfy the following eligibility criteria: (i) the SLM sub-project shall be implemented by a Producer Organization; (ii) the SLM sub-project shall not fall within any of the negative list of ineligible activities set forth in the Project Implementation Manual, including without limitation activities that would adversely affect forest areas and/or natural habitats; (iii) the sub-grants will support activities promoting SLM in the Target Area. The selected proposals are financed through this sub-component. ASPRODEB will sign a contract with the selected POs. The producer organizations will implement their activities in close collaboration with other institutions, including ANCAR, ISRA, and local governments. The component will finance the operating costs of the SLM sub-projects, particularly (small) equipment and supplies, and the wages of short-term contract workers (for the life of the sub-project). This sub-component will in addition cover the costs ASPRODEB will bear

²⁰ To be selected, POs should satisfy the eligibility criteria defined in the Project Implementing Manual, i.e. (i) to be a legal entity pursuant to the law; (ii) to be constituted at least with twenty members; (iii) to be a member of CLOP.

to implement this activity (e.g. travel costs of staff, technical assistance and consultancy services, and the costs related to monitoring and evaluation of the sub-projects).

14. Producers and producer organizations are the main beneficiaries of this component, as both direct beneficiaries of the activities and actors in implementing the proposed activities. Consistent with PSAOP, the approach of this component will be based on: (i) Accountability of producers, their organizations, and their leaders in defining and implementing the activities; and (ii) strong partnership between POs and local governments (particularly rural councils).

15. ASPRODEB will be responsible for the implementation of this component.

IV. Component D - Support to Sectoral Coordination (US\$ 0.7 m)

16. In PSAOP2, this component is aimed at strengthening the capacity of sectoral ministries (e.g. Agriculture and Livestock) on policy formulation, planning, coordination, monitoring and evaluation. The GEF-supported Project would be used to strengthen the enabling conditions to allow the Government to move towards a more cross-sectoral and programmatic approach to SLM, and to support incremental costs of project management. This component comprises two sub-components:

D.1 Strengthening cross-sectoral coordination (US\$ 0.6 m). This sub-component aims at improving cross-sectoral coordination in the SLM sector with the objective of improving the efficiency and effectiveness of SLM activities in the country, and ultimately better integrates SLM in the development plans of Senegal. An expected outcome is an increased budget allocation to SLM activities in the Government's Medium-Term Expenditure Framework. Main activities within this sub-component include:

- (i) **The institutionalization of the** (already existing) **SLM Committee** (*Groupe Fonctionnel GDT*) as a national multi-sectoral forum in charge of promoting, coordinating and overseeing the development and implementation of SLM activities in the country. This would involve the development of detailed Terms of Reference (ToRs), organization, coordination mechanisms, budget, work plan, etc. and capacity building activities for its members (including training and participation in regional workshops and other knowledge sharing events). It is expected that by the end of the Project the SLM Committee will be formally established by decree.
- (ii) **The formulation and adoption of a National SLM Investment Framework** (*Cadre National d'Investissement en Gestion Durable des Terres*). This framework would help: (a) Set objectives as well as thematic and geographic priorities and investment needs; (b) prioritize and cost them; and (c) identify and select the most appropriate mechanisms to achieve them, thus facilitating alignment and harmonization of SLM interventions. This would involve studies and other activities necessary to the formulation and validation of the SLM Investment Framework, i.e. stocktaking, diagnostics, consultative and validation workshops, etc.
- (iii) **The development of a Knowledge Base on SLM**, i.e. a national database collecting key information concerning SLM technologies and approaches (the

WOCAT methodology is proposed) and other SLM geo-referenced data and information (e.g. extension and severity of land degradation, soil fertility, vegetation cover, land use and land use change, etc.), including the data collected during the preparation of the SLM Investment Framework.

This sub-component would finance operational costs associated with the establishment of an SLM Platform (technical assistance and consultancy services, workshops, etc.), the activities included in the SLM Platform's annual work program (e.g. advocacy and communication activities, training and technical assistance, retreats, workshops, organization and/or participation in regional workshops and other knowledge sharing events, reporting to the UNCCD, etc.), the studies and activities necessary for the formulation and validation of the SLM Investment Framework (technical assistance and consultancy services, workshops), and the costs necessary for the establishment of a database (e.g. equipment and software, purchase of maps, etc.), including training to build the capacity in database management.

D.2 Technical and fiduciary coordination and M&E (US\$ 0.1 m). As per PSAOP, day-to-day coordination of the Project will be handled by the Technical and Fiduciary Coordination Unit (TFCU) housed at the Ministry of Agriculture. Specific functions are detailed in Annex 6. This sub-component will support incremental operational costs of the team responsible for coordinating and monitoring the overall activities of the Project.

17. INP will be responsible for the implementation of sub-component D1, while the Technical and Fiduciary Coordination Unit will be responsible for the implementation of component D2.

Table 4.3 - Possible SLM interventions

Zone/Department	Rural Community	Form and severity of degradation	Causes of degradation	Possible SLM solutions
Northern Groundnut Basin (Louga, Kébémér, Tivaouane Departments)	Notto Djobass	<ul style="list-style-type: none"> Strong water erosion 	<ul style="list-style-type: none"> Deforestation/Strong pressure on forest resources 	<ul style="list-style-type: none"> Gabions Stone lines, half pipes Small dikes Live fences against erosion Village reforestation
		<ul style="list-style-type: none"> Low fertility 	<ul style="list-style-type: none"> Continuous cropping/No fallow 	<ul style="list-style-type: none"> Good practices (techniques of soil preparation, of sowing, of organomineral fertilization)
	Mewane	<ul style="list-style-type: none"> Severely low fertility 	<ul style="list-style-type: none"> No fallow/Low use of organic matter/Industrial pollution 	<ul style="list-style-type: none"> Assisted natural regeneration Good practices (organic and inorganic fertilizer recycling of crop residues, composting)
		<ul style="list-style-type: none"> Strong wind erosion 	<ul style="list-style-type: none"> Deforestation/Strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> Windbreaks Live fences Village reforestation Assisted natural regeneration
Central Groundnut Basin (Thiés, Diourbel, Goassas, Nord Fatick)	Dealy	<ul style="list-style-type: none"> Severely low fertility 	<ul style="list-style-type: none"> Continuous cropping/No fallow/Low use of organic matter 	<ul style="list-style-type: none"> Assisted natural regeneration Good practices (techniques of soil preparation, organomineral fertilization, recycling of crop residues, composting)
		<ul style="list-style-type: none"> Medium/Strong wind erosion 	<ul style="list-style-type: none"> Deforestation/Strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> Windbreaks Live fences Village reforestation Assisted natural regeneration
	Touba Mosquee	<ul style="list-style-type: none"> Severely low fertility 	<ul style="list-style-type: none"> No fallow/Lack of use of organic matter and fertilizer 	<ul style="list-style-type: none"> Assisted natural regeneration Good practices (organomineral fertilization, recycling of crop residues, composting)
		<ul style="list-style-type: none"> Medium/Strong wind erosion 	<ul style="list-style-type: none"> Deforestation/Strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> Windbreaks Live fences Assisted natural regeneration
Southern Groundnut Basin (Kaolack, Sud Fatick, Kaffrine)	Fimela	<ul style="list-style-type: none"> Severely low fertility 	<ul style="list-style-type: none"> No fallow/Lack of use of organic matter and fertilizer 	<ul style="list-style-type: none"> Assisted natural regeneration Good practices, (organomineral fertilization, recycling of crop residues, composting)
		<ul style="list-style-type: none"> Medium/Strong salinization 	<ul style="list-style-type: none"> Destruction of mangroves and strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> Restoration of mangroves/reafforestation with halophyte plants Phosphogypsum amendment Irrigation schemes (containment, drainage) Ridge planting Use of well adapted rice varieties
	Niakhar	<ul style="list-style-type: none"> Severely low 	<ul style="list-style-type: none"> No fallow/Lack of use of organic matter 	<ul style="list-style-type: none"> Assisted natural regeneration

		fertility	and fertilizer <ul style="list-style-type: none"> • Strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> • Village reforestation • Good practices (organomineral fertilization recycling of crop residues, composting)
		<ul style="list-style-type: none"> • Medium/Strong salinization 	<ul style="list-style-type: none"> • The upstream ascent of salt water as a result of anthropic pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> • Mangroves restoration/reafforestation with halophyte species • Phosphogypsum amendment • Irrigation schemes (containment, drainage) • Ridge planting • Use of adapted rice varieties
	Nganda	<ul style="list-style-type: none"> • Severe low fertility 	<ul style="list-style-type: none"> • No fallow and lack of use of organic matter and fertilizer 	<ul style="list-style-type: none"> • Peanut shells • Assisted natural regeneration • Good practices (composting, production of manure, rotation, recycling of crop residues)
		<ul style="list-style-type: none"> • Strong water erosion 	<ul style="list-style-type: none"> • Deforestation/Strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> • Gabions • Stone lines, half pipes • 'Diguettes en cadre' • Live fences against erosion • Village reforestation
	Latmingue	<ul style="list-style-type: none"> • Severe low fertility 	<ul style="list-style-type: none"> • No fallow and lack of use of organic matter and fertilizer • Overgrazing 	<ul style="list-style-type: none"> • Peanut shells • Assisted natural regeneration • Good agricultural practices (composting, production of manure, rotation, recycling of crop residues)
		<ul style="list-style-type: none"> • Salinization 	<ul style="list-style-type: none"> • Upstream ascent of salted water 	
<ul style="list-style-type: none"> • Strong water erosion 		<ul style="list-style-type: none"> • Deforestation/Strong pressure on agro-sylvo-pastoral resources 	<ul style="list-style-type: none"> • Gabions • Stone lines, half pipes • Small dyke • Live fences against erosion • Village reforestation 	

Annex 5: Project Costs
SENEGAL: Sustainable Land Management Project

Project Cost By Component and/or Activity	Local US \$million	Foreign US \$million	Total US \$million
A. Support to Agricultural Research System	0.30	0.30	0.60
B. Strengthening Agricultural Advisory Services	0.30	0.40	0.70
C. Support to Producer Organizations	2.10	0.70	2.80
D. Support to Sectoral Coordination	0.30	0.40	0.70
Total Baseline Cost	3.00	1.80	4.80
Total Project Costs¹	3.00	1.80	4.80
Total Financing Required	3.00	1.80	4.80

¹Identifiable taxes and duties are US\$m 0.41, and the total project cost, net of taxes, is US\$m 4.39. Therefore, the share of project cost net of taxes is 91.45%.

Annex 6: Implementation Arrangements

SENEGAL: Sustainable Land Management Project

A. Partnership arrangements

1. ***Coordination with UNDP under the GEF-SIP.*** The proposed operation is one of two operations developed under the GEF-SIP in Senegal, together with the UNDP's *Innovation in Micro-Irrigation for Dryland Farmers* Project. The two operations will use the same approach and will be strongly coordinated with one another. Both would focus on improving the enabling environment for SLM adoption. They will however target two different geographical areas of the country: The proposed operation would focus on the Groundnut Basin, while UNDP's operation will be implemented in the Bakel Region, situated in the Senegal River Valley.

2. ***Partnership with IFAD.*** PSAOP2 is co-financed by the International Fund for Agricultural Development (IFAD). IFAD contributes to PSAOP2 with a loan of US\$6.0 million. IFAD has been closely associated in the definition of the content of PSAOP2, from preparation to negotiations. IFAD funds are pooled into the Project's designated account. IFAD plays a role in the learning processes of PSAOP by testing, in the context of its other projects in Senegal, a number of pro-poor approaches that can both benefit from and feed into the institutional reform process through ad-hoc mechanisms, including exchange visits and thematic workshops.

3. ***Coordination with other DPs' initiatives.*** USAID and JICA have recently started a dialogue with the Government for the preparation of an Agricultural Productivity and of a Land Restoration operation, respectively. The cross-sectoral coordination mechanism for SLM that this operation supports (Component D) will ensure coordination with these two proposed operations. The French Cooperation continue to support some activities linked to PSAOP. In particular, the French Cooperation supports the professional evolution of POs through its Project 'Promotion of Competitive and Sustainable Agriculture' (PACD).

4. ***Partnership with Israeli Embassy.*** Within the framework of PSAOP2 and PDMAS, the Bank is developing a partnership initiative with the Israeli Embassy to support the scale-up of the TIPA irrigation system. TIPA is well adapted to smallholders' community production systems while contributing to sustainable land and water management.

B. Institutional and implementation arrangements

5. ***Institutional set-up and implementation arrangements.*** The operation will adopt the same institutional framework and the same implementation arrangements as PSAOP2, which comprise: (a) A Steering Committee; (b) a Technical and Fiduciary Coordination Unit; and (c) one implementing agency per component or sub-component.

- (a) *Steering Committee (Comité de Pilotage; the same for PSAOP2²¹):* This includes representatives of the implementing agencies, representatives of POs, and representatives of the Ministries in charge of agriculture, livestock, environment, economy and finance, fisheries, local government, women and social development,

²¹ INP will be included as an observer.

and scientific research. It is responsible for: (i) Approving the work program and consolidated budget, and (ii) assessing project performance.

- (b) *Technical and Fiduciary Coordination Unit (Unité de Coordination Technique et Fiduciaire - UCTF)*: This unit is responsible for: (i) Monitoring the overall implementation of the Project; (ii) promoting and facilitating the exchange of information and cooperation between implementing agencies; (iii) preparing quarterly progress reports by consolidating the components' reports; (iv) consolidating, supervising, and monitoring the procurement plans prepared by the different components; (v) managing the designated account, in liaison with the *Direction de la Dette et de l'Investissement* (DDI) of the Ministry of Finance; (vi) supporting the components as needed; and (vii) liaising regularly with the World Bank. The Coordination Unit is located at the Ministry of Agriculture.
- (c) *Implementing agency per component or sub-component*:
 - (i) Component A - Support to the Agricultural Research System: This will be implemented by ISRA.
 - (ii) Component B - Strengthening Agricultural Advisory Services: This will be implemented by ANCAR (whose legal status is a *Société à participation publique minoritaire*).
 - (iii) Component C - Support to Producer Organizations: This will be implemented by ASPRODEB (an NGO which represents 19 national federations of producers).
 - (iv) Component D - Support to Sectoral Coordination: This will be implemented by: (i) The National Institute of Pedology (*Institut National de Pédologie, INP*), which reports to the Ministry in charge of Agriculture, for the sub-component D1 (Sectoral Coordination); and (ii) the Technical and Fiduciary Coordination Unit for the sub-component D2 (Technical and Fiduciary Coordination).

6. The only difference with respect to PSAOP2 is the addition of the INP, which will play a key role in coordinating the activities aimed at strengthening cross-sectoral coordination mechanisms and building a national coalition for SLM (Component D).

Annex 7: Financial Management and Disbursement Arrangements

SENEGAL: Sustainable Land Management Project

1. As part of the preparation phase of the Sustainable Land Management Project a financial management assessment was carried out in accordance with the Financial Management Practices Manual issued by the Financial Management Board on November 3, 2005. The objective of the assessment was to determine whether the implementing entity TFCU has acceptable financial management arrangements, which will ensure: (a) The funds are used only for the intended purposes in an efficient and economic way, (b) the preparation of accurate, reliable and timely periodic financial reports, and (c) safeguard the entities' assets.

A. Summary of implementation and financial management arrangements

2. **Implementation arrangements.** The operation will adopt the same institutional framework and the same implementation arrangements as PSAOP2 which comprise: (a) a Steering Committee; (b) a Technical and Fiduciary Coordination Unit; and (c) one implementing agency per component or sub-component (ref. Annex 6). The only difference with PSAOP2 is the addition of INP, which will play a key role in coordinating the activities aiming at strengthening cross-sectoral coordination mechanisms and building a national coalition for SLM (Component D).

3. **Financial management.** The Ministry of Agriculture will expand the financial arrangement to the TFCU to manage the financial arrangement of this project. The Staff and the auditor will be recruited in a competitive basis, the system of information installed in the TFCU and the manual of procedures elaborated will be updated. For the sub component: *Supporting the adoption of SLM practices*, ASPRODEB manages its funds directly through a management services contract. This contract is signed between ASPRODEB and the TFCU. Funds are withdrawn from the designated account or from the credit following the disbursement and financial management provisions of the management services contract. The other implementing agencies send their funding requests to the TFCU. Each implementing agency has its own financial and accounting system in place, certified by an independent auditor. Procedures concerning coordination, implementation, management, monitoring and evaluation, procurement, and administration are detailed in the Project Implementation Manual (PIM).

B. Country Accountability Issues

4. The Country Financial Accountability Assessment (CFAA) of Senegal was conducted in 2003. The overall risk rating of the public financial management system was high. Since that exercise, the Government has created an Executive Secretariat under the Ministry of Economy and Finance to monitor the implementation of the CFAA action plan. The Heavily Indebted Poor Country (HIPC) Assessment and Action Plan by the Bank and the IMF in November 2004 showed significant improvements in the areas of public expenditure tracking, notably internal control and budget preparation which was the priority area defined in the PRSP. However, significant progress is still needed in internal and external controls of budget execution and state-owned enterprises.

C. Assessment of risks

5. The CFAA of Senegal was conducted in 2003. The overall risk rating of the public financial management system was high. Since that exercise, the Government has created an Executive Secretariat under the Ministry of Economy and Finance to monitor the implementation of the CFAA action plan. The HIPC Country Assessment and Action Plan by the Bank and the IMF in November 2004 showed significant improvements in the areas of public expenditure tracking, notably internal control and budget preparation which was the priority area defined in the PRSP,. However, significant progress is still needed in internal and external controls of budget execution and state-owned enterprises.

6. The Government has given priority to improvements in these areas as well as local governance finance reforms. A Multi-Donor Trust Fund (MDTF) was set up to follow up on implementation of the reforms. A new Procurement Code has been adopted and entered in force in January 2008. A PEFA exercise has been undertaken in 2007, and the report concluded that although some improvement in PFM reform implementation, key risks and challenges have been achieved, additional improvements are still necessary in areas such as: (i) Effectiveness of the internal audit system by the SAI (*Cour des Comptes*); (ii) reliability of data for monitoring the stock of arrears; and (iii) addressing the backlog of State accounts. In dialogue with external partners, the Government will implement the action plan resulting from the last Public Expenditure and Financial Assessment (PEFA) framework to track progress in strengthening public financial management and identify areas where country fiduciary systems are not yet in line with international standards.

7. The Government is committed to conduct the Public Financial Management (PFM) reform through the creation of a specific body the PFM Reform Steering Committee, under the Ministry of Finance, with representation by all Government departments responsible for specific reforms. The role of the Steering Committee is to: (a) Coordinate the reforms to be undertaken; (b) harmonize Government actions; (c) monitor the implementation of the action plan; and (d) hold different actors accountable for progress.

8. The use of the country system, notably the Treasury Department and the *Cour des Comptes*, will be implemented progressively. In the meantime, implementation of Project will be coordinated by TFCU under the Directorate for Agriculture (DA) of the Minister of Agriculture (MA).

Table 7.1 - Summary of Risk Analysis and Mitigation Measures

Risk	Risk Rating	Risk Mitigation Measure	Conditionality	Rating of residual risk
I. Inherent Risks:	Moderate			Moderate
I. Country: Despite substantial improvements of the legal and regulatory framework, some provisions affect the transparency of the system.	Moderate	The MA will expand the financial arrangement to the TFCU to manage the financial arrangement of this project. The Staff and the auditor will be recruited in a competitive basis, the system of information installed in the TFCU and the manual of procedures elaborated will be updated.	No	Moderate

<p>2. Entity Levels:</p> <p>Low capacity of MA to implement and monitor the Project.</p>	Substantial	<p>The Project will be implemented by TFCU, and the Bank will pay a special attention during the supervision mission to the adequacy of the financial management system for Project implementation.</p>		Moderate
<p>3. Project level:</p> <p>Implementation depends not only on TFCU, but on activities of participating entities, not all of which have strong capacity.</p>	Modest	<p>The Project is not complex even if it is intended to involve several implementing agencies but they already have experience in the management of World Bank-supported projects.</p>		Moderate
<p>II. Control Risks:</p>	Moderate			Low
<p>1. Accounting:</p> <p>An administrative and accounting manual of procedures has been developed and provides all the required details on accounting and financial procedures. However this manual does not take in account the new project. The financial management is computerized. However knowledge of Bank FM and disbursement procedures is still weak.</p>	Moderate	<p>The manual and the existing software will be update in order to take in account the specificities of the new project and the Bank will organize a workshop on the Bank FM, Disbursement and Procurement Procedures for the staff of TFCU.</p>	None	Low
<p>2. Budget Execution</p> <p>Annual budget are regularly prepared but approved late.</p>	Modest	<p>Annual work plans will be prepared and submitted to the Bank by November 30 of each year.</p>		Low
<p>3. Internal Control</p> <p>The internal control is weak, and doesn't operate effectively to ensure proper authorization of expenditures in accordance with budget and proper authorization of</p>	Moderate	<p>The Bank will pay attention to the effectiveness of the internal control system during supervision missions and the review of the annual audit reports as well the auditor's management letter. In addition, the Administrative and Financial Procedures Manual will give a clear description of the approval and authorization processes.</p>		Moderate

payment				
4. External Audit Lack of strong system of external audit. External control by the “Cour des Comptes” is not yet effective	Substantial	An external auditor with qualification and experience satisfactory to the World Bank will conduct an annual audit of the Project’s financial statements. This audit should be carried out in accordance with International Standards on Auditing (ISA), and will include such tests and controls as the auditor considers necessary under the circumstances. The external audit firm will be selected under a competitive basis and TORs acceptable to the Bank.	Yes	Moderate
5. Funds Flow Risk of mingling funds with those of other projects	Moderate	A Separate Designated Account (DA) will be opened in a commercial bank by the DDI and will finance activities of the Project.	Yes	Low
6. Reporting The reporting system is not consistent in the MA	Moderate	The TFCU will prepare quarterly IFRs project in format and substance acceptable to the Bank and Annual Financial Statements of the project in comply with International Accounting Standards	None	Low
Overall Risk	Moderate			Moderate

9. In view of the general country financial management issues and the issues peculiar to the Project, the overall financial management risk rating for this project is Moderate

D. Strengths and Weaknesses

10. **Strengths.** The financial management capacity built in the TFCU under the PSAOP2 will be consolidated and used to manage the Financial Management System of the SLM Project. Under the WAAPP also implemented by the TFCU of the PSAOP, an Accountant with strong experience in accountability will be recruited in a competitive basis and will reinforce the Financial Department. He will receive training on World Bank procedures.

Table 7.2 - Weaknesses

Weaknesses	Action	Responsible Body	Completion Date
(a) No specific information system for the Project	<ul style="list-style-type: none"> ▪ Update existing software TOMPRO to host the Project. 	TFCU	By effectiveness
(b) No specific information in the PSAOP financial and Administrative Manual for the project	<ul style="list-style-type: none"> ▪ Update the PSAOP Financial and Administrative Manual to conform with the GEF financed project 	TFCU	By effectiveness
(c) Absence of an External Auditor	<ul style="list-style-type: none"> ▪ Prepare TOR for External Auditor satisfactory to the Bank. 	TFCU	By negotiation
	<ul style="list-style-type: none"> ▪ Appointment of the auditor. 	TFCU	First quarter after effectiveness

E. Financial and management arrangements

11. **Staffing arrangements.** The existing staff of the TFCU (one Financial Management Specialist and one Accountant), soon strengthened by an experienced Accountant recruited on a competitive basis under the West African Agricultural Productivity Program (WAAPP), will manage the funds of this operation. The existing staff has relevant experience in accounting, auditing, disbursement and financial management procedures of the Bank.

12. **Accounting policies and procedures.** The current accounting standards in use in Senegal for on-going Bank-financed projects will be applicable. SYSCOHADA is the assigned accounting system in West African Francophone countries. The Credit will be accounted by the Project on a cash or accrual basis. This system will be documented with appropriate records and procedures to track commitments and to safeguard assets. Accounting records will be maintained in local currency (FCFA). The Chart of accounts will facilitate the preparation of relevant quarterly and financial statements including information on the total project expenditures, the financial contribution from IDA and other Donors and expenditure by component/category. The existing Financial and Administrative Manual describes the budgeting process. The Financial team will finalize the Entity Action Plan and Budget, which will be submitted to a steering committee for approval. Also, a ‘no objection’ of the Bank will be required before implementation the annual action plan.

13. **Accounting software.** The existing Information System in the TFCU allows production of all accounting and financial data required: Financial Statements, Bank Reconciliation Statements, all the books of accounts and all financial reports including the Interim un-audited Financial Reports (IFR). Accounting procedures are documented in the existing Financial and Accounting Manual.

14. **Internal audit and internal control.** The existing Administrative and Financial Manual of PSAOP2 provides a description of the approval and authorization processes. The Bank will pay attention to the adequacy of internal control during supervision mission. At the national level, the

Direction de la Dette et de l'Investissement (DDI) controls *ex ante* all expenditures and withdrawal applications before sending them to the Bank.

15. **External audit.** External auditors with experience and qualifications satisfactory to the Bank will conduct an annual audit of the Project's financial statements. This audit should be carried out in accordance with International Standards on Auditing (ISA), and will include such tests and controls, as the auditor considers necessary under the circumstances. Besides expressing an opinion on the Project's financial statements in accordance with ISA, the auditors will be expected to prepare report on internal controls, management letters giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the Financing Agreement of the Bank. The audit report and opinions on the financial statements including the management letter and management response shall be submitted to IDA within six months of the end of the Senegal fiscal year. Since the auditor for the PSAOP2 has been appointed, this auditor could also audit the financial statements of the SLM Project. The Recipient will elaborate ToRs acceptable to the Bank for the appointment of the auditor. The table below summarizes the auditing requirements under the Project.

Audit report	Entity	Due Date
Project's financial statements	TFCU	June 30
Financial Statements	ASPRODEB	June 30

16. All audit reports will be submitted to the Bank within six months after December 31 each year.

17. **Reporting and monitoring.** The TFCU will prepare and provide to the World Bank a quarterly un-audited Interim Financial Report (IFR), in form and substance satisfactory to the World Bank. The report will:

- (a) Set forth sources and uses of funds for the Project, both cumulatively and for the period covered by said report, showing separately funds provided under the Credit, and explain variances between the actual and planned uses of such funds;
- (b) Describe use of funds by activity/components, both cumulatively and for the period covered by said report, and explain variances between the actual and planned Project implementation.

18. The TFCU will produce Annual Financial Statements for these statements which comply with International Accounting Standards (IAS) and World Bank requirements. The Financial Statements²² will comprise of:

- (a) A Statement of Sources and Uses of Funds;
- (b) A statement of Commitments;
- (c) The Accounting Policies Adopted and Explanatory Notes;

²² It should be noted that the project financial statements should be all inclusive and cover all sources and uses of funds and not only those provided through World Bank funding. They thus reflect all program activities, financing, and expenditures, including funds from other development partners.

- (d) A Management Assertion that Project funds have been expended for the intended purposes as specified in the relevant Grant agreements.

19. The first IFR shall be furnished to the Association not later than 45 days after the end of the first calendar quarter after the Effectiveness Date. It shall cover the period from the incurrence of the first expenditure under the Project through the end of such first calendar quarter; thereafter, each IFR shall be furnished to the Association not later than 45 days after each subsequent calendar quarter, and shall cover such calendar quarter. Formats for the IFR and financial statements will be defined before negotiations and will be attached to the disbursement letter.

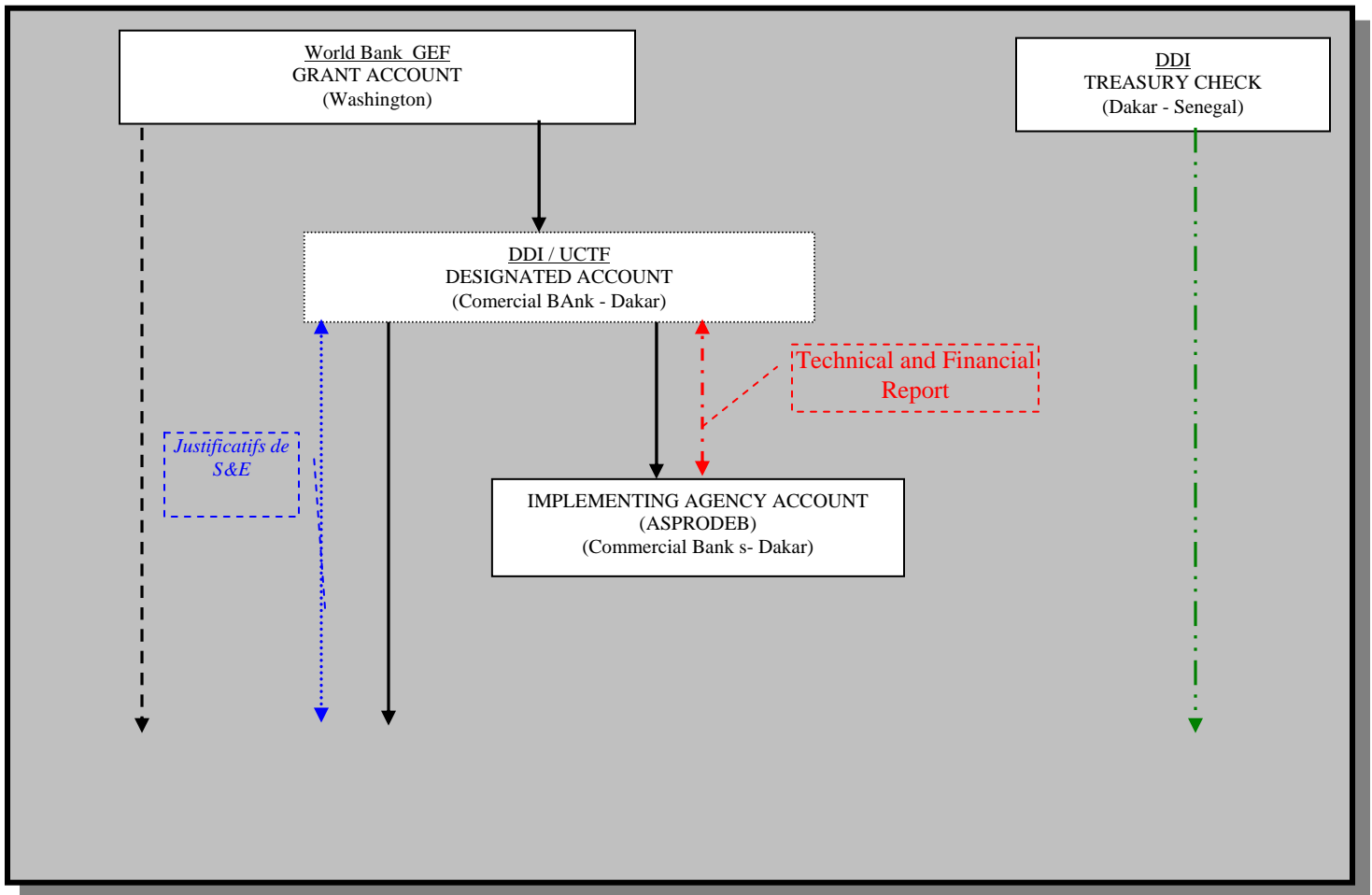
20. The TFCU will also be required to produce, no later than June 30 of the following fiscal year, audited annual financial statements. These financial statements will be subject to periodic audits (see paragraph on audits).

21. ASPRODEB will also produce and submit to the TFCU, in a quarterly basis a technical and financial report.

F. Disbursement and flow of funds arrangements

22. Disbursements will be made in accordance with procedures outlined in the Disbursement Handbook for World Bank Clients. The proceeds of the grant will be disbursed over a four-year period or less depending on the implementation speed. On Project closure, a period of four (4) months grace period after the closing date, as agreed with the Bank, will be allowed to complete processing of disbursements for eligible expenditures incurred up to and until the closing date of the grant. The figure below shows the flow of funds and information.

Figure 7.1 - Flow of Funds and Information



SUPLIERS OF GOODS AND SERVICES / BENFICIARY	
	Payment
	Direct Payment
	Replenishment Application
	Technical and Financial Report
	Treasury check in contribution to VAT

23. The disbursement methods (statement of expenditures, reimbursement and direct payment) will be used. All replenishment or reimbursement applications will be submitted monthly. All replenishment or reimbursement applications will be fully documented except for contracts under the prior review threshold to be determined during the procurement assessment. SOE documentation will be retained at the TFCU for review by Bank staff and auditors.

24. A separate DA in FCFA will be opened in a commercial bank on terms and condition acceptable to the Bank. This Account will be managed by the director of DDI in coordination with the TFCU. The DA will be used for all payments financed by the grant as indicated in the specific terms and condition of the Financing Agreement. Transaction-supporting documentation

for Statement of Expenditures (SOE) will be retained and kept in a safe place by the TFCU, which has the primary responsibility for maintaining all documentation. The Disbursement Letter, which will form an integral part of the Grant Agreement, will provide details of the disbursement methods, required documentation, DA ceiling and minimum application size. These will also be discussed and agreed during negotiations of the Grant Agreement.

25. ASPRODEB will bear to implement the sub-component: *Supporting the adoption of SLM practices*. ASPRODEB, manage their funds directly through a management services contract. This contract is signed between ASPRODEB and the TFCU. The first advance to ASPRODEB will be subject to the disbursement and financial management provisions of the management services contract. The others advances are withdrawn from the designated account following the submission by ASPODEB of a technical and financial report.

Table 7.3 - Allocation of Grant Proceeds by Component

Components	Amount Allocated (Expressed in US\$)	Percentage of Expenditures to be financed (inclusive of taxes)
A. Support to the Agricultural Research System	600,000	100%
B. Strengthening Agricultural Advisory Services	700,000	100%
C. Support to Producer Organizations	2,800,000	100%
D. Support to Sectoral Coordination	700,000	100%
Total	4,800,000	

G. Loan condition and other financial covenants

26. *Negotiations conditions*. The following negotiations conditions will be required: Prepare TORs for External Auditor satisfactory to the Bank;

27. *Effectiveness conditions*. The following effectiveness conditions are required:

- (a) Updating the PSAOP Financial and Administrative Manual to conform with the GEF-financed Project;
- (b) Updating the PSAOP TOMPRO to host the project;
- (c) Revising the PSAOP II Arrêté to expand the role of the TFCU and the Steering Committee for the purposes of the Project;
- (d) Agreements, in form and substance acceptable to the World Bank, with ISRA, ANCAR, ASPRODEB and INP for the implementation of the Project

H. Supervision Plan

28. On a regular basis (at least twice each year), the financial system will be reviewed and assessed at the national and regional level. The un-audited Interim Financial Reports will be reviewed as well as the audit reports.

Annex 8: Procurement Arrangements
SENEGAL: Sustainable Land Management Project

A. General

1. *Procurement in the context of the country.* Following the Government's approval of the 2003 CPAR action plan, the Government adopted in 2007 a new Procurement Code (decree n° 2007-545 dated April 25th, 2007) which complies with the WAEMU Procurement Directives and best international practices. In accordance with this code: (i) A Public Procurement Directorate was created in 2007 (decree N° 2007-547 dated April 25, 2007) for controlling procurement transactions of any public contracting authority; and (ii) a Public Procurement Regulatory Authority (*Autorité de Régulation des Marchés Publics* - ARMP) was set up in 2007 (decree n° 2007-546 dated April 25, 2007) for handling policies, complaints, and audits. These two entities are operational. In addition, the Government has prepared main national bidding documents and is in the process to validate and adopt them. There is no major deviation of the national Code from the Bank's Guidelines, but to allow a full application of the provisions of the World Bank's procurement and selection and employment guidelines, IDA will provide to the Recipient the list of the national procurement clauses which are partially or entirely inconsistent with World Bank guidelines.

B. Applicable guidelines

2. Procurement for the proposed Project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004 and revised in October 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 and revised in October 2006, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Recipient and the Bank in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

3. *Procurement Documents.* The procurement will be carried out using the World Bank's Standard Bidding Documents (SBDs) or Standard Request for Proposal (RFP), respectively, for all ICB for goods and works and recruitment of consultants. For National Competitive Bidding (NCB), while waiting for the Government and the Bank to respectively validate and give the 'no objection' to the national bidding documents in preparation, the Recipient will use the World Bank's SBD for ICB for goods and works, and the Bank's RFP for recruitment of consultants. In the same vein, the Sample Form of Evaluation Reports developed by the World Bank, will be used until the new national samples are reviewed and cleared as satisfactory to the Bank.

4. *Procurement methods.* General Procurement Notices (GPN), Specific Procurement Notices (SPN), Requests for Expression of Interest, and results of the evaluation and contracts award should be published in accordance with advertising provisions in the following guidelines: "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004 and revised by

October 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004 and revised in October 2006.

5. **Procurement of Goods.** Goods procured under this Project would include, but are not limited to, the acquisition of computer hardware, office supplies, equipment, and vehicles. The procurement will be done using the Bank's SBD for all ICB and National SBD agreed with or satisfactory to the Bank.

6. **Selection of Consultants.** Activities needing selection of consultants include, but are not limited to, the update of the Information System for Monitoring & Evaluation, dissemination of competences and technical transfers for Sustainable Land Management in relevant areas, and cartography of targeted areas. Shortlists of consultants for services estimated to cost less than US\$ 200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

7. **Training, Workshops, Study Tours, and Conferences.** The training (including training material and support), workshops, conference attendance and study tours, will be carried out on the basis of approved annual training or activities plans. A detailed training or workshop plan indicating the objectives of the training/workshop, number of trainees/participants, duration, staff months, timing, and estimated costs will be submitted to IDA for review and approval prior to initiating the process. The appropriate methods of selection will be derived from the detailed schedule. After the training, the beneficiaries will be requested to submit a brief report indicating what skill have been acquired and how these skills will contribute to enhance his/her performance and contribute to the attainment of the project objective.

8. The procurement procedures and SBDs to be used for each procurement method, as well as model contracts for works and goods procured, are presented in the Project Implementation Manual.

C. Assessment of the agency's capacity to implement procurement

9. An assessment of the capacity of the procurement staff within the INP and the TFCU was conducted during the period November 14-19, 2008. The assessment reviewed the organizational structure of the INP and the interaction between the project staff responsible for procurement. The objective of the assessment was to update the previous procurement assessment conducted in November 2005 and determine whether the implementing entity (TFCU) continues to offer an acceptable arrangement in line with Bank procedures. Based on the experience with the current PSAOP2 and WAAP projects' implementation, adequate capacity exists within the UCTF (*Unité de Coordination Technique et Fiduciaire*) for procurement reporting requirements. The TFCU team is well versed in the IDA procedures and has handled satisfactorily the procurement under previous and ongoing IDA programs.

10. The key issues and risks concerning procurement for implementation of the Project have been identified and include lack of capacity and insufficient experience of the procurement officer of INP, as well as in procurement and World Bank procedures. The corrective measures which have been agreed are: (i) Closer support of the INP procurement officer by the procurement specialist of TFCU who will be designated to provide quality control on all procurement issues including those who are not subject to prior approval by the World Bank; and (ii) training in World Bank procedures for the INP staff involved in procurement.

11. The overall project risk for procurement is **medium**.

D. Procurement Plan

12. The Recipient, at appraisal, developed a procurement plan for project implementation which provides the basis for the procurement methods. This plan has been agreed between the Recipient and the Project Team in February 2009 and is available from the TFCU. It will also be available in the Project's database and on the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

E. Frequency of Procurement Supervision

13. In addition to the prior review supervision to be carried out from the Bank's Senegal office, the capacity assessment of the Implementing Agency has recommended supervision missions every six months to visit the field to carry out post review of procurement actions.

F. Details of the Procurement Arrangements Involving International Competition

1. Goods, Works, and Non Consulting Services

(a) List of contract packages to be procured following NCB, Quotation and direct contracting:

1	2	3	4	5	6	7	8	9
Ref. No.	Contract (Description)	Estimated Cost	Procurement Method	P-Q	Domestic Preference (yes/no)	Review by Bank (Prior/Post)	Expected Bid-Opening Date	Comments
01	Vehicles and motorcycles	117,600	AON	NO	NO	POST	27/02/09	
02	Office supplies and computer hardware, digital camera, video projector and accessories	211,466	AON	NO	NO	POST	30/01/09	
03	Office furniture	11,620	QUOTATION	NO	NO	POST	30/01/09	

(b) ICB contracts estimated to cost above US\$ 500,000 per contract and all direct contracting will be subject to prior review by the Bank.

2. Consulting Services

(a) List of consulting assignments with short list of international firms.

1	2	3	4	5	6	7
Ref. No.	Description of Assignment	Estimated Cost	Selection Method	Review by Bank (Prior/Post)	Expected Proposals Submission Date	Comments
01	Setting the parameters of accounting software	1,100	Direct contracting	PRIOR	30/01/09	TFCU
02	Updating monitoring and evaluation information system	13,400	Direct contracting	PRIOR	30/01/09	Technical and Fiduciary coordination subcomponent (D2): TFCU
03	Selection of an auditor of the accounts for duration of Project	19,500	QCBS	PRIOR	30/03/09	TFCU
04	Development of SLM/CIS	75,000	QCBS	POST	30/05/09	Sectoral coordination sub-component (D1)
05	Mapping of intervention areas	40,000	IC	POST	30/03/09	D1
06	Support to identifying public and private services providers	14,420	QCBS	POST	30/02/09	D1
07	Development of training plan on SLM practices and techniques	38,460	QCBS	POST	30/06/09	D1
08	Support to dissemination and transfer of appropriate SLM techniques and practices in each area and for type of degradation	14,4230	QCBS	POST	30/08/09	D1
09	Capitalization of SLM experiences	3,360	QCBS	POST	30/07/09	D1
10	Production of a manual of standards adapted to SLM	2,884	IC	POST	30/04/09	ASPRODEB
11	Development of training modules	1,730	IC	POST	30/03/09	ASPRODEB
12	Monitoring of training	7,000	IC	POST	30/11/09	ASPRODEB
13	Identification and listings of SLM practices and techniques	24,000	IC	POST	30/07/09	D1

(b) Consultancy services estimated to cost above US\$ 200,000 per contract and single source selection of consultants will be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than US\$ 200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Annex 9: Economic and Financial Analysis
SENEGAL: Sustainable Land Management Project

1. This operation aims at increasing the productivity of land resources in the Senegal Groundnut Basin by promoting the use of sustainable land management technologies and practices among farmers. This economic and financial analysis assesses whether the investment of this operation is economically and financially profitable. The same approach and methodology used to assess the economic and financial soundness of PSAOP2 is used to assess the economic and financial soundness of this operation.

A. Economic analysis and financial analysis: Assumptions and methodology

2. **Economic analysis:** A cost-benefit approach is used for the economic analysis. The analysis compares the additional investment and recurrent costs for farmers in adopting new technologies with expected benefits. The analysis assesses trends in the cost and benefit parameters “with” and “without” project. The profits resulting from the project come from the increase in agricultural yields and cultivated land achieved in different crops by introducing the technologies proposed in the Project. The estimated production levels in the “with project” scenario are the increase in cultivated land and yield induced by Project as compared to the “without project” levels. Through research and extension efforts the Project will make available new/improved SLM technologies to farmers. This will result in an increase in cultivated areas and output. Thus, the Project impacts on production levels (or real production) are driven by the estimated SLM technologies adoption rate patterns. The impacts are only effective with farmers adopting new technologies. The probability of a farmer adopting SLM technologies is estimated on the basis of the complexity and feasibility of the technology proposed and the farmer’s experience and willingness. The incremental production is, thus, the sum of improved production levels due to increase in land and yield induced by SLM technologies **adopters**. Three different types of costs are considered: SLM ‘public investments’ (in the collective agricultural support sector and producer organizations), ‘private investments’ (individual investment in agricultural equipment to maximize available opportunities) and ‘additional costs of production’ caused by the adoption of new technologies. Economic prices are considered in this assessment and are obtained by adjusting observed distortions in financial prices (taxes, export duties, etc.). Three sub-agro-ecological zones in the Groundnut Basin (i.e. North, Center and South) are chosen to assess incremental production over years with and without project. The key assumption made is that the technology adoption rate would vary between 20 and 45%, depending on the zones and crop under the technologies used.

3. **Financial analysis:** For the financial analysis, a “with” and “without” project assessment was made on the basis of the standard farm model and cultivated crops within each of the three above-mentioned sub-agro-ecological zones (ref. Table 9.1). For each farm model/agricultural crop, the rates of change in land area, yield and production over the fifteen last years (1994-2008) at the department and regional level are observed. The “without project” scenario is developed using the current fluctuating trends in land area and average yields. The “with project” scenario takes into account the option for improving yields and cultivated land with the support of project components, using an estimated technology adoption rate.

B. Results

4. The results of the analysis show the economic and financial soundness of the project.

5. **Economic analysis:** Under the above-described assumptions, the economic assessment shows the economic viability of the SLM operation from the perspective of the national economy. The economic Internal Rate of Return (IRR) calculated from the project is 35%, with a Net Present Value (NPV) of FCFA 1.8 billion (US\$ 3.5 million) over the three years of the operation, with an assumed capital opportunity cost of 20%. The IRR would be 93%, with a NVP of FCFA 19 billion (US\$ 38 million) for the horizon 2009-2013. The Project profitability appears sensitive to decrease in targeted yields (switching value of -5%), to the rate of adoption (-10%), and extremely sensitive to decrease in market prices (-3%).

6. **Financial analysis:** The financial analysis shows an IRR of 27% over the opportunity cost of capital estimated at 20% and farmer NVP of FCFA 49 millions (US\$ 98,000).

Table 9.1: Standard type of farm by targeted sub-zone in the Peanut Basin of Senegal

Sub-zones	Administrative Districts	Household average cultivated area	Type of crops	Average cultivated area by crop
North of Peanut Basin	LOUGA KEBEMER TIVAOUNE	5 ha	Peanut Millet Cowpeas	3 ha 1.5 ha 0.5 ha
Center of Peanut Basin	THIES DIOURBEL GOSSAS NORD FATICK	4 ha	Peanut Millet/sorghum Cowpeas Cassava	2 ha 1.7 ha 0.15 ha 0.15 ha
South of Peanut Basin	KAOLACK KAFFRINE SUD FATICK	4.5 ha	Peanut Millet Upland Rice Maize Cowpeas Cassava	2.5 ha 1 ha 0.25 ha 0.25 ha 0.50 ha 0.10 ha

Sources : PIGES (2007) ; ISRA/CNBA (2008)

Table 9.2: Economic Assessment of Sustainable Land Management Program

SUSTAINABLE LAND MANAGEMENT PROGRAM: ECONOMIC ANALYSIS																		
WITHOUT PROJCTC DATA IN THE PEANUT BASIN																		
year	Peanut			Millet			Cowpeas			Cassava			Rice			Maize		
	Areas cultivated	Production	yield	Areas cultivated	Production	yield	Areas cultivated	Production	yield	Areas cultivated	Production	yield	Areas cultivated	Production	yield	Areas cultivated	Production	yield
	(ha)	(t)	(t/ha)	(ha)	(t)	(t/ha)	(ha)	(t)	(t/ha)	(ha)	(t)	(t/ha)	(ha)	(t)	(t/ha)	(ha)	(t)	(t/ha)
1994	720 639	505 248	0,701	838 888	481 696	0,574	82 308	27 089	0,329	30 659	76 915	2,509	1 721	2 802	1,628	39 549	35 341	0,894
1995	693 521	646 175	0,932	818 058	618 573	0,756	85 592	38 465	0,449	17 457	55 515	3,180	1 785	3 542	1,984	35 444	42 189	1,190
1996	709 287	458 878	0,647	921 722	588 986	0,639	75 772	13 477	0,178	14 011	36 985	2,640	3 713	6 486	1,747	38 320	42 151	1,100
1997	609 858	380 089	0,623	772 370	391 160	0,506	112 054	19 855	0,177	19 937	46 564	2,336	774	810	1,047	26 535	25 108	0,946
1998	384 601	382 968	0,996	687 614	380 413	0,553	109 738	35 462	0,323	13 247	65 608	4,953	1 760	3 127	1,777	20 246	20 089	0,992
1999	570 185	541 705	0,950	864 204	474 164	0,549	144 702	49 184	0,340	16 294	42 117	2,585	2 574	4 581	1,780	21 835	23 274	1,066
2000	692 686	625 597	0,903	662 349	458 601	0,692	121 846	37 956	0,312	27 179	132 859	4,888	704	1 039	1,476	26 140	30 106	1,152
2001	724 180	693 950	0,958	641 867	373 798	0,582	85 057	27 840	0,327	27 794	137 893	4,961	978	1 312	1,342	29 608	33 709	1,139
2002	677 432	165 887	0,245	692 596	357 326	0,516	121 421	11 360	0,094	29 184	107 298	3,677	1 123	1 302	1,159	42 167	24 784	0,588
2003	397 087	289 534	0,729	810 280	588 802	0,727	132 974	31 238	0,235	30 643	109 444	3,572	1 210	1 036	0,856	65 675	126 710	1,929
2004	571 790	402 230	0,703	632 970	253 059	0,400	165 807	8 792	0,053	32 175	111 633	3,470	722	387	0,536	59 842	157 463	2,631
2005	612 635	433 609	0,708	688 012	401 404	0,583	125 421	25 594	0,204	29 395	120 915	4,113	947	1 017	1,074	44 686	66 481	1,488
2006	596 625	398 964	0,669	693 145	389 294	0,562	126 136	23 029	0,183	29 838	118 114	3,959	996	989	0,993	48 396	75 252	1,555
2007	571 114	348 831	0,611	703 401	392 138	0,557	134 352	20 640	0,154	30 247	113 666	3,758	1 000	923	0,924	52 153	85 438	1,638
2008	549 850	376 083	0,684	705 562	399 208	0,566	136 938	22 683	0,166	30 460	114 961	3,774	975	855	0,877	54 150	100 087	1,848
2009	580 403	391 737	0,675	684 618	365 332	0,534	137 731	20 906	0,152	30 423	116 055	3,815	928	817	0,881	51 846	94 986	1,832
2010	582 125	389 580	0,669	694 948	389 446	0,560	132 116	22 663	0,172	30 072	116 795	3,884	969	920	0,950	50 246	84 025	1,672
2011	576 023	381 056	0,662	696 335	387 016	0,556	133 454	22 025	0,165	30 208	115 933	3,838	974	900	0,925	51 358	87 780	1,709
2012	571 903	377 510	0,660	696 972	386 556	0,555	134 918	21 793	0,162	30 282	115 486	3,814	969	883	0,911	51 951	90 395	1,740
2013	572 061	383 255	0,670	695 687	385 444	0,554	135 031	22 024	0,163	30 289	115 851	3,825	963	875	0,909	51 910	91 381	1,760

**Table 9.3 : ECONOMIC ANALYSIS
WITH PROJECT**

Year	Peanut		Adoption rate		Real	MILLET		Adoption Rate		Real
	Areas cult.	Yield (t/ha)	%	Production	Production	Areas cult.	Yield (t/ha)	%	Production	Production
2008	549 850	0,684		376 083		705 562	0,566		399 208	
2009	566 346	0,704	0,40	398 987	392 014	706 267	0,577	0,35	407 600	402 405
2010	588 999	0,740	0,50	435 694	425 320	720 393	0,618	0,46	444 854	428 993
2011	618 449	0,754	0,63	466 192	462 925	742 004	0,661	0,61	490 274	477 901
2012	624 634	0,829	0,84	517 940	510 583	749 424	0,681	0,77	510 032	506 583
2013	625 259	0,846	0,97	528 827	528 519	756 919	0,694	0,82	525 435	523 596
	COWPEAS		Adoption rate		Real	Cassava		Adoption rate		Real
	Areas cult.	Yield (t/ha)	%	Production	Production	Areas cult.	Yield (t/ha)	%	Production	Production
2008	136 938	0,166		22 683		30 460	3,774		114 961	
2009	141 046	0,176	0,45	24 765	23 994	31 373	4,001	0,30	125 514	120 541
2010	146 688	0,191	0,54	28 074	27 007	32 628	4,361	0,36	142 283	134 764
2011	154 022	0,214	0,65	33 015	31 769	34 260	4,884	0,50	167 325	158 433
2012	154 484	0,240	0,84	37 087	36 461	35 288	5,226	0,71	184 409	180 857
2013	156 029	0,245	0,99	38 207	38 203	35 640	5,330	0,85	189 978	189 407
	RICE		Adoption rate		Real	MAIZE		Adoption rate		Real
	Areas cult.	Yield (t/ha)	%	Production	Production	Areas cult.	Yield (t/ha)	%	Production	Production
2008	975	0,877		855		54 150	1,848		100 087	
2009	1 004	0,929	0,25	933	894	55 775	1,959	0,27	109 275	104 759
2010	1 044	1,013	0,33	1 058	999	58 006	2,136	0,35	123 874	117 236
2011	1 097	1,134	0,49	1 244	1 176	60 906	2,392	0,53	145 676	138 285
2012	1 173	1,271	0,73	1 491	1 448	61 089	2,464	0,79	150 496	149 574
2013	1 185	1,296	0,88	1 536	1 532	61 150	2,468	0,87	150 948	150 908

SUSTAINABLE LAND MANAGEMENT PROGRAM

1. LEVEL OF ADDITIONAL PRODUCTION INCREASE INDUCED BY PROJECT

PRODUCTION

Peanut (t)	Millet (t)	Cowpeas (t)	Cassava (t)	Rice (t)	Maize (t)
277	37 072	3 088	4 486	76	9 773
35 740	39 547	4 344	17 969	78	33 211
81 868	90 885	9 745	42 499	275	50 506
133 073	120 027	14 668	65 371	565	59 180
145 264	138 153	16 178	73 556	657	59 527

2. ESTIMATION OF AGRICULTURAL CROP PRICES

NOMINAL PRICES

Peanut FCFA/ton	Millet FCFA/ton	Cowpeas FCFA/ton	Cassava FCFA/ton	Rice FCFA/ton	Maize FCFA/ton	Consumer Price Index Base 2008	Manufactures Unit Value Index MUVI (US\$ term) Base 2008
180 000	250 000	350 000	50 000	150 000	300 000	1,058	1,002
181 800	250 000	353 500	50 500	160 000	300 000	1,119	1,008
183 618	252 500	357 035	51 005	161 600	303 000	1,177	1,014
185 454	255 025	360 605	51 515	163 216	306 030	1,252	1,021
187 309	257 575	364 211	52 030	164 848	309 090	1,324	1,027

3. ADDITIONAL INCOME INCREASE INDUCED BY THE PROJECT

						TOTAL INDUCED INCOME	
						NOMINAL	REAL INCOME
						FCFA	FCFA
Peanut	Millet	Cowpeas	Cassava	Rice	Maize		
49 876 793	9 268 088 723	1 080 887 745	224 286 443	11 437 721	2 931 946 989	13 566 524 414	12 827 491 956
6 497 588 664	9 886 835 405	1 535 707 281	907 459 113	12 555 483	9 963 316 207	28 803 462 153	25 750 815 859
15 032 509 659	22 948 551 940	3 479 249 840	2 167 681 931	44 493 254	15 303 180 127	58 975 666 751	50 119 772 866
24 678 851 563	30 609 833 137	5 289 412 721	3 367 569 237	92 213 569	18 110 732 660	82 148 612 887	65 632 778 125
27 209 174 330	35 584 685 340	5 892 345 571	3 827 131 898	108 346 285	18 399 245 325	91 020 928 749	68 752 521 084

4. ESTIMATED INVESTMENT AND ADDITIONAL TECHNOLOGY ADOPTION COSTS

ADDITIONAL COSTS OF PRODUCTION INDUCED BY TECHNOLOGY ADOPTION						TOTAL COST OF ADOPTION	
						NOMINAL	REAL COSTS
Peanut	Millet	Cowpeas	Cassava	Rice	Maize		
9 967 682 830	6 797 821 770	2 583 259 300	541 190 493	12 879 971	956 261 912	20 859 096 276	19 722 803 093
13 605 887 063	9 464 607 250	3 385 102 986	709 176 022	18 284 407	1 357 509 410	28 540 567 139	25 515 782 964
18 750 613 109	13 818 563 200	4 478 491 251	1 094 613 190	30 237 838	2 244 981 186	40 417 499 775	34 348 334 154
26 844 784 023	18 318 232 842	6 131 479 979	1 657 353 832	50 958 317	3 546 452 905	56 549 261 897	45 180 131 823
32 447 491 785	20 786 339 944	7 672 872 731	2 109 148 486	64 849 554	4 100 249 258	67 180 951 758	50 745 030 463

Year	INVESTMENT COSTS				NOMINAL TOTAL INVESTMENT	REAL TOTAL INVESTMENT	TOTAL PROJECT COSTS	
	PUBLIC INVESTMENT COSTS			PRIVATE AGRICULTURAL COSTS			NOMINAL	REAL
	SERVICE	EQUIPMENT	OPERATING COSTS				FCFA	FCFA
2009	190 503 077	178 896 462	642 245 000	0	1 011 644 539	965 854 209	21 870 740 814	20 688 657 302
2010	89 630 000		1 035 135 000	14 100 000	1 138 865 000	1 018 165 898	29 679 432 139	26 533 948 861
2011	77 600 000		324 340 000	126 900 000	528 840 000	449 428 419	40 946 339 775	34 797 762 573
2012						0	56 549 261 897	45 180 131 823
2013						0	67 180 951 758	50 745 030 463

5. PROJECT NET RETURN AND ECONOMIC INDICATORS

Year	REAL INCOME TOTAL	REAL COSTS TOTAL	NET MARGIN
2009	12 827 491 956	20 688 657 302	-7 861 165 346
2010	25 750 815 859	26 533 948 861	-783 133 003
2011	50 119 772 866	34 797 762 573	15 322 010 293
2012	65 632 778 125	45 180 131 823	20 452 646 303
2013	68 752 521 084	50 745 030 463	18 007 490 621

IRR (2009-2011)

35% IRR (5 years)

93%

NPV (3ans)

1 772 090 620.15 F NPV (5 years)

18 872 249 034.09

IRR= Internal Rate of Return; NPV= Net Present Value

Table 9.4 : Financial Analysis

Sustainable Land Management Program: FINANCIAL ANALYSIS

WITHOUT PROJECT	THIES							KAOLACK					
	LOUGA			DIOURBEL				FATICK					
	NORTHERN PEANUT BASIN			CENTER OF PEANUT BASIN				SOUTHERN PEANUT BASIN					
	Peanut	Millet	Cowpeas	Peanut	Millet/Sorghum	Cowpeas	Cassava	Peanut	Millet	Upland rice	Maize	Cowpeas	MANIOC
Agricultural crops	Peanut	Millet	Cowpeas	Peanut	Millet/Sorghum	Cowpeas	Cassava	Peanut	Millet	Upland rice	Maize	Cowpeas	MANIOC
Average household cultivated area (ha)	3 ha	1.5ha	0.5 ha	2 ha	1.7 ha	0.15 ha	0.15 ha	2.5 ha	1 ha	0.25 ha	0.25 ha	0.50 ha	0.10 ha
Crop budget /ha													
Land Preparation	7 500	5 000		9 000	7 000		12 000	15 000	20 000	20 000	20 000	5 000	8 000
Seed/ha	8 000	4 200	10 000	9 375	4 200	10 000	60 000	10 000	4 200	9 000	3 000	10 000	40 000
Fertilizer	30 000	8 750	37 500	36 000	17 500	40 500	14000	45 000	35 000	52 500	45 000	37 500	7000
Organic manure	2 000	9 000	2 000	3 000	6 000	2 000	1 000	3 000	10 500		5 000	7 000	1 000
Phyto-sanitary Products	11 200		8 000	13 200		10 000	6 000	21 200		8 000	6 000	18 000	4 000
Labor (Harvest and post harvest labor)	10 000	15 000	5 000	15 000	15 000	5 000	30 000	35 000	30 000	45 000	35 000	25 000	25 000
Total Cost/ha	68 700	41 950	62 500	85 575	49 700	67 500	123 000	129 200	99 700	134 500	114 000	102 500	85 000
Actuel average yield/zone (kg/ha)	464	271	241	607	404	260	5 000	915	727	1 470	1 300	396	3 524
Production Income	83 520	67 750	84 350	109 260	101 000	91 000	250 000	164 700	181 750	183 750	195 000	138 600	176 200
Gross Margin	54 820	25 800	21 850	63 685	51 300	23 500	127 000	75 500	82 050	49 250	81 000	36 100	91 200
WITH PROJECT													
Land Preparation	7 500	5 000	5000	20 000	9 000	10 000	18 000	20 000	20 000	30 000	30 000	7 000	18 000
Seed/ha	12 800	4 550	12 500	13 600	4 550	12 500	65 000	16 000	4 550	12 000	3 000	12 500	60 000
Fertilizer	45 000	67 500	52 500	52 500	75 000	61 250	52 500	82 500	87 500	132 500	92 500	52 500	43 750
Organic manure	2 000	4 000	5000	7 000	5 000	8 000	10 000	5 000	12 000		7 000	10 000	14 000
Phyto-sanitary Products	21 200	6 000	20 250	28 200	10 000	18 000	20 250	46 200	11 250	34 500	6 750	20 250	15 750
Labor (Harvest and post)	15 000	22 500	15 000	35 000	45 000	37 500	70 000	40 000	45 000	45 000	45 000	25 500	65 000
Total Cost/ha	103 500	109 550	110 250	156 300	148 550	147 250	235 750	209 700	180 300	254 000	184 250	127 750	216 500
Expected yield (Kg/ha)	700	700	500	1 100	1 200	600	8 000	1 500	1 400	2 500	2 500	600	7 500
Production Income FCFA	126 000	175 000	175 000	198000	300 000	210 000	400 000	270 000	350 000	312 500	375 000	180 000	375 000
GROSS MARGIN	67 500	65 450	64 750	86 700	151 450	62 750	164 250	105 300	169 700	58 500	190 750	52 250	158 500

WITHOUT PROJECT	NBA	CBA	SBA
Total household production			
Cost/Zone	300 275	284 215	544 575
Gross household revenue/zone	394 360	441 370	775 108
Gross household margin/zone	214 085	237 155	330 533
WITH PROJECT			
Total household production			
Cost/zone	529 950	622 585	899 638
Gross household revenue/zone	728 000	997 500	1 324 375
Gross household margin /zone	333 050	464 915	537 238
Types of technologies	soil prep + fert+reha	haies+ Gordon+Brise	comp+anti+Reb
Estimated Cost per technology	30 000	95 000	202 500
	55 000	140 000	72 000
Total technology Cost/household	85 000	235 000	274 500
% Targeted producers by zone	500	700	800
(Total of 2000 targeted producers)	Benefit	Cost	
2009	921 755 500	1 518 564 500	-596 809 000
2010	1 751 335 450	1 556 529 083	194 806 367
2011	2 189 169 313	1 478 702 629	710 466 683
2012	2 232 952 699	1 330 832 366	902 120 333
2013	2 235 185 651	998 124 275	1 237 061 377
		IRR (3 years)	27%
		NPV (3 years)	49 091 067

Table 9.5 : Sensitivity Analysis

Factors of sensitivity	Level of IRR = Cost of Capital opportunity Rate (20 %)	NPV (FCFA)
Decrease in agricultural crop prices by 3%	20%	44,199,505
Decrease in level of yield by 5%	20%	-28,411,401
Decrease in Adoption Technology Rate by 10%	20%	30,114,979

Annex 10: Safeguard Policy Issues

SENEGAL: Sustainable Land Management Project

1. PSAOP2 is a national program covering activities in agriculture and animal husbandry. The scope of the ESMF for the program and the SLM is not only national but also local in order to take into account the specific impacts of sub-projects at the local level regardless of their eco-geographical location. While PSAOP2 is concerned with four safeguard policies namely, Environmental Assessment (OP/BP 4.01); Pest Management (Op 4.09); Involuntary Resettlement (OP/BP 4.12); and Projects on International Waterways (OP/BP 7.50), the SLM is only concerned with the first three policies. The OP/BP 7.50 on International Waterways is not triggered as the areas covered by the SLM project are not concerned at all by International Waterways. The OP/BP4.04 (Natural Habitats) and OP/BP4.36 (Forests) are not triggered, because the project will only intervene in degraded agricultural lands. No sub-project will be approved if forests or natural habitats are affected. An important aspect of the ESMF is the screening of sub-projects under SLM. This process includes norms and standards set forth under PSAOP2.
2. The environmental screening process supplements the national procedures which do not include the screening and classification of sub-projects. Thus, each sub-project will be categorized as a result of the screening. This outcome will be an important factor in making approval decisions on sub-projects at the local level. This selection process will determine: (i) The activities likely to have negative impacts on the environment as well as negative social impacts such as taking land from a poor household; (ii) the mitigation measures for those activities if possible; (iii) the activities requiring a specific environmental assessment; (iv) the roles and institutional responsibilities for analyzing and approving sub-projects and implementing and following up corrective measures and the preparation of specific EAs.
3. The ESMF will allow institutions such as ANCAR and ASPRODEB as well decentralized technical services of agriculture, animal husbandry, environment, and local government to assess prospectively the potential social and environmental impacts of proposed sub-projects on the basis of a checklist and formulate mitigation or compensation measures. If there is a need for capacity building, provision has been made for such activities.
4. Although the Project is expected to have positive environmental impacts because it will finance interventions to reduce land degradation, some localized negative environmental (construction of small scale agricultural infrastructure e.g. small dams, storage tanks, etc.) and social (land conflicts, conflicts between farmers and herders) impacts may be possible and will be addressed through the environmental screening process of sub-projects.
5. Under PSAOP2, the costs of implementing the ESMF including technical measures, capacity building, information, sensitization and communication were estimated at US\$ 480,000. The SLM being a package of pilot activities mainstreaming sustainable agricultural management techniques as well as environmental and social safeguards, it is proposed to increase this budget slightly to US\$ 500,000 in order to cover additional sub-projects related to mitigation measures.

6. Annex 11: Project Preparation and Supervision

SENEGAL: Sustainable Land Management Project

	Planned	Actual
PCN review	08/27/2008	08/27/2008
Initial PID to PIC	08/07/2008	08/27/2008
Initial ISDS to PIC	08/07/2008	08/27/2008
Appraisal	04/30/2008	02/25/2009
Negotiations	04/15/2009	04/17/2009
Board/RVP approval	05/28/2009	06/16/2009
Planned date of effectiveness	06/30/2009	09/16/2009
Planned date of mid-term review	Dec. 2010	03/16/2011
Planned closing date	June 2012	31/12/2012

1. Key institutions responsible for preparation of the project are: Ministry of Agriculture, Ministry of Livestock, Ministry of Economy and Finance (*Direction de la Coopération Economique et Financière*: DCEF), Ministry of Environment (*Direction de l'Environnement et des Etablissements Classés*: DEEC), Technical and Fiduciary Coordination Unit of PSAOP2, ISRA, ITA, FNRAA, ANCAR, ASPRODEB, DAPS, DA, INP, and DEC.

2. Bank staff and consultants who worked on the project included:

Name	Title	Unit
Maniével Sène	Rural Development Specialist, Team Leader	AFTAR
Matteo Marchisio	Environmental Specialist	AFTEN
Soulemane Fofana	Operations Officer	AFTAR
Demba Baldé	Social Development Specialist	AFTCS
Osva Romao Rocha	Financial Management Specialist	AFTFM
Sidy Diop	Procurement Specialist	AFTPC
Nathalie S. Munzberg	Senior Counsel	LEGA
Ronnie W. Hammad	Senior Operations Officer	AFTRL
Anta Tall Diallo	Team Assistant	AFCF1
Amadou Ablaye Fall	Senior Agro-Economist	ISRA
Jean Pierre Ndiaye	Senior Soil Scientist	ISRA

3. Bank funds expended to date on project preparation:

1. Bank resources: US\$ 71,252
2. Trust funds: NA
3. Total: US\$ 71,252

4. Estimated Approval and Supervision costs:

1. Remaining costs to approval: US\$ 100,000
2. Estimated annual supervision cost: US\$ 33,000

Annex 12: Documents in the Project File
SENEGAL: Sustainable Land Management Project

1. République du Sénégal (October 2006), *Document de Stratégie pour la Croissance et la Réduction de la Pauvreté 2006-2010*
2. The World Bank (May 25, 2006), *Project Appraisal Document for an Agricultural Services and Producer Organization Project 2 in support of the second phase of the Agricultural Services and Producer Organization Program*
3. The World Bank (June 29, 2008), *Country Environmental Analysis* (Final report)
4. The World Bank (June 29, 2008), *Country Environmental Analysis* (Brochure)
5. The World Bank (June 29, 2008), *Analyse Environnementale Pays* (Rapport final)
6. The World Bank (June 27, 2008), *Analyse Environnementale Pays* (Plaquette)
7. The World Bank (December 2008), *Aide Mémoire Mission de Préparation 10-22 Novembre 2008*
8. UCTF (December 2008), *Rapport – Composantes de Projet* (draft)
9. UCTF (December 2008), *Budget consolidé composantes* (draft)
10. UCTF (December 2008), *Rapport de Mission – Choix des Sites d’Intervention*
11. INP (November 2008), *Liste de Membres de Groupe GDT*
12. République du Sénégal, *Décret 2004-802 du 28 juin 2004 portant création, organisation et fonctionnement de l’Institut national de pédologie (I.N.P)*
13. Faye, Mbaye Mbengue (September 2008), *Actualisation du CADRE DE GESTION ENVIRONNEMENTALE ET SOCIALE (CGES)* (Rapport final)
14. Fall, Abdoulaye A. (January 2009), *Impact Economique et Financier du Projet de Gestion Durable de Terres*
15. Centre de Suivi Ecologique (February 2009), *Map of Areas targeted by the Project*
16. Centre de Suivi Ecologique (February 2009), *Carte du Couverture Végétale*
17. Centre de Suivi Ecologique (February 2009), *Map of Biomass values in the Groundnut Basin*
18. Centre de Suivi Ecologique (February 2009), *Average Values of Biomass in the Groundnut Basin*

19. CERDI-UGB (August 2008), *ANALYSE DE LA SITUATION DE REFERENCE DE L'ETUDE D'IMPACT DU PROGRAMME DES SERVICES AGRICOLES ET ORGANISATIONS DE PRODUCTEURS-PHASE 2 (PSAOP II)* (Rapport Provisoire)
20. AfDB, FAO (June 24, 2005), *PGIES - Programme de Gestion Intégrée des Eaux et des Sols* (Rapport de Préparation)
21. Terradigm (October 17, 2006), *Diagnostic Report on Land Degradation and Sustainable Land Management in Senegal* (draft)
22. Terradigm (October 17, 2006), *Diagnostic Report on Land Degradation and Sustainable Land Management in Senegal – Annexes* (draft)
23. Terradigm (March 27, 2007), *Annexe avec Options d'Investissement pour la mise en oeuvre et l'élargissement d'une Gestion Durable des Terres effective et efficace dans les zones prioritaires du Sénégal* (draft)
24. UNDP (March 2008), *Innovations in Micro Irrigation for Dryland Farmers – Project Document* (draft)
25. UNDP (September 2007), *PROGERT – Fiche Synoptique de Présentation*
26. UNDP, *PROGERT – Project Document*
27. UNDP (September 2007), *PGIES - Fiche synoptique de Présentation*
28. Israeli Embassy (2009), *TIPA : Techno-agricultural Innovation for Poverty Alleviation - Fiche synoptique de Présentation*

Annex 13: Statement of Loans and Credits
SENEGAL: Sustainable Land Management Project

Proj ID	FY	Project Name	Original Amount in US\$ Millions					Difference Between Expected and Actual Disbursements ^{a/}	
			IBRD	IDA	Grants	Cancel.	Undisb.	Orig.	Frm Rev'd
P083609	2006	SN-Agr Markets & Agribus Dev	0.00	35.00	0.00	0.00	29.90	4.76	0.00
P093622	2006	SN-Agr Svcs & Prod Orgs APL 2	0.00	20.00	0.00	0.00	12.10	1.58	0.00
P069207	2005	SN-Casamance Emerg Reconstr Supt	0.00	20.00	0.00	0.00	5.85	4.49	0.00
P073477	2005	SN-Elec Sec Effi. Enhanc.Phase 1 APL-1	0.00	15.70	0.00	0.00	12.41	12.38	0.00
P085708	2005	SN-Elec. Serv. for Rural Areas	0.00	29.90	0.00	0.00	21.57	19.46	0.00
P105279	2008	SN-En. Sec. Recov. Dev Policy Financing	0.00	80.00	0.00	0.00	23.24	0.00	0.00
P070530	2005	SN-GEF Elec Srvc for Rural Areas	0.00	0.00	5.0	0.00	4.75	4.75	0.00
P058367	2005	SN-GEF Intg Marine Cstl Res Mgmt	0.00	0.00	5.34	0.34	2.49	1.65	0.00
P086480	2005	SN-GIRMAC SIL	0.00	10.00	0.00	0.00	4.68	2.23	0.00
P074059	2002	SN-HIV/AIDS Prevent & Control APL	0.00	30.00	0.00	0.00	11.66	6.10	2.18
P084022	2007	SN-Local Authorities Development Program	0.00	80.00	0.00	0.00	74.19	21.47	0.00
P041528	2001	SN-Long Term Water Sec SIL	0.00	125.00	0.00	0.00	7.72	-13.47	-18.57
P097181	2007	SN-Nutr Enhanc. Prog II - APL	0.00	15.00	0.00	0.00	5.12	-2.77	0.00
P088656	2006	SN-Participatory Loc Dev Prgm	0.00	50.05	0.00	0.00	34.31	20.08	0.00
P051609	2003	SN-Priv Inv Promotion SIL	0.00	46.00	0.00	0.00	19.83	14.55	0.00
P080013	2004	SN-Priv Sector Adjustment Credit	0.00	45.00	0.00	0.00	21.40	20.21	20.21
P089254	2007	SN-Quality EFA APL 2	0.00	30.00	0.00	0.00	24.39	8.22	0.00
Total:			0.00	631.65	10.34	0.34	315.61	125.71	3.82

a/. Intended disbursements to date minus actual disbursements to date as projected at appraisal.

STATEMENT OF IFC's
Commitment and Outstanding Investment Portfolio
(in US\$ millions)

FY	Approval	Company	Committed					Disbursed Outstanding				
			IFC		*GT/RM	Partic.	IFC		*GT/RM	Partic.		
Loan	Equity	**Quasi Equity	Loan	Equity			**Quasi Equity					
1980	Bhs		0.00	0.46	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00
1997/98	Gti dakar		6.42	1.7	0.00	4.54	7.75	6.42	1.51	0.00	1.17	7.75
1999	Ciments du sahel		5.84	1.58	0.00	0.00	0.00	5.84	1.58	0.00	0.00	0.00
2005	Kounoune		22.97	0.00	0.00	0.00	0.00	20.65	0.00	0.00	0.00	0.00
2007	Sepam s.a.		2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2007	Sococim		29.18	0.00	0.00	0.00	0.00	8.75	0.00	0.00	0.00	0.00
2008	Chain hotel		10.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Portfolio:			77.54	3.74	0.00	4.54	7.75	41.66	3.55	0.00	1.17	7.75

* Denotes Guarantee and Risk Management Products.

** Quasi Equity includes both loan and equity types.

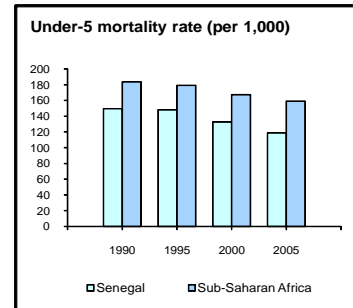
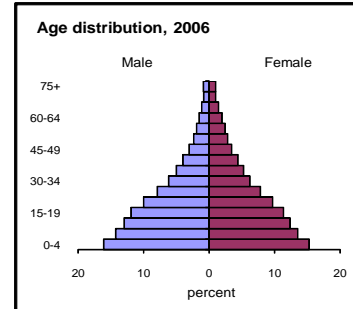
Annex 14: Country at a Glance

SENEGAL: Sustainable Land Management Project

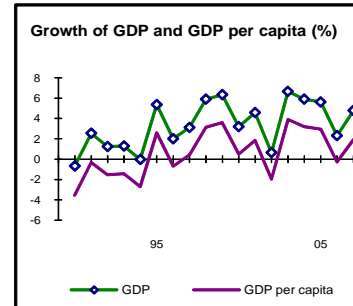
Senegal at a glance

2/26/09

Key Development Indicators (2007)	Senegal	Sub-Saharan Africa	Low income
	Population, mid-year (millions)	12.4	782	2,420
Surface area (thousand sq. km)	0.1	24,270	29,220
Population growth (%)	2.8	2.5	1.8
Urban population (% of total population)	42	36	30
GNI (Atlas method, US\$ billions)	10.3	648	1,571
GNI per capita (Atlas method, US\$)	830	829	649
GNI per capita (PPP, international \$)	1,560	1,681	1,860
GDP growth (%)	4.8	5.6	8.0
GDP per capita growth (%)	1.9	3.0	6.1
(most recent estimate, 2000–2007)			
Poverty headcount ratio at \$1 a day (PPP, %)	..	..	..
Poverty headcount ratio at \$2 a day (PPP, %)	..	..	..
Life expectancy at birth (years)	63	50	60
Infant mortality (per 1,000 live births)	60	94	74
Child malnutrition (% of children under 5)	15	27	35
Adult literacy, male (% of ages 15 and older)	51	69	72
Adult literacy, female (% of ages 15 and older)	29	50	50
Gross primary enrollment, male (% of age group)	81	99	106
Gross primary enrollment, female (% of age group)	79	87	98
Access to an improved water source (% of population)	93	56	75
Access to improved sanitation facilities (% of population)	28	37	38



Net Aid Flows	1980	1990	2000	2007 ^a
<i>(US\$ millions)</i>				
Net ODA and official aid	260	812	423	825
<i>Top 3 donors (in 2006):</i>				
France	108	230	147	287
United States	36	57	23	38
Germany	12	80	17	35
Aid (% of GNI)	7.6	14.7	9.2	9.0
Aid per capita (US\$)	44	103	41	68
Long-Term Economic Trends				
Consumer prices (annual % change)	8.7	0.3	0.7	5.4
GDP implicit deflator (annual % change)	11.0	0.0	1.9	5.2
Exchange rate (annual average, local per US\$)	211.3	272.3	710.1	478.7
Terms of trade index (2000 = 100)	99	99	100	83
Population, mid-year (millions)	5.9	7.9	10.3	12.4
GDP (US\$ millions)	3,503	5,717	4,692	11,165
<i>(% of GDP)</i>				
Agriculture	19.8	19.4	18.7	14.1
Industry	19.7	21.6	22.7	23.4
Manufacturing	13.3	14.9	14.3	14.4
Services	71.0	67.4	69.6	75.1
Household final consumption expenditure	73.1	79.2	76.0	77.7
General gov't final consumption expenditure	24.8	18.4	12.8	10.0
Gross capital formation	16.6	9.1	20.5	32.5
Exports of goods and services	23.9	25.4	27.9	23.8
Imports of goods and services	38.4	32.2	37.2	44.0
Gross savings	0.1	-0.5	14.6	21.6



1980–90 1990–2000 2000–07
(average annual growth %)

Population, mid-year (millions)	3.0	2.7	2.6
GDP (US\$ millions)	2.6	3.0	4.5
<i>(% of GDP)</i>			
Agriculture	1.9	2.4	0.7
Industry	3.2	3.8	4.2
Manufacturing	3.1	3.1	2.0
Services	2.6	3.0	5.5
Household final consumption expenditure	3.8	2.6	4.2
General gov't final consumption expenditure	0.3	0.9	-0.9
Gross capital formation	0.2	3.5	12.8
Exports of goods and services	1.6	4.1	3.1
Imports of goods and services	1.9	2.0	6.5

Note: Figures in italics are for years other than those specified. 2007 data are preliminary. Group data are through 2006. .. indicates data are not available. a. Aid data are for 2006.

Development Economics, Development Data Group (DECDG).

Balance of Payments and Trade

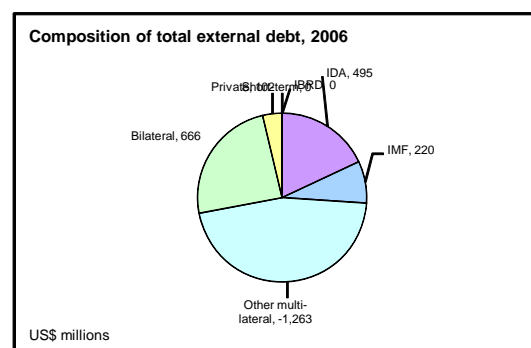
	2000	2007
<i>(US\$ millions)</i>		
Total merchandise exports (fob)	922	1,691
Total merchandise imports (cif)	1,517	4,168
Net trade in goods and services	-436	-2,256
Current account balance	-275	-1,214
as a % of GDP	-5.9	-10.9
Workers' remittances and compensation of employees (receipts)	233	633
Reserves, including gold	385	1,535

Central Government Finance

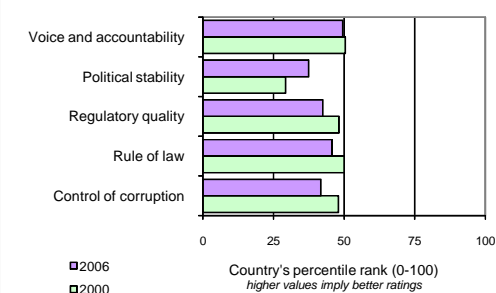
	2000	2007
<i>(% of GDP)</i>		
Current revenue (including grants)	17.3	22.2
Tax revenue	16.1	20.1
Current expenditure	12.3	15.8
Overall surplus/deficit	-1.4	-5.1
Highest marginal tax rate (%)		
Individual	50	..
Corporate	35	..

External Debt and Resource Flows

	2000	2007
<i>(US\$ millions)</i>		
Total debt outstanding and disbursed	131	475
Total debt service	..	..
Debt relief (HIPC, MDRI)	641	1,298
Total debt (% of GDP)	2.8	4.3
Total debt service (% of exports)	..	..
Foreign direct investment (net inflows)	..	..
Portfolio equity (net inflows)	..	..

**Private Sector Development**

	2000	2007
Time required to start a business (days)	..	58
Cost to start a business (% of GNI per capita)	..	107.0
Time required to register property (days)	..	114
Ranked as a major constraint to business (% of managers surveyed who agreed)
Access to/cost of financing	..	71.0
Tax rates	..	50.0
Stock market capitalization (% of GDP)
Bank capital to asset ratio (%)	9.9	8.1

Governance indicators, 2000 and 2006

Source: Kaufmann-Kraay-Mastruzzi, World Bank

Technology and Infrastructure

	2000	2006
Paved roads (% of total)	29.3	29.3
Fixed line and mobile phone subscribers (per 100 people)	4	27
High technology exports (% of manufactured exports)	7.6	5.9

Environment

	2000	2006
Agricultural land (% of land area)	42	43
Forest area (% of land area)	46.2	45.0
Nationally protected areas (% of land area)	..	11.2
Freshwater resources per capita (cu. meters)	..	2,192
Freshwater withdrawal (% of internal resources)	8.6	..
CO2 emissions per capita (mt)	0.38	0.43
GDP per unit of energy use (2005 PPP \$ per kg of oil equivalent)	5.4	6.0
Energy use per capita (kg of oil equivalent)	257	258

World Bank Group portfolio

	2000	2006
<i>(US\$ millions)</i>		
IBRD		
Total debt outstanding and disbursed	1	..
Disbursements	124	105
Principal repayments	-161	59
Interest payments	..	..
IDA		
Total debt outstanding and disbursed	1,330	495
Disbursements	127	119
Total debt service	..	..
IFC (fiscal year)		
Total disbursed and outstanding portfolio	23	36
of which IFC own account	13	27
Disbursements for IFC own account	5	0
Portfolio sales, prepayments and repayments for IFC own account	2	4
MIGA		
Gross exposure	0	13
New guarantees	0	0

Note: Figures in italics are for years other than those specified. 2007 data are preliminary.
.. indicates data are not available. - indicates observation is not applicable.

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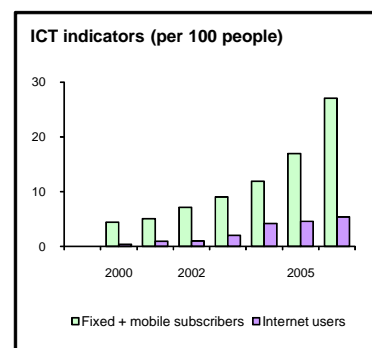
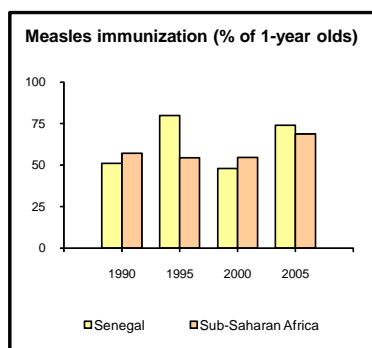
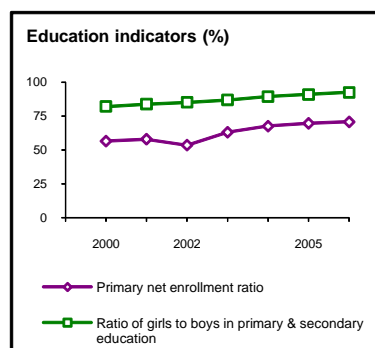
Development Economics, Development Data Group (DECDG).

Millennium Development Goals

Senegal

With selected targets to achieve between 1990 and 2015
(estimate closest to date shown, +/- 2 years)

	Senegal			
	1990	1995	2000	2006
Goal 1: halve the rates for \$1 a day poverty and malnutrition				
Poverty headcount ratio at \$1 a day (PPP, % of population)	..	..	..	..
Poverty headcount ratio at national poverty line (% of population)	23.7	..	..	..
Share of income or consumption to the poorest quintile (%)	..	..	..	..
Prevalence of malnutrition (% of children under 5)	..	21.9	20.3	14.5
Goal 2: ensure that children are able to complete primary schooling				
Primary school enrollment (net, %)	45	..	56	71
Primary completion rate (% of relevant age group)	42	37	38	49
Secondary school enrollment (gross, %)	15	..	16	22
Youth literacy rate (% of people ages 15-24)	38	..	49	..
Goal 3: eliminate gender disparity in education and empower women				
Ratio of girls to boys in primary and secondary education (%)	69	..	82	92
Women employed in the nonagricultural sector (% of nonagricultural employment)	..	..	11	..
Proportion of seats held by women in national parliament (%)	13	12	12	19
Goal 4: reduce under-5 mortality by two-thirds				
Under-5 mortality rate (per 1,000)	149	148	133	116
Infant mortality rate (per 1,000 live births)	72	72	66	60
Measles immunization (proportion of one-year olds immunized, %)	51	80	48	80
Goal 5: reduce maternal mortality by three-fourths				
Maternal mortality ratio (modeled estimate, per 100,000 live births)	..	..	..	980
Births attended by skilled health staff (% of total)	..	47	60	52
Goal 6: halt and begin to reverse the spread of HIV/AIDS and other major diseases				
Prevalence of HIV (% of population ages 15-49)	..	..	..	0.7
Contraceptive prevalence (% of women ages 15-49)	..	13	11	12
Incidence of tuberculosis (per 100,000 people)	192	214	238	270
Tuberculosis cases detected under DOTS (%)	..	62	53	48
Goal 7: halve the proportion of people without sustainable access to basic needs				
Access to an improved water source (% of population)	91	91	92	93
Access to improved sanitation facilities (% of population)	26	27	27	28
Forest area (% of total land area)	48.6	..	46.2	45.0
Nationally protected areas (% of total land area)	..	..	..	11.2
CO2 emissions (metric tons per capita)	0.4	0.4	0.4	0.4
GDP per unit of energy use (constant 2005 PPP \$ per kg of oil equivalent)	4.8	5.9	5.4	6.0
Goal 8: develop a global partnership for development				
Fixed line and mobile phone subscribers (per 100 people)	..	1	4	27
Internet users (per 100 people)	..	0	0	5
Personal computers (per 100 people)	0	1	2	2
Youth unemployment (% of total labor force ages 15-24)	..	..	..	..



Note: Figures in italics are for years other than those specified. .. indicates data are not available.

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Development Economics, Development Data Group (DECDG).

Annex 15: Incremental Cost Analysis

SENEGAL: Sustainable Land Management Project

A. Business as usual scenario

1. ***The importance of land resources in Senegal.*** Land is a key resource in Senegal. Terrestrial ecosystems make up 99.7% of the country's natural capital (63% for croplands and herding land, 30% for forests and 6% for protected areas) and 13% of total national wealth (Where is the Wealth of Nations, 2006). Seventy percent of the rural population (which represents about 50% of the total population in Senegal) directly depends on land resources for their livelihoods. Despite the fact that the contribution of the agricultural sector to the GDP has declined in the last decades (from 17.3% in 1979 to about 9% at present), this sector still engages about 60% of the population (Senegal Land Action Plan, 1996) and, according to the Government's Poverty Reduction Strategy Paper (DRSP-II), still represents one of the major engines for shared growth. Because Senegal's Accelerated Growth Strategy confirms that a sustainable agricultural sector is one of the key drivers of economic growth, it is important to secure the services provided by ecosystems to rural production landscapes.

2. ***The impact of land degradation on ecosystem functions and services.*** Land degradation is however increasingly affecting land resources in Senegal (a description of the major forms and causes of land degradation is reported in Annex 1 and Annex 4, Table 4.1). According to the Senegal Country Environmental Analysis (SN-CEA, FY08) almost two-thirds of the arable lands in the country are degraded, i.e about 2.5 million hectares. The negative consequences of land degradation are manifold, including on: (i) The country's potential for growth; (ii) poverty and vulnerability of rural people; (iii) social costs; and (iv) ecosystem functions and services. As far as the negative impact of land degradation on the ecosystem functions and services are concerned, Senegal's territorial ecosystems and their products are an important part of Senegal's natural wealth and essential to country's food security. Land degradation is considered one of the key factors of continuing imbalances in the ecosystems (including water resources) and worsening of wildlife habitats.

3. ***Land degradation in the Groundnut Basin.*** The Groundnut Basin and the sylvo-pastoral zone in the west and center of the country are the areas most affected by land degradation. About 1.15 million ha are degraded in the groundnut basin alone, about one-third of all arable land in the country. A LADA study (*L'évolution de la Dégradation des Terres au Sénégal, FAO/UNEP/CSE*) shows that 20% of the sylvo-agricultural zones has been affected by substantial degradation. In the agro-pastoral zone, land use characteristics have been changed on almost 65 percent of the area, notably with degradation of natural vegetation in just 11 years, with woody savannah evolving towards poorer types of scrub savannah. Detailed studies in Kaffrine between 1989 and 1999 show that land use on 64 percent of the study area became more degraded, while only 1 percent improved (LADA 2005).

4. ***Sustainable land management: Opportunities and constraints.*** Sustainable land management (SLM) offers a means to address land degradation and enhance rural land productivity on a long-term basis, thus supporting economic growth and improving food security, while preserving ecosystems' critical functions and services. However, despite some isolated technical successes, the adoption and replication of SLM has remained relatively limited

in Senegal. Some of the key reasons that have prevented the adoption and/or wide-scale replication of SLM include: (i) A weak enabling environment (characterized by inconsistent government policies and regulations, weak institutional capacity to support SLM adoption, and an unfavorable incentive system); and (ii) a single-sector/single-donor/project-specific approach to the problem. There is a growing consensus among the Government and Development Partners that, to effectively address land degradation and successfully promote SLM, a more cross-sectoral and programmatic approach to scale up SLM is needed.

5. *What if business as usual continues.* Unless the conditions for a more cross-sectoral and programmatic approach to SLM are created, and the enabling environment for SLM strengthened, the current approach to address land degradation characterized by scattered, fragmented, and un-coordinated interventions and supported by weak institutions would continue, and the issue of land degradation would not be effectively tackled.

B. Strategic fit

6. *Consistency with GEF Strategies and the GEF-SIP.* This Project is one of the operations under the regional GEF Strategic Investment Program for SLM in Sub-Saharan Africa (SIP), and it would contribute to the SIP's Program Goal (i.e. improving natural resource-based livelihoods in Sub-Saharan Africa by reducing land degradation) by specifically contributing to reduce land degradation in Senegal. It would in addition contribute to the SIP's objectives (i.e. to support Sub-Saharan countries in designing and managing programs and activities to advance SLM mainstreaming, governance and investments) as it would: (a) *Support Senegal in adopting a more programmatic approach to SLM* by addressing some of the weaknesses in the enabling environment that hinder SLM adoption and replication; and (b) *support Senegal in applying sustainable practices* that increase land productivity while securing ecosystem services in selected priority areas, and it will contribute to deliver on SIP IRs 1, 2, 3 and 4 (ref. to Section D - Project Components). As part of the GEF-SIP, this operation will directly contribute to the implementation of the GEF Land Degradation Focal Area Goal (i.e. arrest and reverse current trends in land degradation), and Strategy (i.e. Strategic Objectives 1: Creating an enabling environment for SLM; and 2: generating benefits for the global environment through the upscaling of SLM investments). More specifically, this operation will support the objective of LD-Strategic Program 1, i.e. support sustainable agriculture and rangeland management.

7. *Consistency with Terrafrica.* The proposed operation is consistent with the approach advocated under the Terrafrica partnership, as it focuses on creating the enabling conditions for SLM scale-up. More specifically, the proposed operation would contribute to the implementation of the Business Plan of Terrafrica, particularly Activity Line 3 (Country Investments), Objectives 6 and 7. The Government of Senegal has formally expressed its intention to work along these lines consistent with Terrafrica and the SIP.

8. *Contribution to NEPAD's CAADP and EAP, UNCCD-NAP, new UNCCD 10 years Strategic Plan, and UNFCCC-NAPA objectives.* Extending the area under sustainable land management is the key objective of pillar 1 of NEPAD's Comprehensive African Agriculture Development Program (CAADP) and one of the key objectives of program area 1 (degradation) of the Environmental Action Plan (EAP). The proposed operation would directly contribute to

these objectives. In addition, this Project is one of the instruments through which the UNCCD-NAP, the new UNCCD 10 years Strategic Plan, and the UNFCCC-NAPA will be implemented.

9. ***Expected global environmental benefits of the Project.*** The implementation of this operation is expected to generate the following national and global environmental benefits: (i) Help prevent and reduce the impact of land degradation on the health and integrity of the ecosystems (particularly agro-sylvo ecosystems) in the Groundnut Basin, the most seriously degraded area in Senegal; (ii) help fill the adaptation deficit being experienced by Senegal and its rural land users; and (iii) contribute to increased ground cover and soil quality, and reduced sedimentation in rivers and streams with the corresponding ability of terrestrial ecosystems to maintain carbon storage rates, biodiversity value, and hydrological cycles. Progress towards these objectives will be measured through: (a) An increase of the percentage of organic matter in the soil (organic matter is used as an indicator of soil fertility, which is considered as a proxy for land quality); (b) an increase in vegetation cover in target areas (vegetation cover is used as a proxy for ecosystems' health); and (c) an increase of the percentage of land with SLM practices.

C. Incremental reasoning

10. ***Baseline scenario.*** A number of development partners have directly or indirectly (through many agriculture, forestry and rural development projects) invested in NRM over the years, but these efforts have had limited impacts. This is due to the nature of the project-based, single-sector approach to the problem, and to a lack of attention to the factors that enable the adoption and replication of SLM (e.g. knowledge management, institutional capacity, financing, and cross-sectoral coordination mechanisms). Under the existing (baseline) scenario (characterized by weak knowledge generation and dissemination on SLM; inadequate capacity of service providers and land users to integrate SLM in their production systems; insufficient financing among land users to invest in SLM; and lack of cross-sectoral coordination mechanisms), current approaches to address land degradation will continue. As a result, the key factors leading to land degradation will not be substantively or comprehensively addressed. This would result in continued degradation of productive and non-productive landscapes with consequent damage to the ecosystem functions and services.

11. ***Value added of GEF involvement.*** GEF resources will be strategically and incrementally used to support activities aimed at creating the enabling conditions to allow Senegal to progressively adopt a more cross-sectoral and programmatic approach to SLM, e.g. by: (i) Strengthening the capacity of key research institutions to generate SLM applied knowledge; (ii) strengthening capacity of service providers and producer organizations to offer/adopt SLM technologies; (iii) facilitating SLM adoption on-the-ground; and (iv) establishing cross-sectoral coordination mechanisms and developing a common SLM investment framework (Ref. Annex 4.B for details on project design and on the specific activities of each component). By supporting the progressive shift towards a more programmatic approach to SLM scale-up, this Project would facilitate the alignment and harmonization of current and future interventions and the sharing of experiences, thus reducing transaction costs and increasing the impact of interventions. This is expected to eventually generate greater economies of scale and improve the cost-effectiveness of the interventions. As explained below, GEF resources, integrated to the PSAOP2, will in addition leverage and influence institutional support/reforms (including sectoral coordination), and policy dialogue.

12. Value added of GEF investment in relation to PSAOP2. Alternatives to reduce pressure on land and therefore land degradation would require a drastic shift of the Senegalese economy towards the secondary and tertiary sectors. However, given the high dependence of a large part of the population on the agricultural sector, particularly the poor, this shift cannot be realistically achieved in the short to medium term. The most effective approach to reduce the negative effects of unsustainable agricultural practices on land resources in a medium term horizon is therefore to mainstream sustainable land management in the agricultural sector, as proposed by this operation. GEF resources could have been used to finance a conventional operation on SLM. However, integrating this project to PSAOP2 offers an opportunity to leverage their impact to influence the wider policy dialogue and institutional reforms in the agricultural sector. This makes the use of GEF resources the most cost-effective. Thus, the proposed GEF operation will strategically leverage the impact of rural investments in Senegal, as it will provide an additional instrument to address land degradation and promote sustainable land and management in the sector. PSAOP2 recognizes the importance sustainable management of land resources in achieving intensification of production, but does not address land degradation and support SLM systematically. GEF resources would help cover this gap. In addition, as PSAOP2 is a well recognized instrument to promote institutional reforms and support the implementation of policy reforms in the agricultural sector, GEF resources would help mainstreaming SLM into the sectoral policy dialogue.

D. Cofinancing

Components	PSAOP2		GEF-SLM		Total
	IDA	IFAD, GoS, Farmer Org	GEF	GoS	
1. Support to the Agricultural Research System	5.5	4.5	0.6		10.60
2. Strengthening Agricultural Advisory Services	4.7	12.9	0.7		18.30
3. Support to Producer Organizations	5	3.3	2.8		11.60
4. Support to Sectoral Coordination	4.2	6.3	0.7		11.20
	19.4	27	4.8		51.2
	46.4		4.8		

Annex 16: Maps

SENEGAL: Sustainable Land Management Project

