AFRICA
Senegal River Basin Water and Environmental Management Project

Project Appraisal Document

Africa Regional Office
AFTU2

Date: August 29, 2003
Sector Manager/Director: Inger Andersen
Country Manager/Director: John McIntire
Project ID: P064573
Focal Area: I - International waters

Team Leader: Ousmane Dione
Sector(s): General agriculture, fishing and forestry sector (50%), General water, sanitation and flood protection sector (50%)
Theme(s): Water resource management (P), Environmental policies and institutions (S)

Project Financing Data

[X] Loan [ ] Credit [ ] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Amount (US$m):
Borrower Rationale for Choice of Loan Terms Available on File: ☐ **Yes**
Proposed Terms (IBRD):
Commitment fee: 0.85% **Front end fee (FEF) on Bank loan:** 1.00%

Financing Plan (US$m): Source	Local	Foreign	Total
BORROWER	0.88	0.00	0.88
AFRICAN DEVELOPMENT BANK	3.22	0.80	4.02
FRANCE: FRENCH AGENCY FOR DEVELOPMENT	0.32	1.26	1.58
GLOBAL ENVIRONMENT FACILITY	3.56	1.70	5.26
INTERNATIONAL DEV. ASSOC. - INTITUTIONAL DEV. FUND	0.06	0.25	0.31
NETHERLANDS: MIN. OF FOREIGN AFFAIRS / MIN. OF DEV. COOP.	1.43	5.73	7.16
UN DEVELOPMENT PROGRAM - GEF	1.60	0.39	1.99
Total:	11.07	10.13	21.20

Borrower/Recipient: OMVS
Responsible agency: ORGANISATION POUR LA MISE EN VALEUR DU FLEUVE SENEGAL (OMVS)
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Estimated Disbursements (Bank FY/US$m):

FY	2004	2005	2006	2007	2008				
Annual	1.07	2.14	1.34	0.53	0.18				
Cumulative	1.07	3.21	4.55	5.08	5.26				

Project implementation period: FY2004-2008
Expected effectiveness date: 01/05/2004 **Expected closing date:** 12/31/2007

A. Project Development Objective

1. Project development objective: (see Annex 1)

*1. **Development Objective**.* The development objective of the Senegal River Basin Water and Environmental Management Project (herein referred to as the Project) is to provide a participatory strategic environmental framework for the environmentally sustainable development of the Senegal River Basin and to launch a basin-wide cooperative program for transboundary land-water management.

*2. **Achieving the Development Objective**.* To successfully achieve the development objective, the Project proposes to strengthen regional and national institutional capacity to enable these institutions to address priority basin-wide, transboundary water, and environment management issues. This will enable the Senegal Basin's four riparian countries—Guinea, Mali, Mauritania, and Senegal—to jointly build on ongoing initiatives in the Basin; develop a cooperative regional approach to the environmental management of the Basin; and contribute to effective operation of the Basin's water resource, providing benefits beyond national boundaries. The above-mentioned objective was greatly strengthened in May 2002 when the three Heads of State of the *Organisation pour la Mise en Valeur du Fleuve Sénégal* (OMVS)—Mali, Mauritania, and Senegal—approved the Water Charter (Annex 16). The Charter specifically addresses the issue of sound environmental management and acknowledges the need for public participation in the management of the shared water resources.

*3. **Global Objective and Global Environment Facility (GEF) Operational Strategy.*** The Project design conforms to the GEF Operational Program Number 9 (OP-9), "Integrated Land and Water Multiple Focal Area Operational Program," supporting the GEF's commitment to provide "support for preparation of water resources management strategies by riparian countries for a transboundary basin...to allow harmonizing of sectoral water uses among basin countries in an environmentally sustainable manner." The proposed Project will achieve global environmental benefits through promoting broad, basin-wide participation in developing and implementing measures that will lead to sustainable, transboundary management of the Senegal River Basin's land and water resources.

2. Key performance indicators: (see Annex 1)

*4. **Outcome indicators.*** To present a full overview of the Project, the Project Appraisal Document (PAD) identifies both the World Bank (Bank) and United Nations Development Programme (UNDP) implemented components, in which the respective responsibilities are clearly differentiated in this document. The following outcome indicators will judge the Bank's successful achievement of the Project's development objective:

Implemented by the Bank:

- Provided tools for strengthened decision-making capacity in the riparian countries and at the regional level (OMVS), to address transboundary land and water management issues, through a defined inclusive mechanism;
- Improved data collection and data exchange mechanisms established in all four countries, and agreed upon cooperation protocols for greater knowledge of the Senegal River data and information, and of its relation to ecological and social processes; and
- Completed and adopted the Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP) with identified priority actions for the Basin.

Implemented by UNDP:

- Together with the Bank, organized and implemented training and workshops for the River management institutions to strengthen the national and local institutional capacity;
- Executed a minimum of 20 community-based microgrant-supported activities to address community priority actions;
- Increased annually the number of stakeholders involved and trained in local and transboundary water resource management issues; and
- Increased annually the number of communities informed and/or involved stakeholders in the public information and public participation process.

B. Strategic Context

1. Sector-related Country Assistance Strategy (CAS) goal supported by the project: (see Annex 1)

Document number: Date of latest CAS discussion:

Guinea	*CAS Document*	No. 17183-GUI	*Date*	11/21/97
	CAS Progress Report	No. 22451-GUI	*Date*	04/02/01
Mali	*CAS Document*	No. 17775-MLI	*Date*	04/24/98
Mauritania	*CAS Document*	No. 24122-MAU	*Date*	05/06/02
Senegal	*CAS Document*	No. 17269-SE	*Date*	12/29/97

5. ***Sector-Related CAS Strategy and Poverty Reduction Strategy Paper (PRSP) Objectives.*** For all recipient countries, the Project is consistent with CAS and PRSP development objectives for sustainable rural development to reduce poverty, strengthen institutions, and reduce land and water degradation through the protection of natural resources, or institutional strengthening and capacity building. A collective generalized CAS sector goal for the four countries is to increase sustainable practices to reduce poverty through strengthened regional and national institutions and to improve environmental management in the Basin. Individual country goals, as they relate to the Project, are identified below.

- *Guinea.* The CAS Progress Report notes, "the Bank fully supports the Government's development strategy through both lending and non-lending services directed at selective activities in rural development, governance, and improved service delivery". Further, this includes "increased emphasis on building broad-based support for reforms through participation, the creation of income-earning opportunities, particularly for the rural poor, and more emphasis on improving governance and capacity building". The PRSP (January 2002) recognizes that Guinea's successful economic development relies on the rural and mining sectors and that the need for improving living conditions must ensure the sustainability of this resource base. Similarly, it supports improving governance and institutional and human capacity building.

- *Mali.* The CAS supports the government's development strategy to reduce poverty through sustained, rapid, and broad-based economic growth. This includes efforts to reduce the state's role and encourages private-sector growth with support from International Development Agency (IDA) for broad-based growth of the rural sector. The Manantali hydropower dam, on the Senegal River in Mali, is the most significant Project under way in the Basin and is receiving close attention. The CAS and the UN Development Assistance Framework (UNDAF) were developed through close consultation with the United Nations (UN) and Bank teams in Mali. In the PRSP (May 2002), Mali stresses the importance of improving national capacity and strengthening national development and planning.

- *Mauritania.* The CAS states "the development of irrigation in the Senegal River Valley…must balance economic, ecological, and social concerns and guarantee the long-term provision of an artificial flood for traditional flood recession agriculture. Improved resource management including better surveillance is critical for safeguarding the rich fishing grounds against over-exploitation." It further states that the government "is aware that the success of its reform program depends in part on effective cooperation with other countries in the region". The government's Country Environmental Strategy Paper (CESP) identified three major environmental challenges, the first of which was natural resources development, particularly in the Senegal River valley. A number of natural resources management efforts being planned or under way are also mentioned in the CAS. The PRSP (December 2000), within the context of the country's National Environmental Action Plan (NEAP), identifies development of agriculture, animal, forestry, and fisheries as some of the priority areas for intervention that address the national challenges for preserving natural resources while achieving sustainable development.

- *Senegal.* The CAS summarizes the outcomes from the NEAP and the government's desire to seek support for its implementation. The government intends the NEAP implementation to be done in a way that will support the decentralization program. The PRSP (November 2002) fits harmoniously with New Partnership for Africa's Development (NEPAD) strategic guidelines to pursue rational management of natural resources and the environment with a view toward sustainable development; it further identifies capacity building as a priority, building "social capital" for a strengthened participatory civil society, as well as "natural capital" for sustainable environmental development.

1a. Global Operational strategy/Program objective addressed by the project:

6. ***GEF OP No 9.*** This Project provides a sound technical basis for, and country commitments to, participation in GEF OP No. 9 as it relates to the international waters component. The objective of OP No. 9 is to support "better use of land and water resource management practices on an area-wide basis". Under this OP, supported activities are those that have "an area-wide focus" and include measures that are "proactive interventions aimed at protecting international waters, which integrate the use of sound land and water resource management strategies as a result of changes in sectoral policies and activities that promote sustainable development." The Project specifically addresses the goal to assist a "group of countries to utilize the full range of technical, economic, financial, regulatory, and institutional measures needed to operationalize sustainable development strategies for international waters and their drainage basins". Special attention is given to integrated land and water resource management and the special protection of sensitive areas because "land degradation resulting in damage to the water resource" is often a transboundary problem that requires "political commitments on the part of the neighboring countries to work together, establish factual priorities, and decide on joint commitments for action."

7. ***Global and Regional Strategies.*** The linkages between environmental degradation and poverty are clearly established, and combating the former will result effectively in reducing the latter and vice versa. Conforming to the UNDP-Bank International Waters Partnership, the Bank's Environmental Strategy, the CAS's, and the UNDP/Country Cooperation Framework (CCF), the Project has been designed to be in line with supporting sustainable development, reducing poverty, and improving the quality of life by providing economic opportunities to empower people to manage their environmental resources.

8. ***Reflecting Both Millennium Development Goals and NEPAD Goals.*** The Bank has embarked on a strategic vision with the riparian countries to support sustainable basin-wide development, in accordance with the Millennium Development Goals and the NEPAD, which are designed to provide a framework for a program of actions for sustainable development of the African continent and to engage commitments from the African leadership and international community. The UN Millennium Goal No.7 promotes integrating

the principles of sustainable development into country policies and programs to reverse the loss of environmental resources. Similarly, within the environmental priority of the NEPAD framework, there is importance placed on the environment in the context of sustainable socio-economic development. And specifically within the context of water resources, the NEPAD objective is to create a "framework for regional cooperation in integrated sustainable water resources management, harmonization of water polices, and regulations". Environmental and financial governance have been identified as critical strategies within the framework.

2. Main sector issues and Government strategy:

9. ***Senegal River Basin Cooperation—Challenges and Opportunities.*** In meeting the challenge to sustainably develop the Senegal River Basin, the four riparian countries have committed themselves to establishing an inclusive framework to jointly manage their shared resources. Thus far, this has included (i) negotiating and ratifying the Water Charter, which outlines state-of-the art principles on international water allocations and management; (ii) Guinea's endorsement of OMVS as the sole GEF grant recipient for this Project, even though it is not a member country; and (iii) continuing, in parallel to this Project and with the Bank's facilitation of inter-riparian dialogue, ongoing discussions among all four Basin countries on the mechanisms necessary to establish an inclusive framework to enhance national and regional capacity in formulating an integrated development action plan for the entire Basin.

2a. Main Regional Sector Issues

10. ***The Senegal River.*** The Senegal River flows for 1,800 km, making it the second longest river in West Africa. This River, an international basin, covers 300,000 km^2 extending across four riparian countries, Guinea (11 percent of the Basin area), Mali (53 percent), Mauritania (26 percent), and Senegal (10 percent). The Senegal Basin has three distinct geographic regions: (i) the Upper Basin, a mountainous area between the Fouta Djallon and Bakel; (ii) the Valley, featuring a floodplain varying in width from 10 to 20 km between Bakel and Dagana; and (iii) the Delta between Dagana and the Atlantic Ocean. The River's three principal tributaries—the Bafing, the Bakoye, and the Faleme—each originate in the Fouta Djallon Highlands in Guinea and together produce more than 80 percent of its flow. The rains falling in the Fouta Djallon region from April through October produce a flood season beginning in July and ending in October. The IBRD Map No. 31612, as part of this PAD, illustrates the geographic characteristics; the Basin's socio-economic characteristics are summarized in Annex 10.

11. ***Main Regional Sector Issues***. Regarding the main sector issues, a preliminary Transboundary Environmental Analysis (TEA, refer to Annex 11) identified key environmental issues and threats to biodiversity, land, and water resources. The sources of these issues and threats are summarized below:

- *Management capacity and institutional strengthening.* The TEA identified major needs to improve the institutional capacity of the OMVS and the riparian states to address transboundary environmental issues. OMVS was initially established to manage specific water management works, but as such is not equipped to deal with broader basin management, environment, and social issues. Equally, the national governments are still weak in the areas of water resources and environment management and their efforts naturally tend to be focused on immediate national concerns. There is a need to enhance the national capacity to deal with transboundary and international issues that are inherent in the management of the Basin, so that a regional approach could be articulated with enhanced coordination.

- *Creating an inclusive framework.* Cooperative management of the Basin necessitates building and strengthening an inclusive cooperative framework that includes all the riparian states. The involvement of Guinea in the preparation of the present Project proposal has been an important first step toward establishing this framework. The benefits of riparian cooperation provide a common inclusive platform for dialogue necessary for sustainable cooperative development and decision-making.

- *Priority environmental concerns.* The environmental concerns identified and summarized in the TEA include (i) land degradation and its related impacts (deforestation, erosion, overgrazing, and desertification); (ii) inconsistent and less-efficient water resource management associated with incomplete information and data collection; (iii) water pollution impacts from point and non-point sources; (iv) pervasive invasive species contributing to biodiversity and water quality degradation; and (v) the impacts resulting from the current inconsistent management approach of non-inclusive regional management policies and institutional capacity.

- *Civil society priorities.* During the Project preparation process, an inclusive consultative process was coordinated and managed by the World Conservation Union (IUCN) to ensure that civil society priorities and concerns were heard and reflected in the Project's design. Issues raised through this consultative process include (i) safeguarding regionally important environmental sites regardless of their formal protection status; (ii) planning and managing these sites in a sustainable manner; (iii) developing a comprehensive environmental management approach; (iv) maintaining wetlands areas for migrating birds; (v) adopting a basin-wide and holistic action program for the environment; (vi) improving coordination among the officials, nongovernmental organizations (NGOs), and people's representatives; (vii) strengthening institutional capacity for sustainable basin-wide management; (viii) addressing transboundary environmental health concerns from waterborne diseases; (ix) coordinating OMVS committees at the local, national, and international levels; and (x) ensuring the OMVS *Observatoire (*Environmental Observatory) to be a center of technical excellence.

- *Impacts from dams.* The construction of both dams has modified the River's flow regime; adequate information and data are essential components to improve flow management. To assist in improving the management of the dams, there is an urgent need to strengthen the means of communication between the communities and the agencies managing the River. The current management of dams and associated dikes on the floodplain has brought about major ecological changes in the floodplain on both the Mauritanian and the Senegalese sides of the River. In the upstream end of the Basin, filling the reservoir behind the Manantali dam reduced the volume and duration of the annual floods. This, in turn, diminished the inundation of the floodplain and resulted in weakened ecosystems. It also resulted in a reduced area suitable for flood-recession cropping and curtailed groundwater recharge. The downstream Diama dam has created a permanent and fairly stable freshwater body whose shores have been invaded by a dense growth of unwelcomed aquatic plants (*Typha australis, Pistia startioles,* and *Salvinia molesta*). These plants proliferate in the River's tributaries and in the irrigation canals, reducing flow velocities, encouraging insects and disease, displacing other species, reducing fish production, and impeding fishing. Recent efforts in combating the *Salvinia molesta* biologically have shown dramatic results and the *Salvinia* infestation has subsided. Studies on effective means to combat *Typha australis* are under way, but no effective solution has been identified thus far.

- *Environmental health issues.* The dams have greatly modified and affected the River's flow regime; as noted above, there has been an influx of fresh water, an increase of non-point source pollutants, and a subsequent increase of invasive species. The invasive plants' most damaging effects are the habitat they offer for vectors of waterborne diseases. An explosion of mosquito and snail populations has

brought malaria and bilharzia to epidemic proportions. Despite efforts by the international aid community and national public-health services, the re-infection process causes the prevalence of these diseases to remain at an unacceptably high level. Expressed as a concern, the Project does not address these issues because the GEF does not fund health projects; however, this Project attempts to identify the root causes of the problem through Component 3 transboundary analysis, which will provide a baseline for possible future activities.

2b. Government Strategy

12. ***Regional Institutional Framework.*** The Senegal River's development potential and regional importance has long been recognized. Beginning in 1968, Guinea, Mali, Mauritania, and Senegal created the *Organisation des États Riverains du Fleuve Sénégal* (OERS) with a view to realizing the potential offered by the Basin's land and water resources in a framework of regional economic integration. In 1972 Mali, Mauritania, and Senegal created the OMVS. In 1992, Guinea and OMVS signed the *Protocole d'accord-cadre de coopération entre la République de Guinée et l'OMVS*, allowing Guinea to participate as an observer and providing an opportunity for cooperation on issues of mutual interest concerning the Senegal River Basin.

13. ***OMVS Scope and Challenges.*** As noted earlier, the OMVS was mandated to manage specific water management works as it relates to (i) the irrigation, energy, and navigation sectors, and (ii) the management of river resources. With this mandate, OMVS manages river works on behalf of the three member states. For these reasons OMVS has been executing and overseeing the overall development program, focusing on irrigation, energy (dam operations), and water resources management (i.e., river flow management to prevent major floods and droughts. The negative impacts of the dams progressively led OMVS to evolve and commit itself to acknowledge the consequences of its development program. The implementation of *Plan d'Atténuation et de Suivi des Impacts sur l'Environnement* (PASIE) program (an environmental impacts mitigation program) and the recently approved Water Charter have been milestones in recognizing the need for a more cooperative effort in the management of the Basin's resources. Furthermore, Guinea's willingness to participate in the management process represents a new situation that OMVS has to take into account. In this context, the new challenges for OMVS are to:

- Improve river flow management and, in doing so, try to meet the needs of the population, respecting traditional uses while recognizing the new demands on the environment;
- Acknowledge the environmental and social problems resulting from the former water resources policy and take mitigatory steps to resolve the problems, such as actions which have already started with the implementation of the PASIE program;
- Operate and manage existing assets efficiently;
- Function as an inclusive and comprehensive river basin management organization, to include all the Basin's riparian countries, and deal with all issues while addressing transboundary water resources management such as water quality and water quantity monitoring, pollution control, actions planning, environmental protection, and public involvement;
- Implement the terms of the Water Charter; and
- Establish a mechanism for financial sustainability, which may require recruiting new personnel.

14. ***Regional Efforts and NEAPs.*** A regional management effort was initiated with the preparation of the "Management Plan for the Development of the Left Bank" (*Plan Directeur Rive Gauche*, PDRG) supporting the rehabilitation of the natural environment; management of natural and human resources; optimization of traditional systems of production, both in the floodplains and the rain-fed zones; rehabilitation where feasible; extension of irrigation by promoting investments by farmers and the private

sector; and adoption of necessary policy measures to facilitate the plan's objective. Approved by the Senegalese authorities, the PDRG became a plan for integrated development over 25 years (1992–2017). The plan covered four administrative districts (Dagana, Podor, Matam, and Bakel). However, it soon became clear that the plan would only succeed if similar plans were implemented on the right bank in Mali and Mauritania. The regional action plan for the Senegal River valley (*Région de Saint-Louis*) essentially represents the environmental management measures first introduced by the PDRG. At the national level, as part of Bank requirements, Guinea, Mali, and Senegal have prepared NEAPs, and commenced in establishing the necessary institutional, legal, and technical frameworks for implementation. In addition, under the United Nations Convention to Combat Desertification (UNCCD), National Action Programmes (NAP) or National Reports have also been prepared, which summarize the following:

- Guinea developed an NEAP in 1994. The plan defines a set of integrated sectoral initiatives, some of which are currently being implemented;
- Mali's effort on the original NEAP started in 1994 and the document was endorsed in May 1998. The UNCCD NAP was prepared in 2000, integrating actions responding to wide-ranging consultations at the national, regional, and local levels;
- In Mauritania, a 1997 study supported by UNDP contributed to the formulation of an environmental management and protection program, reiterated this concern, and stressed the urgency of developing a NEAP; the UNCCD National Report was recently completed in April 2002; and
- In Senegal, the NEAP was completed in 1997 and is the result of the consolidation of a series of regional environmental action plans developed in a decentralized and participatory manner. A UNCCD NAP was prepared in 2000.

3. Sector issues to be addressed by the project and strategic choices:

15. ***Basin-wide and National Priorities*****.** The Project design represents a strategic choice to concentrate limited human and financial resources to address the sector issues identified in Section 2, in order to strengthen regional and national institutional capacity for the management of the land and water resources and achieve sustainability for the immediate and long term. During the TEA process, through an inclusive stakeholder participation effort coordinated by IUCN, specific needs that require attention were identified:

- Enhancing regional and national capacity to deal with transboundary issues at national and basin-wide levels;
- Improving the process and procedures of sharing data and information to increase the knowledge base;
- Ensuring greater involvement of Guinea in joint management and decision-making in the Basin;
- Supporting sound environmental management and the linkage to sustainable livelihoods;
- Promoting the need for a common and agreed upon analysis to provide a firm basis for environmental management and monitoring; and
- Strengthening civil society participation in transboundary basin-wide activities and the associated need for greater awareness and outreach to communities and NGOs to tap their resources and ensure their involvement in the decision-making elements of managing the Basin's resources.

C. Project Description Summary

1. Project components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

16. ***Project Summary****.* The Project is one of a number of activities in the Senegal River Basin, therefore, care has been taken to ensure that it complements rather than duplicates those external activities by building on existing institutional arrangements and on OMVS' technical network. Equally, care has been taken to ensure that the Project's activities are complementary and coordinated. The Project's activities are

interrelated and built upon each other. The inter-linkages among the Project's components are significant in the institutions that are being established, and one activity's output is the input into another. The Project's activities are incremental in that they focus on strengthening the basin-wide regional, national, and local institutional and technical capacities.

*17. **Project Components***. This four-year project is being jointly implemented by the World Bank and UNDP and is being executed by OMVS. For clarity, the Project's component numbering is being maintained as it has been discussed with OMVS and Guinea and with UNDP. The activities, which will be implemented by World Bank and UNDP, are described in more detail in Annexes 1 and 2, whereas this section identifies the Bank-managed components. The Project Implementation Plan (PIP) will detail the Project component activities and outcomes, including the monitoring and evaluation (M&E) plan, and the procurement and implementation plan. The Bank-managed components include the following:

- *Component 1 Environmental Management Capacity Building.* Component activities build on existing regional, national, and local institutions, inclusive of Guinea in the to strengthen the institutional and environmental management capacity. At the regional level, the Project will utilize the existing OMVS institutional and management structure, supporting a dialogue between Guinea and OMVS on an inclusive framework for joint management of the Basin's water resources and environment. Concurrently, at the national level, Component 1 will build a core group of specialists with transboundary environmental management expertise in the national institutions associated with the OMVS and Guinea. Specific component activities will (i) establish a dialogue within Guinea on its environmental management and legislation; (ii) strengthen, through workshops, training, and information exchange, the national and regional institutional and legislative capacity to enable the riparian countries to address the priority transboundary water and environmental issues; (iii) support Project management and operations of the regional project management cellule (*Cellule Regionale de Gestion du Project*, CRGP) within the OMVS Headquarters; (iv) promote and facilitate, through a regional forum, the exchange of experiences in other GEF international waters projects and other comparable projects in Sub-Saharan Africa; (v) support technical capacity building, through a regional collaborative and cooperative effort to assess invasive species (water weeds) management issues; and (vi) organize a donor conference to secure further investments to address the SAP-identified priority actions.

- *Component 2 Data Knowledge and Management.* Component 2 activities aim to strengthen the local and regional data and knowledge base for Basin management with an emphasis on developing and integrating Guinea's technical capacity and network, within the existing Basin network, and to complete an assessment and upgrade of Guinea's existing equipment. This basin-wide collaboration and coordination seeks to attain appropriate data collection and a compatible data management network. The Component will collect and provide a baseline of information on the Basin's existing conditions; provide a better understanding of the Basin system; and define opportunities to develop a Basin management action plan. The Component activities will assess the status of OMVS country data and information, will offer Guinea equitable opportunity to develop the technical tools needed for land and water resources management, and will promote collaboration on basin-level information. Specific component activities will (i) assess through a series of studies the existing data, monitoring indicators, and knowledge baseline in the four riparian countries; (ii) complete a cartographic assessment of the Basin; (iii) prepare a baseline rainfall/flow model for the upper Basin; (iv) strengthen the institution's technical capacity through training, workshops, and equipment upgrade; (v) conduct the necessary studies on technical and protocol matters for effective regional collaboration; and (vi) establish a cooperative basin-related data management protocol and implementation process for the collection and exchange of information for Basin resource management.

- *Component 3 TDA and SAP*. To have a better understanding of the transboundary environmental issues in the Senegal River Basin, a preliminary TEA was conducted during Project preparation (Annex 11). The TEA provides baseline information on the key environmental issues, environmental threats, and root causes of the problems. To expand the understanding of the issues and problems concluded in the TEA, with guidance from the GEF Secretariat, a more detailed TDA will be done early on in the Project. The TDA will (i) examine existing conditions and management; (ii) identify and analyze the Basin's transboundary issues; (iii) propose options to address these issues; and (iv) address any related socio-economic and land-use issues. The TDA process will extend the TEA's participatory approach by engaging a broader network of regional, national, and local stakeholders. Based on the TDA findings and further consultations with Basin stakeholders, the key environmental issues will be prioritized and an SAP will be prepared. Both the TDA and SAP will serve as critical documents to improve environmental management in the Basin; introduce relevant environmental protection policies; provide opportunities for innovative community-based microgrant funded investments; and inform the public about issues in the Basin.

18. ***Project Costs***. The total Project costs for the Project components, inclusive of co-financing, GEF Project funds, preparation costs, and in-kind contributions, are summarized in the table below.

Component	Indicative Costs (US$M)	% of Total	Bank financing (US$M)	% of Bank financing	GEF financing (US$M)	% of GEF financing
1. Capacity Building (WB managed)	5.36	25.3	0.00	0.0	2.70	37.2
2. Data and Knowledge Management (WB managed	4.80	22.6	0.00	0.0	1.52	21.0
3. Transboundary Action Program (WB managed)	1.04	4.9	0.00	0.0	1.04	14.3
4. Priority Actions (UNDP managed)	9.67	45.6	0.00	0.0	1.66	22.9
5. Public Participation and Awareness (UNDP managed)	0.33	1.6	0.00	0.0	0.33	4.6
Total Project Costs	21.20	100.0	0.00	0.0	7.25	100.0
Front-end fee	0.00	0.0	0.00	0.0	0.00	0.0
Total Financing Required	21.20	100.0	0.00	0.0	7.25	100.0

2. Key policy and institutional reforms supported by the project:

19. ***Improved Policy and Institutional Effectiveness***. The need for strengthening the institutional capacity necessary to support policy and institutional reforms is addressed directly by the Project. For many policies, this will entail a refinement of existing policies and structures rather than substantial change. A comparison of national environmental legislation among the three OMVS countries is already being carried out under the PASIE (Annex 15). The PASIE is a jointly financed environmental and social management plan by the African Development Bank (AfDB), African Development Fund (AFD), Canadian International Development Agency (CIDA), IDA, and OMVS. This Project will extend the analysis to include Guinea and will further propose modifications to enable a coherent approach to water and environment management issues across the whole Basin.

20. ***An Inclusive Framework***. A major component activity of the present Project is to support and encourage the full involvement of Guinea in the Basin's developing integrated Environmental Management Framework (EMF). As unilateral actions in the Basin will inevitably place further strain on the limited water resources, all the riparians recognize that an inclusive framework is the optimal solution. The goal is to move toward realizing sustainable development benefits for all riparian countries, drawing on the development potential that the River offers. It is important not only that Guinea participates fully in the targeted cooperative agreement for environmentally and socially sustainable management of the Basin, but that the special needs of Guinea are recognized and addressed in the cooperation framework. The Bank has mobilized new and additional grant resources from its Institutional Development Fund (IDF) to provide additional support for Component 1 activities.

21. ***Improved Transboundary Waters Management Capacity at a National Level***. A key policy and institutional priority is to strengthen the institutions that are engaged in transboundary water issues in each of the riparian states, with a view to improved planning and management of national water resources within the transboundary context. This is expected to involve the ministries of both water and environment (which are often separate) as well as the related OMVS affiliates, such as *Société de gestion du barrage de Diama* (SOGED), *Société de gestion du barrage de Manantali* (SOGEM). The Bank is already actively involved at the national level with various forms of support for water resource management through existing and planned projects, and through the Bank's African Water Resource Management Initiative (AWRMI) in which the Bank will further strengthen its national-level water resource management program in all four countries. This Project will provide linkages between relevant national policies and activities and basin-wide considerations. By strengthening OMVS, the Project will also reinforce national institutional linkages with OMVS and among the countries themselves.

22. ***Strengthened Environment Management at the Basin Level***. At the basin level, the strengthening of OMVS' capacity with regard to environmental management is seen as crucial to improved coordination in the Basin. A reinforced OMVS will be able to monitor and fulfill its mandate for sustainable management more effectively. Through this Project, OMVS will also be able to respond to client country requests to help prevent and/or resolve transboundary land and water conflicts. OMVS will also be in a position to lead the basin-wide, long-term planning for effective use of transboundary surface and groundwater resources.

23. ***Stakeholder Participation***. The present Project has been prepared in a highly pro-active, participatory manner, and is designed to continue the ongoing process of public involvement in the environment management of the Basin. A summary of the public participation process and Public Involvement Plan is outlined in Annex 12. The Project is built through the network developed during GEF/Project Development Facility–B (PDF-B) phase. It is intended that this process will be maintained as an ongoing part of the participatory and decision-making process in the Basin, running parallel to and feeding into the completion of the TDA and the SAP, and the implementation of the community-based microgrant supported interventions, as part of the Microgrant Program.

24. ***The Water Charter***. In the context of the IDA-financed portion of the PASIE, the three OMVS countries negotiated and agreed upon a Water Charter, which was approved and signed by the Heads of State on May 28, 2002. The Water Charter provides strategic guidelines for allocation of flow from the River and serves as a binding guideline for the private operators of the Manantali dam. Inclusive in the Charter are the "Manuels de Gestion" (Operating Manuals) for the Manantali and Diama dams and an Optimal Scenario for Manantali dam water uses. These annexes define the scenarios for water releases that harmonize the requirements of the River's different water uses, including hydropower, large-scale irrigation, recessional agriculture through the artificial flood, dry season pastures, water supply, fisheries,

current and future ecosystem requirements, and river navigation. The Water Charter and associated guidelines provide only the basis for a cooperative framework for the River's water resources. The Project hopes to build on this framework to strengthen the basin-wide institutional capacity to further develop the efforts initiated by the intent of the Water Charter.

3. Benefits and target population:

25. ***Beneficiaries—Target Population.*** The principal beneficiaries of this Project are identifiable at three levels—regional, national, and local:

- The regional beneficiaries would be the institutions involved in managing the River (the OMVS) and its infrastructure (SOGEM and SOGED) and the four riparian countries;
- Nationally, the principal beneficiaries would be the national government, national decision-makers, and water management structures of the four national institutions (both OMVS, Guinea National Cellules, and the four National Coordination Committees [CNC]), and academic institutions; and
- At the local level, the beneficiaries include the local government, local decision-makers, rural communities, the Local Coordination Committees (CLC), women's groups, and schools participating in the microgrant-supported activities, as well as those participating in the public education and information activities. The long-term beneficiaries would include residents of the Basin who benefit from improved land and water management.

26. ***Improved Water Management Through Improved Regional and National Consultation.*** One of the Project's main benefits will be improved vertical interaction among entities at the regional and national levels, as well as improved horizontal interaction among the different players. It is anticipated that these improved communications will lead to better water management and increased sustainable practices. Interactions among different players involved in or affected by water management decisions will take a number of forms such as dialogue among the Basin countries, capacity building workshops, and microgrants for local communities. At the regional and national levels, a key outcome of the Project will be the dialogue among Guinea, Mali, Mauritania, and Senegal on establishing a framework that includes all riparian countries in managing the Senegal River Basin.

27. ***Local Benefits—Improved Livelihoods.*** At the local level, communities will be able to address their key priorities through the microgrant-funded activities. There are a number of benefits captured through this community-driven development (CDD) effort, such as the following:

- The communities that apply for microgrants will themselves determine the priority issues they wish to address, which will stimulate ownership of the activities;
- The microgrant activities carried out to address these issues can be piloted, and those that are successful will be scaled up;
- The microgrants represent opportunities for the communities to find alternative livelihoods that are more sustainable and to access capacity building activities;
- The communities will be more involved in the decision-making processes within the Basin; and
- The Project will be able to quickly have a positive impact on the ground.

4. Institutional and implementation arrangements:

28. ***Executing Agency.*** The OMVS High Commission (OMVS H.C.) is the Project's executing agency. Efforts will be made to strengthen the OMVS institutional capacity, by establishing the CRGP office within the OMVS headquarters as part of the OMVS. An OMVS senior staff person will be nominated as the Regional Project Coordinator (*Coordinateur Regional du projet*, CRP) at the CRGP, whereas the Project provides support for an *Assistant Administratif et Financier* (AAF), a Procurement Specialist, and technical expertise to support OMVS in Project management and implementation. The CRGP will act at the regional, basin-wide level and will be responsible for managing and implementing the Project in all four participating countries. Financial management arrangements for the Project will comply with the Bank's procurement and disbursement policies. The OMVS will maintain full financial control and responsibility for the entire Project, with general oversight of technical matters. The CRGP, working in close collaboration with Bank and UNDP country offices, will be responsible for supporting OMVS in ensuring that the national and regional priorities agreed to by the riparian states are substantively and coherently accommodated within the proposed TDA and SAP.

29. ***Implementation Arrangements.*** The proposed Senegal River Basin steering committee (*Le comite de pilotage du Bassin du Fleuve Senegal*, CPBFS), transformed from the project preparation committee, will provide guidance for Project implementation at the regional level, whereas the CNCs will also provide guidance at the national level. At the national level, with support from the CRGP, the Project activities will be managed and implemented within the four National Cellules, in the three OMVS countries, this includes the OMVS National Cellules, and in Guinea, this includes a newly formed National Cellule, established as part of this Project within the Ministry of Hydraulics and Energy under the authority of the Director of Hydraulics. All discussions on the OMVS and Guinea Cellules are hereafter referred to as the National Cellules. The "*Protocole d'accord cadre de coopération entre la République de Guinée et l'OMVS*" article 7 is the legal framework under which Guinea and OMVS established a formal relationship allowing for the implementation of tasks, actions, and so forth included in the Project. This will include the financial arrangements necessary for funding the actions implemented in Guinea. At the local level, the CLCs will work directly with the communities and stakeholders. Annex 13 further details the proposed institutional and implementation arrangements.

30. ***Project M&E.*** The OMVS will be responsible for ensuring that all GEF-funded activities are carried out in compliance with the Project design and performance and monitoring indicators defined in Annex 1, and will report to the CPBFS and the Bank. The Project will comply with the required M&E procedures as required by the Bank, for the Mid-Term Review and Implementation Completion Report (ICR). The evaluation will rely on both qualitative and quantitative criteria using Bank and UNDP guidelines, "Monitoring and Evaluation of Program Impacts". Resources have been set aside to support and conduct both of these evaluations. The Mid-Term Review will provide suggestions on possible improvements to the implementation plan and steps that could be taken to ensure achievements of Project goals in the remainder of the implementation period.

D. Project Rationale

1. Project alternatives considered and reasons for rejection:

31. ***Project Alternatives.*** A systematic review of Project alternatives evaluated the priority concerns and issues in the Senegal River Basin. The alternatives, and the justification for the dismissal, are identified below:

- *Project Services Agency.* Contracting a Project Services Agency to deliver the Project on behalf of

OMVS was considered. However, based on OMVS's experience with implementation of Bank and non-Bank projects, and the desire to strengthen OMVS's institutional capacity, this alternative was rejected, because it would add an unnecessary layer of complexity to the Project implementation structure.

- *Environmental health.* Environmental health continues to be a high priority in the Basin. Though a sector-specific project would address aspects of the problem, it would not address the source of the problem which is linked to management of the Basin's water resources. The public consultation undertaken during Project preparation emphasized the importance communities attach to improving their health situation, especially with regard to waterborne diseases. As environmental health projects are not funded under the GEF, these priorities are not included in the present Project. However, in parallel to the present regional GEF Project, the Bank has placed a high priority on supporting environmental health projects to improve the quality and accessibility of basic health and family services in Mauritania, and similarly in Senegal, as an effort to help the governments alleviate the burden of endemic and epidemic diseases among the population.
- *Parallel individual national programs.* Individual national programs would not address the transboundary issues or the need for a systematic and coordinated data and knowledge exchange for Basin land and water management. In addition, they could be costly and result in duplication and inconsistencies.

32. ***Rationale for Co-Implementation Considerations***. The World Bank and UNDP are joint implementing agencies for a number of GEF international waters projects in Africa (including the Niger, Lake Chad, and Nile). The agencies have found that joint implementation makes the projects stronger as they benefit from each agency's comparative advantage. The Bank as a convener and investor already has an investment profile in the region and can leverage additional funds as needed. The Bank is experienced with procurement and investment procedures needed to fund the SAP that will result from this Project. UNDP has extensive in-country presence. This allows it to work closely with local stakeholders in each country and to be seen as a neutral and trusted partner. UNDP's strength is in supporting capacity building in particular, and working at the local level as experienced in the GEF Small Grants Programme.

2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned).

Table 3: Major related projects financed by the World Bank and other donors

Sector Issue	Project	Latest Supervision (PSR) Ratings (Bank-financed projects only)	
		Implementation Progress (IP)	Development Objective (DO)
Bank-financed			
- Health Sector: Mauritania - P035689	Regional Health Sector Investment	S	S
Senegal-P041567	Endemic Disease Control	S	S
- Agriculture Sector:			
Mali-P041723	Rural Infrastructure and Capacity Building	S	S
Mali-P001738	Pilot Private Irrigation Promotion	S	S
Mauritania-P044711	Integrated Development	S	S

	Program for irrigated Agriculture		
-Water Sector:			
Guinea-P001075	Third Water Supply and Sanitation	S	U
Mauritania-P066345	Energy, Water, and Sanitation Reform TA	S	S
Senegal-P002346	Water Sector	S	S
Senegal-P041528	Long-Term Water Sector	S	S
- Hydropower Sector:			
Mali-P046651	Regional Hydropower Development	S	S
Mauritania-P046648	Regional Hydropower Development	S	S
Senegal-P046650	Regional Hydropower Development	S	S
- Socio-economic sector:			
Guinea-P050732	Village Community Support Program	S	S
Other development agencies			
Project-related ongoing and planned country activities			
- African Land And Water Management Initiative (ALWMI): Mauritania	GEF/WB		
- Conservation of Biological Diversity: Mauritania And Senegal	GEF/UNDP		
- Fouta Djalon Integrated Watershed Management: Guinea	GEF/UNDP		
- GEF Small Grants Programme: Mali, Mauritania, Senegal	UNDP		
- UNDP Africa 2000 Network: Mali	UNDP		
- Transboundary Protected Areas Bafing-Faleme: Mali and Guinea	EU		
- PARS Prowalo: Senegal	EU		
- Assistance to Diawling National Park: Senegal	GTZ		
- Water Management Project: Senegal	GTZ		
- Assistance to Dioudj National Park: Senegal	GTZ		
- Integrated Coastal and River Basin: Senegal	GTZ		
- Water Supply for Six Senegal River Towns: Senegal	GTZ		
- Delta Drainage Tributaries: Senegal	GTZ		
-Boundoum Irrigation and Nianga	GTZ		

Irrigation: Senegal			
- Special Food Security Programme: Mauritania	FAO		
- Technical Partnership With CIFA: Mali	FAO		
- Regional Participatory Training: Integrated Production and Pest Management: Senegal	FAO		
- Assistance for Fighting Salvinia Molesta: Senegal, Mauritania	FAO		
- Formulation of a Regional Action Plan for Improving Irrigated Agriculture: Mali and Mauritania	FAO		
- Emergency Assistance to Populations—Victims of Inundations from Senegal River in Dagana, St Louis, and Louga: Senegal	FAO		
- Health Project in St. Louis Region: Senegal	Luxembourg		
- Development Fund for Poverty Alleviation: Senegal	Luxembourg		
- Project Preparation: New Project for the Construction of New Female Training Centers in St. Louis, Dagana, Podor, and Matam: Senegal	Luxembourg		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

33. ***Active Donors and Institutions***: In addition to the major related projects, the following institutions and donors are active in the Basin:

- *PASIE.* The *Plan d'Atténuation et de Suivi des Impacts sur l'Environnement* (PASIE) is a multi-donor program addressing the environmental issues related to the Regional Hydropower Project and the optimization of benefits for various water users in the OMVS member countries (Annex 15). The recently ratified Water Charter and the associated operating rules for the Manantali and Diama dams present a significant and positive step forward toward ensuring environmentally and socially sustainable management of the Senegal River (Annex 16). However, institutions still need to be strengthened to ensure that the Water Charter is complied with and that information is shared basin-wide. It is important to note that the Project will build on the existing OMVS/PASIE institutions and complement the PASIE by (i) strengthening the institutional capacity building activities to include Guinea in managing the Basin's resources and the decision-making process; (ii) strengthening Guinea's technical capacity in establishing a harmonized data collection process and collaborating on Basin information; and (iii) expanding the local capacity through establishing CLCs in the Basin to enable Guinea to be engaged in the TDA/SAP process and Microgrant Program at the local level.
- *Active donors.* There are approximately a dozen major donors supporting water- and environment-related activities in the Basin, notably the AfDB, Canada, China, France, GEF, Germany, IUCN, Luxembourg, the Netherlands, Norway, Saudi Arabia, UNDP, the United States, and the World Bank. French cooperation is currently funding the OMVS Observatory. In addition, there are also numerous national and local NGOs and community groups working on water-related projects.

- *Adjacent GEF Projects.* A number of other GEF international waters projects are under way or under preparation in the region. Of particular interest to the Project is the Fouta Djallon Highlands Watershed Project in Guinea that is being prepared by United Nations Environment Programme (UNEP) and several countries in the region to address key watershed management issues in the highlands. Other GEF Projects in the Senegal River Basin include a project to preserve biodiversity around the Manantali reservoir and a land rehabilitation project in the lower valley. There is also an offshore GEF Project under preparation that deals with the Canary Current. Although the Diama dam forms a physical barrier between the Senegal River and the Atlantic Ocean, there are important interactions that need to be taken into account. The Lower Valley and the Delta also include significant wildlife areas and reserves of global importance including two Ramsar sites.

- *Other relevant GEF Projects.* Linkages with the UNDP/GEF international waters network initiative (IW:LEARN) will provide for the sharing of project results and the replication of successful practices in other regions of the world and specifically among other groups of countries confronting similar issues, especially in Africa. In addition, the present Project could establish linkages to the African Stockpile Program, which is under preparation in the framework of the Stockholm Convention on Persistent Organic Pollutants (POPs). The GEF Marine and Coastal Biodiversity Management project, which is under preparation in Senegal, will strengthen the conservation and management of globally significant marine and coastal biodiversity. To that end, the Project will address priorities identified in the National Biodiversity Strategy (NBS) and the NEAP.

3. Lessons learned and reflected in the project design:

34. ***Lessons Learned.*** The Project design is an integrated, inclusive, and sustainable project prepared by national and local counterparts with guidance from the Bank and UNDP. Lessons learned in the region, and from other transboundary GEF projects, were drawn upon and considered in preparing the Project documents. Key lessons are identified below.

- *Project design lessons—inclusivity and sustainability.* Active engagement of riparian counterparts was vital in defining the Project objective, and it was necessary that the stated objective remain realistic. Multi-country, regional projects require additional attention to address all national concerns in an integrated coherent manner. This, too, requires a realistic implementation schedule and budget. Emphasis was placed on strengthening institutional capacity and on including Guinea as an equal partner in the institutional strengthening and implementation process. To successfully make sound judgment on land and water management issues, consistent and accurate data and information is needed. The Project provides focused efforts on Guinea to establish a data and information baseline with the OMVS countries, while also providing an opportunity for a coherent management protocol for all four riparian countries. Rather than targeting specific land and water management activities, which have shown to require greater management and capacity, the proposed community-based microgrants component provides flexibility to take action in communities and in areas where activities are feasible. Local empowerment has proven to be the more beneficial practice for successful implementation and sustainability. Educating and engaging stakeholders, through a public information and education process, is the first step to allow communities to make sound decisions and take responsibility toward their water and land resources.

- *Strengthening institutional capacity and partnerships.* The challenge is to effectively implement the Project to ensure sustainability and achieve benefits for the most vulnerable. This is particularly difficult and important when dealing with regional-scale issues and a regional organization. There are

often historical legacies that have led to the absence of one or more riparians from a cooperative instrument. However, with increasing pressures and demands on limited resources, cooperation is the only alternative. The challenge, therefore, becomes to help foster an environment of trust, equity, and dialogue within which all riparians can together pursue their common and cooperative development aspirations. It is for this reason that the first focus of this Project is on institutional strengthening and capacity building. Without improving management capacity, additional interventions are at risk and are unlikely to achieve the desired benefits. To support long-term sustainability and cooperative management of a shared River, the participation of all riparian countries is of paramount importance. Building broad partnerships within the riparian countries—and with NGOs, international agencies, and donors—is essential for a coordinated process to leverage funds for priority actions.

- *Integrated land and water management.* It has become increasingly clear, from experience in similar basin management programs that successful management of water resources cannot be done if management of the riparian lands is not tended to, because land and water dynamics are an integrated process. Optimal water resources management depends on good land management practices. All the elements of the watershed are interrelated and need to be seen as a single integrated but multi-faceted system. Ultimately this can only be optimized through effective management of the environment of the whole Basin, in concert with the skills and culture of the different peoples living in different parts of the Basin.

- *GEF International Waters Conferences.* Several team members attended the GEF International Waters Conference in Hungary in 2000 and, in China in 2002 where several important lessons were highlighted. In Hungary, the importance of ensuring an effective and participatory M&E process includes the collection of baseline data and temporal data to evaluate the dynamics of the land and water ecosystems. This inclusion of the local scientific, academic, and research community into the Project is essential to close the "loop" on scientific data underpinning of environmental and hydrological decision-making. Appropriate data collection and a compatible data management network will also be helpful in determining, through the M&E process, the successful attainment of the Project objective. Subsequently, in China, the basic principles for project success were discussed, stressing the importance of country ownership as a necessity for sustainability.

4. Indications of borrower and recipient commitment and ownership:

35. ***Government Commitment.*** All four governments have endorsed the Project (refer to Annex 17). OMVS has demonstrated a high interest in applying a participatory approach to the Project design. National Project Planning Committees (NPPCs) were established in each riparian country and these committees have been responsible for coordinating and participating in Project preparation. Country officials have provided continual assistance, with the involvement of national water and environment authorities coupled with stakeholder consultation, which participated in national and regional workshops, workgroups, and steering committees, and prepared the Project documents. In addition, Guinea's participation in the Project preparation process encourages confidence that it will continue toward greater involvement and eventual participation in an inclusive framework for the Basin's management.

36. ***Riparian Commitment to Cooperation.*** The commitment to regional cooperation is evident in the continual operation of the OMVS by the three member states and by Guinea's interest as an active observer. Within the context of the Regional Hydropower Project, the three participating states—Mali, Mauritania, and Senegal—have committed to a number of obligations and joint actions. These include the groundbreaking development, ratification, and subsequent implementation of the Water Charter. Additional commitments include the following:

- Contributing to meeting debt service associated with the building of the Diama and Manantali dams;
- Contributing to increasing the efficiency and reliability of power systems in the three countries;
- Establishing an effective organization to construct and operate the Project facilities and to mitigate environmental and health impacts of the dams;
- Promoting competitive private-sector participation in the Project as well as in the financing of future generation projects on the Basin; and
- Supporting sound environmental management and the traditional, recessional, agricultural sector downstream of Manantali through the guarantee of the annual artificial flood, as covenanted by the Water Charter.

37. ***Active Public Participation Program.*** The model to involve the public so extensively in the Project preparation (Annex 12) was relatively new in the Senegal Basin. The riparian countries have fully supported this time-consuming but vital and important process at the technical and political levels. The commitment to a broad participatory process was emphasized by the OMVS H.C.'s note to the Bamako workshop on the Bank's Regional Strategy in West Africa in March 2001. This note made a clear commitment to enhance participatory approaches in project design and implementation so that successful projects that target poverty alleviation can be implemented at the basin level.

38. ***Financial Sustainability.*** The OMVS governments' financial commitment is reflected in their OMVS contributions. The long-term financial sustainability of this Project is strengthened by UNDP's and the Bank's ongoing work in regional projects, which form the baseline for this intervention. In addition, the Project will complement already ongoing regional actions (such as PASIE), and many donors are actively supporting OMVS, its member countries, and Guinea.

5. Value added of Bank and Global support in this project:

39. ***OMVS Request.*** The involvement of the Bank in this Project is a result of the direct request of the OMVS to assist with the preparation of a GEF Project for the Senegal River Basin, recognizing the Bank's technical profundity and fiscal expertise, as necessary to commence such a project. These resources, together with the Bank's ready access to the highest representatives of the member states and its influence and convening power, make it a strong ally to assist the regional institutions to improve the management of the Senegal River Basin. Pooling its resources with UNDP, which has a strong on-the-ground presence and long-term experience in capacity building, the support and expertise of both institutions are put at the disposal of the Project, thereby, offering it a greater chance of success.

40. ***World Bank Support and Links to Related Projects.*** Since the mid-1990s, the Bank has engaged with OMVS and is now supporting a number of related activities in the Basin. These activities include the installation of power generation facilities at Manantali; the PASIE, which is designed to monitor and enhance environmental aspects of the Project; and the Long-Term Water Supply project in Senegal. Through its Water Resources Policy and its work of the AWRMI, the Bank is committed to a policy of supporting governments in the preparation of water resource policies and strategies to address sustainable

management of transboundary resources in Basin management.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1. Economic (see Annex 4):

○ Cost benefit NPV=US$ million; ERR = % (see Annex 4)
○ Cost effectiveness
● Incremental Cost
○ Other (specify)

*41. **Incremental Cost.*** Consistent with GEF operational policy, the requested GEF funds would only be used to finance the incremental costs, hence the economic evaluation methodology is the GEF incremental cost analysis. A number of complementary activities in the Basin provide paralleling technical and financial support to the Project. This parallel funding, or co-financing as it pertains to the incremental cost analysis, provides the baseline to this Project, which is the GEF Alternative. The Project addresses the transboundary overlay of Senegal River Basin environmental management. The GEF-supported interventions would provide incremental support costs to (i) develop an inclusive cooperation framework for the shared water resource and its environment; (ii) improve policy and institutional effectiveness; (iii) improve transboundary water management capacity; (iv) strengthen environmental management at the basin level; and (v) create a strong, ongoing, basin-wide participation program. It is highly unlikely that the individual countries could or would take independent actions to preserve a resource that would be available for neighboring countries to use. The present Project therefore provides an essential element for the sound and sustainable management of the shared transboundary water resources.

2. Financial (see Annex 4 and Annex 5):

NPV=US$ million; FRR = % (see Annex 4)

*42. **Project Financing.*** The total Project cost is US$21.2 million, which has a total GEF contribution of US$7.25 million financing, US$13.95 million in parallel funding, and US$0.88 million as in-kind contribution. The parallel funding comes from the IDF, AfDB, and from the Governments of France and the Netherlands. Of the GEF funds, the Bank will manage US$5.26 million and UNDP will manage US$1.99 million. The Project is designed to complement, reinforce, and expand institutional elements of the current ongoing projects to provide a basin-wide framework within which the future activities envisaged under the SAP will be carried out. Therefore, GEF financing will thus act as a bridge and as a catalyst to encourage further investment in the Basin within the overall programmatic approach.

Fiscal Impact:

Not applicable.

3. Technical:

*43. **Strengthening Technical Capacity.*** Managing the Senegal River Basin's shared water resources is a complex process balancing national priority needs within a regionally inclusive decision-making institution. Managing these resources requires valid information to make informed decisions and institutional capacity for a systems approach to decision-making. Based on lessons learned from other projects, and from project preparation, Component 2 Data and Knowledge Management activities specifically target strengthening the technical institutional capacity. Specific challenges associated with developing and strengthening the Basin's technical capacity include (i) increasing availability of reliable data; (ii) maintaining continuity and

sustainability of data collection; (iii) operationalizing and maintaining information management systems and databases at regional and national levels; (iv) coordinating regional efforts regarding uniformity and quality assurance of data and information; and (v) creating sustainable mechanisms to finance activities after Project completion.

4. Institutional:

Implementing Agencies

44. ***World Bank and UNDP.*** The Project will draw on the respective strengths of the two GEF implementing agencies for the implementation of the present Project. The Project is co-implemented with the Bank and the UNDP, which are both implementing agencies of the GEF.

4.1 Executing agencies:

45. ***OMVS.*** The Project will be executed by OMVS. To assist in Project management and implementation, a Project office for the CRGP will be established as an integral part of OMVS' H.C. in Dakar. As part of the pre-appraisal process, detailed discussions have been held with OMVS with respect to the Project implementation responsibilities and arrangements. In addition, discussions executed by OMVS have also been held with other donors who are dealing with OMVS, as well as with relevant Bank Task Managers. Based on these discussions, the Bank is satisfied that OMVS is fully able and capable to execute the GEF Project. Required technical expertise, which is not available within OMVS, will be contracted to ensure effective implementation of the Project.

4.2 Project management:

46. ***Implementation Arrangements.*** The CRGP will be housed at OMVS Headquarters in Dakar and will be, under the supervision of OMVS, in charge of all aspects of the Project's financial management. The CRGP will thus benefit from OMVS experience in terms of managing IDA funds, and OMVS will gain from the technical expertise and project management experience of the CRGP staff. The main recommendations as they pertain to the CRGP staff, to the information system, and to the organization should be implemented before the effectiveness of the Project.

47. ***Staffing at the Regional Level.*** The CRGP will be headed by the Regional Project Coordinator who will supervise the Project team. The Financial and Administrative Assistant (AAF) must be in place before effectiveness and will have a technical support of the OMVS accounting staff already in place. OMVS accounts and finance staffs have satisfactory qualification and professional experience and have been trained in World Bank procurement, disbursement, and financial management procedures. The experience of OMVS managing its own IDA Credit has proved satisfactory. A Procurement Specialist will be recruited (by OMVS) and located within the CRGP and will give help and advice to the National Cellule teams from time to time to monitor the progress of procurement and implementation of each contract under the Project and will ensure effective and timely project execution.

48. ***Staffing at the National Level (three country members of OMVS, including Guinea).*** At a national level, the Project will be managed by the National Cellule Coordinator (CCN) with support from the *Comité National de Coordination* (CNC). The National Cellule will include three additional staff the *Expert en information et participation (*EIP*)*, the *Expert National Micro-projet* (ENM); and *Aide-comptable* (Accounting Assistant). The Accounting Assistant will assume, at the national level, all the accounting and financial duties for the Project, including the justification of the management of funds at the local level. To that extent, the Accounting Assistant will work closely with the CLC (Comité Local de Coordination). The AAF and the four Accounting Assistants in the National Cellules will be recruited

before the Board date; the OMVS has agreed to finance this staff with the understanding that a retroactive financing clause for reimbursement is included in the grant agreement.

4.3 Procurement issues:

49. ***Method of Disbursement.*** The overall financial management system is expected to include project management reporting capabilities from the Project's implementation. Quarterly Financial Management Reports (FMRs), including financial, procurement, and physical progress, will be prepared as soon as the Project is effective. During an interim period of 18 months, these FMRs will be reviewed and the financial management capacity will be strengthened. At the end of the interim period, it is expected that the project will be capable of producing reliable FMRs that could be used as a basis for disbursement. The capacity of the Project will be reassessed at the end of the interim period to confirm whether FMR-based disbursement methods can be used. In the meantime, the project will follow traditional disbursement methods.

50. ***Special Account Allocation and Disbursement Mechanisms.*** OMVS will open a Special Account in CFAF in a commercial bank on terms and conditions acceptable to WB/UNDP. Following the procedures of IBRD, each replenishment request will be accompanied, as necessary, by an up-to-date bank statement and a reconciliation statement. All replenishment or reimbursement applications will be submitted on a monthly basis or when the Special Account is reduced by one-third, whichever comes first. All replenishment or reimbursement applications will be fully documented except for contracts under the prior review. Statement of Expenditures (SOE) documentation will be retained at the CRGP for review by Bank staff and annual audits.

4.4 Financial management issues:

51. ***Financial Management Assessment***. A Financial Management Assessment (FMA) was completed June 2003 and concluded that, overall, OMVS has relatively satisfactory financial management capacity. The Country Financial Accountability Assessment (CFAA) of Senegal is ongoing and was delivered at the end of June 2003. The CFAA does not contain any major impact on the financial management of the Project.

52. ***Accounting Policies and Procedures.*** OMVS has been applying satisfactory acounting procedures since it was established. However, these procedures have not been formalized in a reference document, such as a manual, and they will probably be different from the procedures of the current Project. A manual of administrative, accounting, and financial procedures (the administrative manual) will be developed by the project before effectiveness. This manual must include accounting policies and procedures, definitions of respective duties, budgeting systems and all relevant administrative and financial procedures, relationships among the components of the Project, and reporting mechanisms at each level (regional, national, and local). All staff, including the stakeholders involved in the Project, must be trained in those procedures.

53. ***Reporting and Monitoring.*** CRGP will prepare quarterly FMRs. The format of the FMR will be discussed and agreed on before effectiveness. The quarterly reports will cover financial management, procurement, and physical progress monitoring, covering all activities financed under the project regardless of the funding source. No major problem is expected with the financial and procurement reports. Areas of concern were with the physical progress monitoring report where CRGP lacks experience and which requires additional attention, those physical progress reports will be based on the outcome indicators.

54. ***Financial Management Information System.*** At the CRGP, a computerized financial management system will be be installed, and the chart of accounts of the project and the report formats will be

customized prior to effectiveness.

55. ***Audit Arrangements.*** The Project's accounts will be subject to annual external audit by a reputable auditing firm based on terms of reference (TOR) appropriate for the Project's scope to be approved by IBRD. This TOR will cover the Project's accounts, the statements of expenditures, and the Special Account. The selection of the auditor will be a condition of credit effectiveness. The annual audit reports will be submitted to IBRD within six months of the end of each fiscal year (i.e., by June 30).

5. Environmental: Environmental Category: B (Partial Assessment)

5.1 Summarize the steps undertaken for environmental assessment and EMP preparation (including consultation and disclosure) and the significant issues and their treatment emerging from this analysis.

56. ***EMF.*** The overall environmental screening category is B. This category was necessary to provide quality control when reviewing individual community-based microgrant micro-activities. The Environmental Management Framework (EMF) for the Microgrant Program identifies the process to implement microgrant-funded activities within the parameters of national environmental policies and World Bank Safeguard Policies, and provides a mechanism to assess both the individual and cumulative impacts of micro-activity at the national level. The EMF together with the Microgrant Program Operational Manual will be the tools for environmental and social screening. To address the significant issues identified during project preparation, the Project's objective is to enhance transboundary cooperation and environmental quality. Strengthening institutional capacity, improving the management of ecologically sensitive areas, and information management are among the major Project activities. The Project will improve environmental management capacity (i) regionally, through strengthening and building institutional capacity and supporting cooperative decision-making; (ii) nationally, through enhancing information exchange and common analytical methods for water quality monitoring; and (iii) locally, through increasing education and community-based microgrant funded activities for improved local land and water resource management.

5.2 What are the main features of the EMP and are they adequate?

57. ***EMF Purpose and Process.*** As disclosed in the Integrated Safeguards Data Sheet (ISDS), a revised EMF was prepared and disclosed before Appraisal. As noted in section 5.1 above., the EMF identifies a process for responsible micro-activity proposal preparation and a mechanism for screening environmental and social impacts. The EMF identifies a coherent, logical, understandable process within the principles of CDD for sustainable environmental management at the local level, and nationally it provides a mechanism for a cumulative assessment of micro-activities in a broader scale. The EMF provides an overview of the environmental and social screening process; however, the Microgrants Program Operational Manual will provide details on Program implementation and guidance, through an environmental and social parameters checklist, for CLCs to assist local counterparts to ensure that the micro-activity design meets the design criteria. A more detailed environmental and social screening process is then designed at the national level, providing a more comprehensive methodology to evaluate cumulative impacts concerning environmental and social impacts. An EA will be prepared if deemed necessary.

5.3 For Category A and B projects, timeline and status of EA:

Date of receipt of final draft: Not Applicable

58. ***Compliance and Disclosure.*** The EMF was designed to comply with national policies and Bank environmental and social safeguard policies. An updated version of the EMF was be made available at the OMVS; in the three riparian countries through the National Cellules; in Guinea through the Ministry of Mines, Geology, and Environment; at the World Bank Resident Missions; at the World Bank InfoShop; at the UNDP country offices; and at the UNDP Small Grants Programme, before Appraisal.

5.4 How have stakeholders been consulted at the stage of (a) environmental screening and (b) draft EA report on the environmental impacts and proposed environment management plan? Describe mechanisms of consultation that were used and which groups were consulted?

59. ***Project Preparation and Stakeholder Engagement***. Project preparation provided a platform for stakeholder participation in Project design, providing an important instrument for building ownership among local populations. This process gave due attention to (i) the views, interests, needs, and choices of local stakeholders who constitute the basis for decision-making in water and environmental management and (ii) the mechanisms and requisites for strengthening communities' voices. The preparation of the GEF Project included an extensive consultative process involving local and national workshops, consultations, and national field studies contributing to the design of the Project. Annex 12 provides a summary of the public involvement in the preparation process. Inherent in the Project are the CDD principles with an emphasis on strengthening the regional, national, and local institutional and social capacity for improving decision-making, collaboration, and actions on the management of the Senegal River Basin's resources. The Microgrant Program provides opportunities for local sustainable development and economic opportunities through the implementation of small-scale community-based pilot activities.

5.5 What mechanisms have been established to monitor and evaluate the impact of the project on the environment? Do the indicators reflect the objectives and results of the EMP?

60. ***Three-fold M&E Process.*** An EMF has been put in place and the Microgrant Program Operational Manual will include a checklist and design criteria to be utilized at the local level. A comprehensive screening process will be used at the national level. Micro-activity proposals not meeting the microgrant objectives and criteria outlined in the Operational Manual will not be approved. Then, as part of Project performance, M&E will be conducted in three different independent but corresponding processes. The processes include (i) the Bank's required M&E process, which will be included as part of the PIP, through the Mid-Term Review and ICR, which will monitor the effectiveness of activities meeting the Project objective and indicators; (ii) the technical elements of Component 2, which will provide environmental data and information to quantitatively evaluate and monitor the changes in environmental parameters; and (iii) specific M&E parameters, which will be identified in monitoring the individual community-based microgrant supported interventions.

6. Social:

6.1 Summarize key social issues relevant to the project objectives, and specify the project's social development outcomes.

61. ***Stakeholder and Local Level Engagement***. With the implementation of good management practices through the various Project capacity building, outreach, and enabling activities, the Project will improve transboundary planning and cooperation to reduce negative development impacts. This will benefit the land and water users of the region. It is essential for the social economic welfare of the Basin residents that a sincere effort is made to find an optimal approach to managing the downstream water resources. Although some of this work is being done under the PASIE Project, the present Project adds an incremental dimension. It supports the further involvement of Guinea, as well as the transboundary aspects and implication of the land and water management issues to support the Water Charter.

6.2 Participatory Approach: How are key stakeholders participating in the project?

62. ***Stakeholder Participation.*** Stakeholder participation has been a key and successful factor in the work undertaken during the execution of PDF-B activities, as disclosed in ISDS and further detailed in Annex 12. The Project will build on and add to the level of public involvement that began in the PDF-B phase to include specific activities that address participation, involvement, and public awareness. Throughout the

preparation of this Project, it has become clear that a genuine commitment to stakeholder involvement is the only way to ensure cooperation at all significant levels, promoting sustainable and productive engagement with local environments, and involving the private sector and locally elected organizations in seeking negotiated solutions to environmental degradation.

6.3 How does the project involve consultations or collaboration with NGOs or other civil society organizations?

63. ***Consultation Process.*** IUCN has been a key partner in the preparation of the Project. Annex 12 identifies the stakeholders consulted during preparation. Consultation occurred through local, national, and regional meetings. It is expected that a large range of national and international organizations, including IUCN, will be participating in the implementation of the Project components. This includes reaching NGO umbrella organizations active in the region as well as development NGOs. Project implementation will largely involve community groups and NGOs/Community-based organizations (CBOs). The microgrant component specifically targets the local communities and NGOs in the Senegal River Basin countries, while the public participation and awareness component will largely be implemented by NGOs from the region.

6.4 What institutional arrangements have been provided to ensure the project achieves its social development outcomes?

64. ***Regional, National, and Local Integration.*** OMVS, the executing agency, will be responsible for ensuring the Project achieves its social development outcomes. The CPBFS will monitor and provide advice, guidance, and direction to the Project. Clearly, this is not easy to guarantee. To facilitate effective and responsive management, the Project is designed for vertical regional, national, and local integration.

6.5 How will the project monitor performance in terms of social development outcomes?

65. ***Public Participation Program and Outcomes.*** As far as the Project addressing the need for establishing a framework and capacity for improved management of the Basin, the social development outcomes will be mostly indirect and long range. The immediate elements of the priority actions, however, have specific outcome measures incorporated in their design and outlined in the Project's logical framework (Annex 1). The public participation program, which will continue throughout the Project, will act as a valuable and, no doubt, very critical gauge of the public's perception of the Project's performance. Through the M&E process, the Project objectives, outputs, and emerging issues will be regularly reviewed and evaluated in the annual report by the supervision mission and by the CPBFS. The Project will be subject to the various evaluation and review mechanisms of the Bank and UNDP.

7. Safeguard Policies:

7.1 Are any of the following safeguard policies triggered by the project?

Policy	Triggered
Environmental Assessment (OP 4.01, BP 4.01, GP 4.01)	● Yes ○ No
Natural Habitats (OP 4.04, BP 4.04, GP 4.04)	● Yes ○ No
Forestry (OP 4.36, GP 4.36)	○ Yes ● No
Pest Management (OP 4.09)	○ Yes ● No
Cultural Property (OPN 11.03)	○ Yes ● No
Indigenous Peoples (OD 4.20)	○ Yes ● No
Involuntary Resettlement (OP/BP 4.12)	○ Yes ● No
Safety of Dams (OP 4.37, BP 4.37)	○ Yes ● No
Projects in International Waters (OP 7.50, BP 7.50, GP 7.50)	○ Yes ● No
Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)*	○ Yes ● No

7.2 Describe provisions made by the project to ensure compliance with applicable safeguard policies.

66. ***EMF and Compliance to Safeguard Policies.*** To address the ISDS, the Project's EMF is consistent with the requirements of OP 4.1 EA and with OP 4.04 Natural Habitats. During Project Appraisal it was determined that the project would not support any activities that would trigger OP 4.30 Involuntary Resettlement, therefore, this OP is not applicable. The potential application of OP 7.5 was reviewed with the Legal Counsel for OP 7.50 safeguard policies (who has specific responsibility for the policy) and it was deemed not to be applicable to the Project. Further discussion on the compliance with environmental and social safeguards is detailed in the ISDS.

F. Sustainability and Risks

1. Sustainability:

67. ***Regional Sustainability***. OMVS is an established and well-supported legal entity and, with the approval of the Water Charter, is now mandated with transboundary management responsibilities. However, the OMVS faces the two-fold challenge of ensuring that an inclusive institution is operational, while setting in place a basin-wide environmental management system, both of which need to be underpinned by active national and community involvement. The objective of this Project is to reinforce the regional environmental management capabilities and to support the involvement of Guinea in basin-wide management of the Senegal River Basin. With its capital assets and its expanding support, OMVS has the necessary elements in place to ensure sustainability of this Project and post-Project outcomes.

68. ***National Government Commitment.*** The participating countries have worked well together during preparation of this Project. All four riparian countries established NPPCs, which will be transformed to the CNC. National official assistance in Project preparation and their participation in national and regional workshops, workgroups, and steering committees have been consistent and committed. Guinea's committed participation in the process increases confidence that it will continue its path toward greater involvement and eventual membership in OMVS, after it is clear that there are direct benefits to Guinea from such membership.

69. ***Sustainability—The Launch of a Strategic Programmatic Approach***. The Basin countries are also demonstrating their commitment to developing a cooperative framework within which to jointly manage the Senegal River Basin. Therefore, the Project is taking a strategic approach to ensure coordination among these projects to maximize returns on investments and sustainability by (i) building on regional and national water resource projects and initiatives already supported by the Bank, UNDP, and other donors; (ii) creating capacity for transboundary environmental management at the community, national, and regional levels; (iii) facilitating an inclusive cooperative framework between Guinea and OMVS; (iv) involving communities, scientific institutions, and NGOs in a participatory process of managing transboundary resources; and (v) designing a TDA and SAP that lays the analytical foundation for future investments in the Basin.

1a. Replicability:

70. ***Replicability.*** The potential for successful replication within the Basin, and with other similar Projects, is high both at the regional, national, and local levels. The principles of successful implementation practices, for institutional capacity building are integrated in the Project design, this includes but is not limited to activities such as management training and cooperative workshops, and enforcing principles of accountability and transparency in the Project management and implementation. Inherent in Component 4 the microgrant supported interventions, will be the exchange of lessons learned on causes and

demonstrating solutions and best practices to the address priority problems. These lessons learned and good resource management practices will be transferred to other appropriate areas of the Basin, through in the field training, workshops, and technical assistance and implementation of good management practices in the Basin.

2. Critical Risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1):

Risk	Risk Rating	Risk Mitigation Measure
From Outputs to Objective		
-No political commitment and concrete action from Guinea is made to move forward with legal reform.	M	-Guinea has expressed interest in being an active player in the decision-making. The Project provides Guinea technical assistance for institutional strengthening with supporting training in and knowledge in defining a framework for legal reform, in line with the 1992 Protocol of Accord.
-Riparian country governments and institutions are not very committed to cooperate in strengthening regional and national capacity.	M	-The riparian countries have expressed an interest in engaging in regional cooperation and collaboration. OMVS recognizes it has expanded responsibilities and puts forth an effort in achieving the Projects goals.
-OMVS is not augmented within the Basin and international supporters beyond Project completion and donors are not willing to provide support in the region.	M	-The donor community is very active and supportive in the region and Basin, investing in a number of regional projects. The Project is incremental, building on existing projects, is not stand-alone, and seeks support for supplementing priority actions in the Basin. Other projects and investments will continue in the Basin after this Project is complete. This Project hopes to strengthen the institutional capacity to enable sounder decision-making in future investments and in managing the resources.
-Regional cooperation and participation is not supported among countries.	N	-A significant focus of the Project is the strengthening of regional and national institutional capacity. The Project provides the means to encourage this process. The Project provides knowledge and communication, important tools for cooperation.
-Political willingness for tools and mechanisms aimed at implementing a sustainable environmental monitoring system on the River Basin is limited.	M	-The Project will support a basin-wide effort to strengthen and improve the Basin's technical capacity, to include building and identifying the necessary technical tools and an equitable monitoring network for a sustainable

		environmental monitoring system.
-Collaboration of all partners is weak, and there is no agreement among the Basin stakeholders on the working groups to address the TDA and SAP.	N	-The four riparians have been actively engaged in the Project preparation process, and it is not likely that their interest in the Project will lessen once implementation commences. The preliminary findings of the TEA provided insight on the commitment and willingness to cooperate. The TDA/SAP process will expand and engage greater stakeholder involvement in the TDA/SAP process.
-Local communities express no interest and support implementing priority actions, while NGOs, women's groups, and communities do not apply for microgrant activities.	N	-Under this Project, the public participation program will make a concerted effort to educate and inform the public on the land and water issues of the River Basin. Based on community development principles, the Microgrant Program provides a substantial opportunity for communities to have responsibility on the effective management of the local resources while improving their livelihood.
-Multi-media communications are not well defined and target communities are not identified.	N	-The Project provides opportunities to develop a multi-media campaign to inform and educate the public on the issues of the Basin, although not everyone will be engaged. There will be an opportunity to work with target communities interested in addressing priority actions. The multi-media campaign will include a range of communication tools to access both large urban and small rural communities.
-Universities and research institutions are not interested in collaborating.	M	-Research institutions and universities inherently are forums for the exchange of ideas. This Project supports opportunities to exchange ideas and to advance the knowledge of the River Basin environment.
From Components to Outputs -The Project does not achieve a participatory strategic environmental framework for the environmentally sustainable development of the Senegal River Basin, and a basin-wide cooperative program for transboundary land-water management is not prepared or initiated.	N	-The riparian countries have expressed an interest in engaging in regional cooperation and collaboration. OMVS recognizes it has expanded responsibilities and puts forth—with guidance from international and local experts, the UNDP, and the Bank—an effort in achieving the Projects goals.
Overall Risk Rating	M	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N(Negligible or Low Risk)

2. Critical risks (reflecting the failure of critical assumptions found in the fourth column of Annex 1)

71. ***Political Considerations.*** The long-term success of regional scale, multi-country management programs depends, *inter alia*, on the political willingness of the participating countries to cooperate; their willingness to continue project programs and approaches after the life of the GEF intervention; and the extent to which activities successfully engage end-users at the community level. In this case, the long-standing commitment to the OMVS by three of the riparians, and the support of this Project for the full involvement of Guinea, lends credence to a hope to achieve a strengthened and cooperative regional framework for water and resources management.

72. ***Water Charter and Water Rights.*** The four countries have witnessed tensions in the past. Some of these tensions have arisen over the water resources of the Senegal River Basin. The potential for future tension still exists. However, with the conclusion of the Water Charter, and the possibility of the three OMVS countries and Guinea being bound together by common investments, it is appreciated that these tensions must be dealt with so as to prevent a full-scale conflict, which would have immense social, economic and environmental consequences.

73. ***Guinea's Participation.*** Guinea's willingness to participate in basin-wide decison making on the Senegal River Basin will probably depend upon its perceived advantages to such involvement. This Project, in complement with ongoing Bank assistance to further the dialogue between OMVS and Guinea, intends to explore aspects of cooperative planning, inclusiveness, and equity within the international Basin context. It is hoped that this Project will help create a framework and environment to enable greater confidence and broader cooperation among the four riparian states.

74. ***Incompatible Legislation.*** A study, funded by the PASIE, reviewed environmental legislation in the three OMVS member countries and recommended ways to harmonize them. The GEF Project will extend this study to include Guinea. As the findings and recommendations from these studies emerge, the next step will be to move toward harmonization of legislation dealing with the shared water resource. There is a risk that lobbies would form in opposition to such harmonization, based on narrow local or national interests. However, the riparian countries are aware of the potential benefits that can be derived from taking the path of cooperation. Developing regional approaches that minimize the extent to which existing countrywide legislation needs to be altered will further mitigate the risk.

3. Possible Controversial Aspects:

75. ***Tensions and Differences.*** As with many rivers in Africa, the Senegal River Basin has in times past seen water rights disputes. As mentioned above, the existence of the jointly owned installations, on which the three OMVS countries all service debts, has meant that governments have reacted swiftly to overcome any emerging tension. To counter any possible tension that the modified flow regime controlled by the Manantali dam might have caused, the three OMVS countries, in addition to the Permanent Water Commission, have recently agreed on a Water Charter that addresses allocation issues (including allocation between sectors) and that safeguards social and environmental concerns in the context of water allocation.

76. ***Political Disagreements.*** The involvement of Guinea as a full participant is not anticipated to be a major difficulty at the operational level, because Guinea has played an active and enthusiastic role in the preparation process. In 1992, OMVS and Guinea signed the *Protocole d'accord-cadre de coopération entre la République de Guinée et l'OMVS*, which created a framework for cooperation in actions of mutual interest concerning the Senegal River Basin. At the formal, political, legal, and financial levels, however, it can be expected that Guinea will wish to clearly identify the advantages it would gain in joining OMVS and

participating in the benefits of River Basin management. This may generate some discussion or disagreement, but it is considered that an inclusive discussion, which serves to highlight the different aspirations of all four riparians, is preferred by far over a possible scenario of future unilateral or non-inclusive development actions, which will not serve optimal and efficient use of the shared water resource.

G. Main Conditions

1. Effectiveness Condition

a) A *Cellule Nationale* have been established in Guinea.
b) The CRGP has been established, the Regional Project Coordinator, with qualifications and experience satisfactory to the Bank, has been appointed; and the Financial and Administrative Assistant and procurement specialist have been recruited in accordance with the provisions of Section II of Schedule 3 to the Grant Agreement.
c) An accounting assistant has been recruited in the four *Cellules Nationales* in the riparian countries.
d) The Recipient has established in the CRGP a computerized financial management system in form and substance satisfactory to the Bank.
e) The Recipient has approved and furnished to the Bank, in form and substance satisfactory the Project Implemenation Plan.
f) The Recipient has appointed the auditor referred to in Section 4.01 (b) of the Grant Agreement, in accordance with the provisions of Section II of Schedule 3 to the Grant Agreement.

2. **Other** [classify according to covenant types used in the Legal Agreements.]

Conditions for Negotiations:
a) The Senegal River Basin Steering Committee will be identified and established.
b) A letter of commitment from the IBRD Governor, from each country involved in the Project, confirming their acceptance of OMVS as the grant recipient will be sent to the Bank.
c) In addition, Guinea and OMVS will have exchanged letters, with copies sent to the Bank, that include a statement that Guinea will have equal status to the OMVS member countries, and that detail the implementation arrangements with regard to Project implementation as stipulated within the *Protocole d'accord cadre de cooperation entre la Republique de Guinee et l'Organisation de Mise en Valeur de fleuve Senegal*.
d) The EMF completed.
e) The draft PIP, including an outline of the FMRs and M&E Plan, will be submitted in draft form satisfactory to Bank.

Condition for Board: None

Other (classify according to covenant types used in the Legal Agreement)
a) OMVS will carry out the Project in accordance with the requirements of the PIP.
b) OMVS will maintain the CRGP with staff and resources under the TOR satisfactory to the Bank until Project completion.
c) OMVS, through the CRGP, will maintain a financial management system, including records and accounts, and prepare financial statements, in a format acceptable to the Bank, that adequately reflect the operations, resources, and expenditures related to the Project.
d) OMVS, through the CRGP, will prepare and furnish to the Bank a FMR, in form and substance satisfactory to the Bank.

e) OMVS will be responsible for standard reporting and supervise the achievements of the component indicators.

H. Readiness for Implementation

☐ 1. a) The engineering design documents for the first year's activities are complete and ready for the start of project implementation.
☒ 1. b) Not applicable.

☐ 2. The procurement documents for the first year's activities are complete and ready for the start of project implementation.
☐ 3. The Project Implementation Plan has been appraised and found to be realistic and of satisfactory quality.
☐ 4. The following items are lacking and are discussed under loan conditions (Section G):

I. Compliance with Bank Policies

☒ 1. This project complies with all applicable Bank policies.
☐ 2. The following exceptions to Bank policies are recommended for approval. The project complies with all other applicable Bank policies.

Ousmane Dione	Inger Andersen	John McIntire
Team Leader	**Sector Manager/Director**	**Country Manager/Director**

Annex 1: Project Design Summary

AFRICA: Senegal River Basin Water and Environmental Management Project

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Sector-related CAS Goal: Increase sustainable practices to reduce poverty through strengthened regional and national institutions and to improve environmental management in the Basin.	**Sector Indicators:** • Strengthened regional and national capacity for sustainable environmental management practices. • Strengthened regional and national capacity will support sustained transboundary land and water management practices and contribute to improved environmental quality.	**Sector/ country reports:** • Supervision Reports; • Mid-term Evaluation Report; • GEF Project Implementation Review (GEF PIR); • Implementation Completion Report (ICR).	**(from Goal to Bank Mission)** • Continued political commitment and support from all riparian countries; • Required cooperation between regional and local institutions; • Continued political commitment and support necessary for sustainability.
GEF Operational Program: OP9: Integrated land and water multiple focus area	**Outcome / Impact Indicators:** Promote broad, basin-wide participation in developing and implementing measures that will lead to sustainable, transboundary management of the Senegal River Basin's land and water resources.		
Global Objective: **Project Development Objective** Provide a participatory strategic environmental framework for the environmentally sustainable development of the Senegal River Basin and to launch a basin-wide cooperative program for transboundary land-water management	**Outcome / Impact Indicators:** *Implemented by the Bank:* • Provide tools for strengthened decision-making capacity in the riparian countries and at the regional level *Organisation pour la Mise en Valeur du Fleuve Senegal* (OMVS), to address transboundary land and water management issues, through a defined inclusive mechanism; • Improve data collection and data exchange mechanisms established in all four countries, and agree to cooperation protocols for greater knowledge of the Senegal River data and information and of its relation to ecological and social processes; • Complete and adopt the	**Project reports:** • OMVS prepares an annual work plan, monthly narrative reports, semi-annual Project Implementation Progress Reports, annual Substantive Project Progress Report and Work Plans, and reports to the World Bank/UNDP as outlined in the M&E Plan; • Collaborative data collection and data exchange will be incorporated in water resources management plans; • Completed TDA and SAP; • Microgrants evaluation reports; • Public participation program information literature; • Bank supervision reports; • Mid-term report	**(from Objective to Goal)** • Riparian country governments have agreed on and are committed to achieving Project development objective; • Proper institutional and legal arrangements are established between the Bank/UNDP and the Executing Agency, and on the other hand, the Executing Agency and the riparian countries; • The riparian countries are committed to sustaining Project activities and implementing lessons learned after the Project is established and completed; • Project activities are coordinated with compatible activities in the Basin.

	Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP) with identified priority actions for the Basin; *Implemented by (UNDP):* ● Together with the Bank, organize and implement training and workshops for the River management institutions to strengthen the national and local institutional capacity; ● Execute, at least 20 community-based microgrant-supported micro-activities to address community priority actions; ● Increase, annually, the numbers of stakeholders involved and trained in local and transboundary water resource management issues; ● Increase, annually, the number of communities informed and involve stakeholders in the public information and public participation process.		
Output from each Component:	**Output Indicators:**	**Project reports:**	**(from Outputs to Objective)**
Component 1 Environmental Management Capacity Building *(World Bank (WB) managed)* 1.1 Dialogue established to strengthen Guinea's water resources legislation and to harmonize with the other riparian's water resources legislation.	● Guinea's existing water resources legislation reviewed by Working Group in Project Year 1 (PY) 1; ● A total of five national meetings to review and draft legislation will be organized in PY1, PY2, and PY3 respectively; ● A total of three regional workshops to review/modify or draft environmental, water resources or land use legislation will be organized in PY1, PY2, and PY3 respectively; ● Guinea's draft/new/modified environmental, water resources, and land use legislation proposed by PY3; ● At least two Working Group meetings will be held in each year PY1 and PY2; ● Synthesis Reports will be prepared from regional workshops.	● Quarterly progress reports; ● Draft/new/modified environmental, water resources, and land use legislation; ● National meeting reports; ● Regional meeting report on harmonizing legislation.	● Political commitment and concrete action from Guinea to move forward with legal reform is necessary to strengthen the country's legislative capacity; ● Riparian country governments and institutions are committed to cooperate in strengthening regional and national capacities; ● Support for OMVS augmented within the Basin and international supporter continues beyond Project completion; ● Regional cooperation and participation is mutually beneficial and supported regionally, nationally, and locally; ● Riparians consent to a strategic approach or mitigation measures to combat environmental degradation from invasive species;

1.2 Strengthened regional and national capacity to improve management of the Basin's water and environmental resources.	• Increased capacity building and training at OMVS and in riparian countries through participation in five sector-specific regional workshops between PY1–PY3; • Institutional and intra-sectoral network group established among regional institutions by PY3; • Regional procedures and mechanisms on transboundary issues established by PY4.	• Workshop and seminar reports.	• Donors are willing to provide support for the Basin's transboundary priority issues.
1.3 An inclusive regional institution developed and established to include all four riparian countries to better understand the Basin's resource management issues and to promote the use of sustainable management practices.	• Regional Study Team established in PY1; • Four regional workshops on developing inclusive institutions; • Prepare four Regional Reports - International water law - Regional legal analysis - Capacity building an international law - Inclusive River Basin management • Lessons-learned study tour in PY2; • By PY4 the four riparian countries agree on a cooperative approach to managing the Basin's resources.	• Regional Reports 1–4; • Study tour guide; • Study tour report.	
1.4 Strengthened management capacity of the OMVS to improve management of the Basin's water and environmental resources.	• *Cellule Regional de Gestion du Project* (CRGP) office established and operational by Project Month three (PM3); • Supporting infrastructure (vehicles, communications) procured in PM6; • Financial, administrative, and procurement training completed by PY2; • OMVS consistently meets Project implementation schedule deadlines.	• Project progress report; • CRGP staff contracts; • OMVS Training reports.	
1.5 Organized and executed Africa Regional Forum providing a mechanism for cooperating and collaborating with other projects in the Basin and other projects in the West Africa region.	• Plan Regional Forum in PY1; • Regional Forum will take place in PY2; • Collaborate and exchange of sustainable best management practices.	• Lessons-Learned Forum package; • Africa Regional Forum report.	
1.6 Increased technical capacity and knowledge base to address invasive species problem.	• Assessment of invasive species completed in PY3; • Dissemination of solutions completed in PY3.	• Invasive species assessment report.	
1.7 Organized and executed a Donor conference to support related priority issues not supported in this Project.	• Donor conference takes place by PY4.	• Donor conference package; • Donor conference report.	

Hierarchy of Objectives	Key Performance Indicators	Data Collection Strategy	Critical Assumptions
Project Components / Sub-components: **Component 2** **Data and Knowledge Management** *(WB managed)*	**Inputs: (budget for each component)**	**Project reports:**	**(from Components to Outputs)**
2.1 A compatible information network established in Guinea provides a platform for further cooperation and collaboration on technical issues with the other riparian countries.	• Existing conditions assessment and current status of data and the state of water resources and environment in Guinea completed in PY1; • Five specific studies: -Resources and uses, -Modeling rainfall/flows, -Early warning system on the upper basin, -Brush and bush fire impact, and -Study of actions to be implemented on upper Bafing are completed before end of PY2; • Guinean water data network set up and operational before PY3; • Specific laboratory analysis and water monitoring equipment for procured and operational before end of PY3; • Monitoring equipment training completed in PY3; • Financial mechanisms for sustainable, post-Project operations are established before end of PY4.	• Quarterly progress reports; • Guinea's Water and State of the Environment existing conditions report; • Five specific area-studies reports; • Inter-government regulatory agreement between OMVS and Guinea; • Laboratory and monitoring equipment training manuals.	• Political willingness for implementing tools and mechanisms aimed at implementing a sustainable environmental monitoring system on the River basin; • Effective collaboration of all partners.
2.2 Established sustainable transboundary data exchange and knowledge management framework for cooperation and collaboration among the four riparian countries.	• Six regional training courses on monitoring activities implemented before end of PY3; • Cooperative technical, framework between OMVS and Guinea agreed on and validated before end of PY3; • Data exchanges network and cooperation network in place and operational before end of PY4; • Communication tools (Internet web sites, newsletter, broadcast) operational before end of PY4; • Newsletter effective by PM9.	• Training manual; • Quarterly Report on Network Activities and Progress; • Balanced budget for post-Project implementation; • Monthly newsletter.	
2.3 Equipment upgrade to OMVS	• Technical equipment upgrade to expand the capacity of the OMVS technical specialists procured by PY3.	• OMVS technical staff complete quarterly progress reports.	
Component 3 TDA and SAP *(WB managed)*			
3.1. A TDA is formulated, prepared at the national level, finalized	• TDA/SAP Working Group formed in PM3;	• Quarterly progress reports; • Preliminary issues- report on	• Agreement among the Basin stakeholders on the Working

identifying priority water and environmental issues in the Basin, and then approved by the Council of Ministers for further action.	• Diagnostic terms of reference (TOR) and methodology prepared PM3; • Organizations to be associated in the process working on the TDA are trained by end of PM6; • Regional and national workshops take place in PY1; • Critical issues and root causes in the Basin identified and agreed on by PY1; • Transboundary sites identified PY1; • Thematic studies carried out PY1 • Thematic studies validated, and summary report is prepared by PM18; • TDA reviewed by experts by end of PY2; • TDA adopted and approved by end of PY2.	critical transboundary problems; • Minutes of TORs and TDA methodology approval; • Draft Thematic Studies Report; • Draft TDA report; • Expert review of draft TDA; • Final TDA report; • TDA Memorandum of Understanding (MOU).	Groups to address the TDA and SAP; • Agreement among stakeholders on the SAP priority axes; • Agreement among stakeholders on SAP preparation methodology.
3.2. From the TDA findings, an SAP is formulated to include local, national, and regional participants, and is prepared and reviewed by the Council of Ministers, establishing a plan of action for improved management of the Basin's transboundary water and environmental resources.	• Assessment of existing local coordination committees and identification of additional Local Coordination Committee (CLC) no later than PM7; • Local CLC workshops commence in PM8; • National workshops, reviewing SAP main priorities, actions, and interventions commence in PM9; • Four SAP workshops conducted in PY2&3; • Consultation mechanisms for SAP specified and implemented in PY2&3; • SAP completed by the end of PY3; • SAP approved and published by PY4.	• Local and National Workshop findings report; • SAP preparation workshop reports; • SAP document; • MOU on SAP priorities.	
Component 4 Microgrants Program––Priority Actions *(UNDP managed)*			
Concurrent to the TDA/SAP process, the national priorities will be identified and the community-based Microgrants Program will commence to both educate and inform communities on transboundary water and environmental issues and also to introduce best management practices to address community-based priorities to improve local resource management.	• Administrative actions necessary to disburse microgrants take place in PY1; • From TDA/SAP a baseline for national microgrant supported interventions activity priority goals and activities defined; • Community groups, non-governmental organizations (NGOs), and women's groups identified for participation; • Education and information, through a promotional campaign, on microgrants conducted in PY1 and PY2; • Microgrant Program established in the four riparian	• Quarterly progress reports; • National Priority Actions Plans; • Microgrant application and compliance with Environmental Management Framework for each applicant; • Progress Reports on microgrant application, implementation success, and expenditures.	• Local communities express interest in and support implementing priority actions; • NGOs, women's groups, and communities interested and active in applying for and implementing microgrant activities.

	countries in PY2; ● At least 30% increase from baseline by PY2, applicants commence microgrant activities that: -Address priority needs of the targeted community -Substantiate socio-economic benefits -Provide environmental benefits -Comply with safeguards outlined in the Project's Environmental Management Framework and Operational Manual ● At least 60% increase from baseline by PY3, applicants commence microgrant activities; ● 100% increase from baseline by PY4, applicants commence pilot activities.		
Component 5 **Public Participation Program** *(UNDP managed)* 5.1 Enhanced the understanding of the Basin's transboundary water and environmental issues through a regional and local public information and awareness program.	● Tools and materials for national multi-media campaign prepared in PY1; ● Multi-media campaign active from PY1–PY4; ● The national networks and targeted groups identified in PY1; ● Thematic issues and dissemination tools for local community awareness prepared and made available in PY1; ● Establish a monitoring group to assess progress and lessons learned; ● 10% cumulative increase of priority communities in priority areas are targeted.	● Quarterly progress reports; ● Multi-media monitoring progress report; ● Yearly NGO progress report.	● Multi-media communications community involved with adaptable tools; ● Target groups and communities agree on and apply key principles; ● Universities and research institution (RI) are involved and agree on the process.
5.2 Engaged the Basin's communities and provided opportunities for civil society participation to understand the issues affecting them and involved them in the community development process to strengthen the local capacity.	● Increased community awareness and public participation effective through local community workshops; ● 5% increase of key people trained yearly; ● Provide tools through community workshops for participatory decision-making; ● Multi-media communication and information material for local communities translated and disseminated.	● Decision-makers and community-based workshop manuals.	
5.3 Provided, for the scientific community, a forum for cooperating and collaborating on sharing technical information; and continued exchange of education programs related to the Basin's transboundary issues.	● Basin-wide Working Group includes eight research institutions and universities identified for collaboration; ● Basin-wide conference for the scientific community held in PY2; ● Water and environmental transboundary issues module	● RI and universities selection proceeding report; ● Basin-wide Conference Report; ● Joint module courses developed.	

	courses prepared.		
Component 1 Environmental Management Capacity Building (WB) - 1.1 Dialogue on legislation–Guinea specific - 1.2 Regional capacity building - 1.3 Development of an inclusive institution - 1.4 Project management and strengthening of OMVS - 1.5 Africa Regional Forum - 1.6 Technical capacity building–invasive species management - 1.7 Donors Conference	**US$m 2.70** *150,000* *410,000* *150,000* *1,678,800* *100,000* *150,000* *57,000*	• Supervision Reports; • Mid-term Evaluation Report; • GEF PIR; • ICR.	***(From Components to Outputs)*** A participatory strategic environmental framework for the environmentally sustainable development of the Senegal River Basin is achieved and a basin-wide cooperative program for transboundary land-water management is initiated.
Component 2 Data and Knowledge Management (WB) - 2.1 Information Network–Guinea program - 2.2 Transboundary data and knowledge management - 2.3 Upgrade Equipment for OMVS	**US$m 1.52** *672,000* *66,000* *180,000*		
Component 3 TDA and SAP (WB) - 3.1 TDA - 3.2 SAP	**US$m 1.04** *280,000* *760,000*		
Component 4 Microgrants Program––Priority Actions (UNDP)	**US$m 1.66**		
Component 5 Public Participation Program (UNDP) - 5.1 Public information and awareness - 5.2 Civil society participation - 5.3 Scientific community involvement	**US$m 0.33** *160,000* *120,000* *50,000*		
TOTAL	**US$m 7.25**		

Annex 2: Detailed Project Description

AFRICA: Senegal River Basin Water and Environmental Management Project

A. Introduction and Project Description

1. Introduction

1. The Global Environment Facility (GEF) Senegal River Basin Water and Environmental Management Project is valuable to the Basin because it specifically complements and builds on activities and projects already under implementation at the national and sub-basin level. While adding a transboundary element to those projects, the Project thereby expands and captures additional benefits for the people and their shared environment. The Project will lead to improved coordination of water and environmental management in the Basin as a whole. Designed to improve the basin management capacity of the *Organisation pour la Mise en Valuer du Fleuve Senegal* (OMVS) and to strengthen national capacities to address transboundary water and environment management issues, the Project will also strengthen local capacity through (i) a public awareness and participation program and (ii) engagement in community-based microgrants activities intended for improved resource management. Most importantly, the Project provides a framework for including Guinea, the upstream riparian, as a full participant in the decision-making process and management of the Basin's land and water resources.

2. Project Description

2. The Project's primary objective, in addressing the priority concerns in the Basin, is to provide a participatory strategic environmental framework for the environmentally sustainable development of the Senegal River Basin and to launch a basin-wide cooperative program for transboundary land-water management. To successfully achieve the development objective, the Project proposes to strengthen national and regional institutional capacity to enable these institutions to address the priority basin-wide, transboundary water, and environment management issues. The Project will:

- Enhance regional and national capacity to deal with transboundary issues at national and basin-wide levels;
- Improve the process and procedures of sharing data and information to increase the knowledge base;
- Ensure greater involvement of Guinea in joint management and decision-making in the Basin;
- Support sound environmental management and the linkage to sustainable livelihoods;
- Promote the need for a common and agreed on analysis to provide a firm basis for environmental management and monitoring; and
- Strengthen civil society participation in transboundary basin-wide activities and the associated need for greater awareness and outreach to communities and Nongovernmental Organizations (NGOs) to tap their resources and ensure their involvement in the decision-making elements of managing the Basin's resources.

3. The Project has five components identified below and detailed in Annex 2 Section B.

- Component 1: Environmental Management Capacity Building
- Component 2: Data and Knowledge Management
- Component 3: Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP)
- Component 4: Microgrants—Priority Actions
- Component 5: Public Participation Program

4. The World Bank and UNDP will jointly manage the four-year GEF Project. The OMVS is the Project's executing agency. The regional project management cellule (CRGP) will be based at the OMVS' High Commission (OMVS H.C.) and as part of the OMVS, contribute to the implementing the Project together with the National Cellules.

5. A summary of the Project components and activities are summarized in Table 1, and a summary of the Project costs are identified in Table 2. A detailed description of the components follows in Annex 2 Section B, and detailed costs, for Bank managed components, are provided in Appendix A of this Annex.

Table 1. Summary of Component and Activities

Component 1: Environmental Management Capacity Building (Bank managed)

1.1 Dialogue on legislation—Guinea specific

Activities

1. Review Guinea's water and environmental legislation
2. Facilitate a dialogue among Guinea and the OMVS member countries on their national legislations and policies
3. Reform and strengthen the legal basis for water and environmental management in Guinea

1.2 Regional capacity building

Activities

1. The *National Cellule Coordinator* (CCN) will identify training needs as well as workshop candidates
2. Regional workshops will be held for selected organizations on the subjects identified above or through Activity 1

1.3 Development of an inclusive institution

Activities

1. Build regional capacities for an inclusive institution to engage all four riparian countries in the management of the Basin resources
2. Assess lessons learned and best practices from other international river basins

1.4 Project management and strengthening OMVS

Activities

1. Establish the CRGP office as an integral part of OMVS
2. Support Project implementation at the national level
3. Establish Guinea's National Cellule and National Coordination Committee (CNC)

1.5 Africa Regional Forum

Activities

1. Hold the first Consultative Forum, bringing together GEF projects and other similar project in West Africa to exchange best practices and share experiences

1.6 Technical capacity building—invasive species management

Activities

1. Assess the relevant studies and identify most effective restoration or management methods
2. Evaluate the financial and technical means necessary to complete actions with success
3. Disseminate the solutions and prepare the implementation at the sub-basin scale

1.7 Donor conference

Activities

1. OMVS to finalize the Project investment proposal preparation
2. Translate, print, and disseminate proposals
3. Hold the Donor Conference, inviting interested donors to participate

Component 2: Data and Knowledge Management (Bank managed)

2.1 Information network—Guinea program

Activities

1. Assessment of the current situation
2. Knowledge improvement—specific
3. Design and implementation of the Guinean data network
4. Implementation of sampling and analysis network

2.2 Transboundary data and knowledge management

Activities

1. Regional training courses
2. Workshop on data exchanges
3. Workshop on scientific cooperation networks
4. Development of communications tools

2.3 Upgrade Equipment for OMVS

Activities

1. Procurement of technical equipment upgrade to expand the capacity of the OMVS data collection network

Component 3: TDA and SAP (Bank managed)

3.1 TDA

Activities

1. Formulate transboundary diagnosis
    a. Strengthen the multidisciplinary team and establishment of the transboundary diagnosis preparation program
    b. Consult with national technical and academic entities to be involved in the process
2. Prepare transboundary diagnosis
    a. Determine international expertise required for the preparation of the transboundary diagnosis
    b. Validate analysis and publish findings

3.2 SAP

Activities

1. Evaluate institutional structures and creation of additional structures and consultation for the SAP
    a. Evaluate and strengthen national and local structures for consultation
    b. Define the main constituent components of the SAP
2. Prepare the SAP
    a. Elaborate the SAP
    b. Finalize and validate the SAP

Component 4: Microgrant Program—Priority Actions (UNDP managed)

Activities

1. Establish institutional arrangements for the Microgrant Program
2. Implement National Microgrant Priority Action Programs
3. Monitoring pilot activity implementation

Component 5: Public Participation Program (UNDP managed)

5.1 Public information and awareness

Activities

1. Prepare national media campaigns
2. Create awareness in local communities
3. Create regional feedback forum for awareness orientation and monitoring

5.2 Civil society participation

Activities

1. Sensitize national and regional decision-makers to participatory planning methods
2. Regional, national and local training for inclusive decision-making.
3. Promote public participation to develop new tools to manage socially sensitive and ecologically and economically important issues
4. Hold a regional workshop to review the national workshops' outcomes
5. Disseminate (in the appropriate languages) the regional workshop's findings to the local communities, practitioners, and researchers

5.3 Scientific community involvement

Activities

1. Identify academic institutions to participate in the scientific community program
2. Determine the guidelines for the exchange program and select participating institutions and individuals
3. Implement the exchange program among academic institutions within the Senegal River Basin
4. Host a regional conference on transboundary issues in the Senegal River Basin.

Table 2. Summary of Project Costs for each Component

GEF Project Component	GEF World Bank	GEF UNDP	Total GEF	Co-financing	TOTAL
Component 1 Capacity Building	2.70	0	2.70	2.66	5.36
Component 2 Data and Knowledge management	1.52	0	1.52	3.28	4.80
Component 3 Transboundary Diagnostic Analysis	1.04	0	1.04	0	1.04
Component 4 Microgrant Program	0	1.66	1.66	8.01	9.67
Component 5 Public Participation and Awareness	0	0.33	0.33	0	0.33
Total Costs	**5.26**	**1.99**	**7.25**	**13.95**	**21.20**

By Component:

Project Component 1 Environmental Management Capacity Building
Component managed by the World Bank
GEF: USm $2.70; Co-Financing US$m 2.66; Component Total: - US$5.36 million

6. This component will reinforce the capacity of institutions at the regional and national levels to coherently manage the Senegal River Basin's resources, to create awareness and build capacity in the individual institutions, and to then link them together in a basin-wide network. Focus will be placed on incorporating Guinea as a full participant in the decision-making process. The component will build on the institutional elements of basin-wide work being carried out under the French supported The Regional Hydropower Project and the *Plan D'atténuation Et De Suivi Des Impacts Sur L'environnement* (PASIE) program and other compatible projects in the Basin.

Subcomponent 1.1 Dialogue on legislation—Guinea specific
GEF: US$m 0.15

7. This subcomponent will facilitate Guinea's dialogue in the Basin at two levels. First, within Guinea on the national level, among the relevant ministries, regarding legislation and policies being prepared for its water and environmental resources. Second, at the regional level with the other riparian countries of the Senegal Basin, and the OMVS H.C.

8. A forum where issues relating to transboundary resource management at the national and regional level will be established. This forum will be at the national level, in the capacity of a Guinean Working Group to promote and coordinate a dialogue among the ministries involved in or affected by the Senegal River Basin management. Participants would include the Ministère de l'Hydraulique et de l'Energie (MHE); the Ministère des Mines, Géologie et Environnement (MMGE); the Ministère des Finances, de l'Economie et du Plan (MFEP); and the Secrétariat d'Etat à la Coopération (SEC) in the Ministry of Foreign Affairs. Once established, national, regional, and international consultants will provide guidance and support to the Guinean Working Group as needed. Under the MHE's Director of Hydraulics' supervision, Guinea's CCN will mange this subcomponent's implementation, with assistance from OMVS through the CRGP office.

9. The component activities will (i) review Guinea's water and environmental legislation; (ii) facilitate a dialogue among Guinea and the OMVS member countries on their national legislations and policies through workshops and consultations; and (iii) reform and strengthen Guinea's legal foundation for water and environmental management.

Subcomponent 1.2 Regional capacity building
GEF: US$m 0.410

10. This subcomponent will facilitate greater awareness of issues relating to transboundary resources, and build capacity in the institutions responsible for managing these resources at the regional and national levels. The subcomponent activities will assist in improving decision-making through better regional collaboration and communication by (i) establishing linkages among ministries within countries and their counterparts in other Basin countries, as well as among regional institutions and (ii) strengthening regional and national networks and their capacity. At the national level, a dialogue on transboundary resource issues will be encouraged going beyond the water and environment ministries to include a broader network of other sector-specific institutions. The focus of this effort is on relevant national ministries and the OMVS, more specifically:

- *At the regional level.* The OMVS H.C., together with the regional project coordinator (CRP), will form a network at the regional level, with support from the the Information and Participations Expert (EIP), and guidance from the Senegal CPBFS. The network will include relevant stakeholder institutions, ministries, and regional institutions, and the CRP will propose and develop a capacity building program to include training workshops and awareness building on regional transboundary land and water management issues.

- *At the national level.* Under the advice of the OMVS National Cellules' Technical Advisors, and as directed by the CRP, the CCNs will identify training needs as well as workshops to include the participation of broader, relevant ministries as well as other relevant parties, including academia and the NGO sector.

11. The overall goal, of both the regional and national workshops, is to create linkages within and among the four countries to ensure a broader appreciation of the interdependence of the sectors and countries in the context of the shared water resource. The subjects will include but not be limited to (i) multi-thematic issues related to integrated water resource management practices—experiences and applications in data management and best practice; (ii) lessons learned regarding international water law, public participation and involvement, and conflict management and resolution in international river basins; and (iii) environmental issues pertaining to biodiversity hotspots and environmental management in a regional setting, as well as environmental impact assessments and social safeguards.

Subcomponent 1.3 Development of an inclusive institution
GEF: US$m 0.15

12. This subcomponent aims to enhance capacities in the riparian countries in understanding the fundamentals of international water law. By studying international water law principles, the four countries will gain a broader appreciation of the required technical and legal building blocks, which can eventually be reflected in an inclusive and cooperative Senegal River Basin institution.

13. A Regional Study Team composed of legal and water resource experts from each country will be established for this subcomponent. The Regional Study Team will include two members (a lawyer and a water resources specialist) from each country and members of the OMVS. While this activity does not constitute a formal process for developing an agreement, *per se*, it is nevertheless important for coordination purposes that the legal member of the Regional Study Team is appointed in close consultation with the Ministry of Foreign Affairs, or the national authority, which normally would be responsible for international legal discussions.

14. Short-term consultants will be hired to produce a series of regional reports on agreed topics. These reports will be produced by a combined group of national or regional experts and consultants. International consultants will be used to contribute the specialized skills such as international water law and experienced arbitration and dispute settlement, which will be required for the regional reports. The Regional Study Team will attend the four workshops to review and—with guidance from international experts—discuss these regional reports and their relevance to the design and agreement of an inclusive Senegal River Basin framework. The Regional Study Team will also participate in a study tour for the exchange of lessons learned on legal and institutional best management practices in similar river basins in the region.

15. The subcomponent activities will (i) build, through training and workshops, the regional capacities necessary for an inclusive institution through the Regional Study Team, regarding international water law within the Basin; (ii) assess lessons learned and best practices from other international river basins; (iii) analyze and gain broader appreciation of the OMVS' responsibilities regarding legal decisions; and (iv) build capacity to establish a legal framework on the inclusive management of the Senegal River Basin.

Subcomponent 1.4 Project management and strengthening
GEF: US$m 1.68

16. The subcomponent activities augment the regional and national institutional capacity in the Senegal River Basin to manage and implement regional projects, and strengthen the institutional ability to manage the Basin's resources in a sustainable manner. The subcomponent activities, through training and capacity building workshops, will support regional and national Project management. Specifically this subcomponent supports operationlizing Project management within the OMVS. The Project's institutional arrangements and management responsibilities are detailed in Annex 13.

17. At the regional level, the CRGP office will be established in the OMVS H.C. and will be responsible for assisting OMVS in supervising Project management and implementation. The OMVS will appoint a CRP (*Coordinateur Regional de project*) to supervise and manage Project implementation. The OMVS staff is familiar with Bank procedures, and funds for additional procurement training have been allocated to strengthen CRGP's procurement capacity. The Project will fund the administrative and financial/procurement assistant and the four regional technical experts to support the CRGP office.

18. At the national level, the Project will draw on expertise from existing structures including the OMVS National Cellules, PASIE's National Coordination Committees (CNC), and the National Coordinators of the National Project Planning Committees (NPPC). A National Cellule and CNC will be established in Guinea. The Guinea CNC will draw on the already established NPPC. For each National Cellule the Project will support a CCN and a national EIP, to oversee Project implementation at the national levels.

Subcomponent 1.5 Africa Regional Forum
GEF: US$m 0.10

19. This subcomponent will facilitate the exchange of lessons learned and basin management best practices in regional projects in Sub-Saharan Africa. A Working Group will draw together lessons from other GEF international waters projects in Africa (and other projects in the region), prepare the Forum's agenda, and arrange for papers to be presented along agreed-to priority themes. OMVS will hold the First Africa Regional Forum and it is hoped that other comparable GEF projects will continue this process to continue the exchange of lessons and expand the regional and national networks. The Forum will serve to encourage the establishment of links to other regional projects and networks. With guidance from the two GEF Implementing Agencies and support from the regional information specialist (EIP), the CRP will organize the Africa Regional Forum hosted in Dakar by the OMVS H.C.

Subcomponent 1.6 Technical capacity building—invasive species management
GEF: US$m 0.15

20. The OMVS expressed great concern on issues related to invasive species, which includes the introduction of waterborne disease, impacts on water quality and water availability, and loss in ecosystem biodiversity. *Typha australis* introduced into the Basin lacks the predators or diseases that restrict populations in their native habitat, and it has become invasive and out-competes native plants. Many initiatives, such as, a German Technical Cooperation Agency (GTZ) supported workshop in St. Louis, Senegal (July 23–25, 2002) on *Typha australis* utilization attempt to address the challenges of *Typha australis,* but often target its utilization (e.g., roof elements, biomass uses, briquettes, food for livestock, etc.), and rarely go beyond experiments and pilot utilization. As remedial actions, these initiatives do not address the source of the problem. Under this subcomponent it will be essential to (i) take stock of the knowledge that come from the research undertaken during the last 10 years regarding *Typha australis* management; (ii) assess and define possible interventions for targeted areas; and (iii) disseminate this knowledge to arrive at a better understanding in addressing the problem. The Technical Advisors in charge of coordinating the OMVS National Cellule will work with technical staff and communities in the assessment and evaluation process.

Subcomponent 1.7 Donors Conference
GEF: US$m 0.057

21. The Donors Conference will provide a forum for the riparian countries and OMVS to establish a

dialogue with donors on the ways and means of addressing the Basin's critical challenges. A range of critical activities will be identified from the TDA/SAP process, and draft proposals for investment opportunities will be prepared by OMVS in close cooperation with the four Senegal riparian countries. Actions to take on the critical challenges, to be implemented under a multi-year action program, will supplement and complement the GEF Project priority actions, which are not covered by Project financing. These supplementary critical-challenges proposals will increase awareness and mobilize the donor community to address priority issues in the Basin. Under the management of the OMVS H.C., with advice from the two GEF Implementing Agencies, the CRP will organize a donor's conference hosted by the OMVS H.C. in Dakar in the fourth project year. This subcomponent supports the recent developments in the last two years and the newly adopted Water Charter, which provides a legal framework for basin-wide water resource management. At the same time, Guinea has been an OMVS observer since 1992 and has expressed increased interest and new will of cooperation concerning Basin management. Furthermore, the Bank has also embarked upon a strategic vision to support the riparian countries as they move forward in a new inclusive cooperative framework for basin-wide development. This is in accordance with the Millennium Development Goals and new Africa framework initiated by the New Partnership for Africa's Development (NEPAD). This initiative, together with Project successes, will provide the incentive for future investment in the Basin.

Project Component 2 Data and Knowledge Management
Component managed by the World Bank
GEF: US$m 1.52; Co-Financing US$m 3.28; component Total: - US$4.80 million

22. This component's objective is to create conditions that will enable the riparians to build a robust partnership for the management of water and environment data, thus contributing to enhanced knowledge of the Basin. The demand for water to meet environmental, economic, or social needs in the Basin remains unknown. It is generally known that water resource management should not be done without knowledge of the existing water resource and environmental conditions. Currently, the limited or intermittent environmental monitoring throughout the Basin—particularly in the upper basin—contributes to ineffective management. So far, the geomorphologic processes in addition to the associated changes in flow rates have not been adequately taken into consideration.

23. It is important to note that some initial actions have been taken. OMVS has already begun applying remedial measures within the context of the regional hydropower project and its associated PASIE program. The Water Charter has been approved, some preliminary hydrological studies have been initiated, and the OMVS Environmental Observatory has been established. However, these measures will not be sufficient if a reliable system for the management of the Basin's water resources and environment is not put in place. Such a system could include but not be limited to hydrological forecast tools, possible use of remote sensing, elements of traditional and contemporary cartographic methods, and the monitoring of key information of the landscape and hydrodynamic processes. The mere collection of raw data, however, will not be sufficient to solve the Basin's problems. It will be essential to improve data exchanges and to set up exchange procedures and protocols so the data is compatible, processed, and published in a manner that a mutual understanding exists among all the participants. The data and information will be used to establish a foundation to understand the processes occurring in the River and floodplain.

Subcomponent 2.1 Information network—Guinea program
GEF: US$m 0.50

24. This activity intends to assist Guinea in participating in the OMVS Environmental Observatory. For this purpose, the subcomponent focuses on replicating in Guinea those activities that were launched by

OMVS under its PASIE program, with assistance and guidance from international and national consultants. These activities include (i) assessing the current situation and status water resources and environmental data; (ii) implementing specific studies to better understand the Basin's environment; (iii) designing and implementing a sustainable Guinean water and environment monitoring data network that is compatible with OMVS data and networks; and (iv) installing and calibrating sampling networks for water quality and quantity, hydrometeorology, and environmental data.

Subcomponent 2.2 Transboundary data and knowledge management
GEF: US$m 1.02

25. The subcomponent aims to strengthen the partnership between OMVS and Guinea by establishing a series of technical and institutional measures needed to ensure sustainable data exchanges among the riparian countries in the Senegal River Basin. It is also intended that the data and information will be used to establish a foundation to understand the processes occurring in the River and floodplain. It will implement joint training and capacity development initiatives, which will lay a common foundation for building mutual trust and the will to cooperate.

26. The subcomponent is based on the results of two studies carried out under the PASIE program, which provided baseline data and supplemental information on monitoring systems that exist within the entire Basin:

Study 1: A background study on indicators and areas targeted in the initial phase of the Environmental Observatory, for the monitoring of positive and negative changes over space and time in the ecosystems of the Senegal River; and

Study 2: An evaluation of existing systems for the monitoring of indicators and areas targeted in the initial phase of the Environmental Observatory, with a view to providing a diagnosis of such systems and proposing a general framework for the creation of a network of monitoring systems.

27. The Environmental Observatory of OMVS will be the pilot for this activity. Within the framework of the Project and in close collaboration with the Environmental Observatory with assistance and guidance from international and national experts the component activities will:

a. Assess the status of harmonized and calibrated information and data networks of OMVS member countries;
b. Organize, prepare, and implement regional training courses on monitoring activities; assess data exchanges and their implications; develop cooperative and collaborative networks among universities and research centers for a unified approach between Guinea and OMVS; and identify data exchange needs, methodologies, and the means to do this;
c. Develop communication tools for presenting information on the status of the Basin's water resources, levels in reservoirs, flow rates, environmental data, and so on; and
d. Prepare, package, and make available shareable data, in various formats, from the riparian countries to management institutions throughout the Basin and the public.

28. A *virtual information center* will make all relevant information pertaining to the Basin available and accessible through a web site. This web site will provide information currently available from a variety of sources, which the Environmental Observatory will compile. An *information dissemination program* intends to improve and enhance communication among OMVS structures, the technical departments of the respective countries, and actors in the Basin, using more traditional means of communication to reach in particular village populations without access to modern communications.

Subcomponent 2.3 Upgrade Equipment for OMVS
GEF: US$m 0.18

29. The OMVS technical specialists will be actively enaged in project implementation requiring an upgrade of their hydrologic and data collection/analysis system to be harmonized basin-wide.

Project Component 3 TDA and SAP
Component managed by the World Bank
GEF: USm$1.04; Component Total: - US$ 1.04 million

30. In conformity with GEF procedures and recommendations, this component addresses transboundary water and environmental management issues in the Senegal River Basin, and completes an in-depth identification and analysis of environmental problems and issues throughout the Basin and their linkages with transboundary dynamics. The sources of the problems, their impacts on the natural and human environments, as well as their root causes will be assessed to highlight the most affected areas in the Basin and the transboundary priorities that need to be addressed as a result.

Subcomponent 3.1 TDA
GEF: US$m 0.28

31. A preliminary Transboundary Environmental Analysis (TEA) carried out under the Project Development Facility–B (PDF-B) Project in the four riparian countries provided a baseline on key environmental priorities in each country of the Senegal River Basin and a matrix summarizing environmental issues in the four riparian countries, included in Annex 11. To expand the understanding of these issues, a TDA is necessary to more clearly define major transboundary environmental issues, discern evolving trends, and elaborate the priority actions and strategy to address them. The transboundary diagnosis will be carried out using an iterative process involving the various scientific communities as well as technical entities in the Basin to analyze the environmental transboundary issues in the Basin. The TDA will address a variety of parameters and aspects of the Basin to include but not be limited to the following:

- Examine existing conditions and management, including the flow regime, land and water ecosystems, and current management practices;
- Identify and analyze the Basin's transboundary issues, including the flow regime management, ground and surface water uses, water quality issues ranging from siltation to transport of waterborne diseases, desertification, land and water degradation from soil erosion, overgrazing, and deforestation;
- Propose options to address these issues; and
- Address any related socio-economic and land-use issues from changes in the flow regime, impacts from existing infrastructure, impacts on environmental health, and links to coastal and delta interactions below the Diama dam.

32. The TDA will extend the participatory approach begun during the TEA process, engaging a broader network of national and local stakeholders. To achieve this at the local level, the network of CLCs established under the PASIE program will expand, almost doubling the number of CLCs in the Basin, to Guinea and other regions of the Basin. The CLCs will be on the ground to work with the rural communities in the TDA information gathering process, contributing to the SAP, and engaging the communities in the Microgrant Program.

33. The TDA will also include a transboundary institutional analysis to assess the capacities of existing institutions and the capacity strengthening activities required to make these institutions operationally more effective. In addition to the environmental transboundary issues, the TDA will also take into consideration other relevant water issues, such as soil degradation resulting from desertification; sedimentation and river bank erosion; sources and forms of pollution in the Basin; invasive aquatic plants; local practices regarding the sustainable management of wetlands; and waterborne diseases.

Subcomponent 3.2 SAP
GEF: US$m 0.76

34. The SAP will be the foundation for a Basin management document that will (i) define and prioritize crucial issues and priority actions in the Basin and (ii) identify a work plan and investment schedule to address the priority actions in the Basin. The SAP will be prepared according to criterion in conformity with GEF expectations, to include the following:

- A clear definition of national and transboundary priorities based on the TDA outcomes;
- A concise summary of the identified threats and their root causes;
- A description of public perceptions of environmental threats, development and equipment actions at the basin-wide level, and the related transboundary management issues;
- A priority ranking of national and transboundary actions according to the recommendations;
- Identify and define priority actions; and
- Identify additional reforms necessary to facilitate SAP implementation.

35. Building on the institutional arrangements already defined under the TDA, the SAP will also utilize the institutional structures existing with the PASIE program. The CNC will thus serve in a consultative role at the national level, the CLCs will serve the same purpose at the local level, and, at the regional level, the CPBFS and the Inter-Ministerial Council will be responsible for the validation of the activities to be conducted at the local and national levels.

36. Both the TDA and SAP will serve as critical documents to facilitate transparent and sustainable Basin management, introduce relevant environmental protection policies, provide opportunities for innovative community-based activities, and improve community livelihoods through small microgrant investments while providing mechanisms for improved resource management. The SAP document will be the basis in providing guidance to address priority issues in the Basin. It will provide national level decision-makers a foundation for addressing national concerns and, on the local level, it will initially be used as a framework for information and education on responsible land and water utilization and management. Through the Microgrant Program, it will provide communities with opportunities to participate and engage in addressing priority actions through responsible resource management.

Project Component 4 Microgrants Program––Priority Actions
Component managed by UNDP
GEF: US$m 1.66; Co-Financing US$m 8.01; Total: - US$9.67 million

37. The Microgrant Program will focus on the Basin's priority issues, identified in the four National Microgrant Program Priority Actions Plans, and provide opportunities for sustainable development and economic opportunities through the implementation of small-scale microgrant-supported community-based interventions (micro-activities). Inherent in the Program are community driven development principles emphasizing the strengthening of regional, national, and local institutions and entities as well as expanding social capacity for improved decision-making and collaborative management of the Basin's water and

environmental resources. The community-based microgrants funded activities will support activities at selected transboundary sites to pilot feasible local-level approaches to implement land and water conservation best practices. Precedence will be given to micro-activities that tackle the local priority issues while demonstrating a commitment to support viable economic, social, and environmentally sustainable practices. From the preliminary TEA, it is anticipated that the priority issues and possible interventions, which are detailed in Appendix B of this Annex, will include but not be limited to the following:

- Addressing land degradation and desertification problems by installing soil erosion control measures, regenerate and reforest degraded areas, implement best management farm practices, or improve pastoral land management;
- Enhancing water quality by restoring stream banks, controlling water weeds and invasive species, or improving flow from irrigation ditches;
- Improving wetland management by restoring local wetland habitats, establishing community wetland protection and surveillance, protecting community nature reserves, establishing protected areas, or conducting small-scale research on wildlife and habitats; and
- Supporting the implementation of possible activities through local capacity building efforts in the exchange of best practices, community awareness efforts, or community workshops and training.

38. Component 4 will provide local community groups, NGO's, community-based organizations (CBOs), private volunteer organizations (PVOs), and others with the training and opportunities to expand their knowledge and skills for local best management and sustainable practices. The Microgrant Program will engage regional, national, and local partners.

1) Regional responsibilities by the CRGP:
   - Identify, from the TDA/SAP, regional priority actions;
   - Train regional and national stakeholders on Microgrant principles and review environmental and social safeguard policies; and
   - Prepare, with National Cellules, a national and local information and promotional campaign.
2) National responsibility by the National Cellules:
   - Prepare National Microgrant Priority Action Plans;
   - Prepare and execute a national and local informational and promotional campaign;
   - Assist the CLC in preparing micro-activity applications, if necessary;
   - Complete a national review of micro-activity proposals and screen for compliance with elegibility criteriaand compliance with the Environmental Management Framework (EMF);
   - Prepare an environmental assessment for cumulative impacts, if deemed necessary, assessed bu the the national level environmental and social safeguards screening.
3) Local responsibilities of the CLCs include:
   - Prepare the micro-activity application and comply with eligibilitly criteria outlined in the Microgrant Operational Manual and the environmental and social safeguards outlined in the EMF;
   - Implement community-based micro-activities; and
   - Monitor and evaluate the community-based micro-activities.

39. The draft Mircrogrant Program Operational Manual, prepared as part of the Project documents, will provide guidance for Microgrant Program implementation and adherence to specific basin-wide guidelines, and elegbility criteria and application procedures. The draft Microgrant Operational Manual, eligibility guidelines are based on the transboudary environmental analysis, however it will be updated with the priority issues identified in the National Microgrant Program Priority Actions Plans. The Operational Manual will also includes adherence to financial management guidelines outlined in the overall Project

Implementation Plan as well as standard UNDP and World Bank policies. No grant will be disbursed unless it has been approved according to the requirements and criteria outlined in the Manual. Individual grants will have a ceiling of US$50,000, although it is expected that many grants will be much smaller and the average size will probably be around US$10,000 per grant. The Microgrant Program was prepared by drawing on the best practice of the UNDP Small Grants Programme and other microgrant programs. The Operational Manual outlines the basic procedure for microgrant program:

- The basic procedure for microgrant applications includes micro- activity objectives and goals, with a description of the proposed intervention, summarizes environmental sustainability and the completion of an initial environmental assessment, and lists activity costs and effectiveness;
- The microgrant activity eligibility criteria confirms that the activity is a local priority issue, addresses transboundary concerns, utilizes best management practices, provides environmental and socio-economic benefits, and is sustainable;
- The Microgrant Program's implementation and institutional arrangements, insitutitutional and community responsibilities, and accountability; and
- The environmental and social screening process is defined in the EMF.

40. This EMF, designed to comply with World Bank safeguard policies, is a stand-alone document to complement and supplement the Operational Manual. Each micro-activity will be screened, at the national level, through mechanisms defined in the Project's EMF. The EMF provides a process to assess both the individual and cumulative micro-activity impacts in the Basin.

Project Component 5 Public Participation Program
Managed by UNDP
Component Total - US$0.33 million

41. This component will expand on the participatory activities already initiated during the PDF-B Project preparation process summarized in Annex 12. The component activities will provide opportunities to: (i) promote the Project activities; (ii) inform the public on the Basin's environmental issues through a regional, national, and local information campaign; (iii) coordinate community participation through local NGOs and the CLCs; and (iv) support effective involvement of local community leaders, the broader public, especially women, and the scientific community in the planning and decision-making with regards to the Basin's resources.

42. The component activities will help facilitate a dialogue on (i) the need and importance to engage at the stakeholders' grassroots level and (ii) the importance of sustainable use and management of Senegal River Basin's local resources. Engagement at the local level will provide an incentive to strengthen coordination among the Basin's management entities at the central and decentralized level to involve local stakeholders in the management aspects of the Basin. The Project will build on the participation process from the PDF-B phase and will ensure that civil society will be involved not only in the microgrant pilot activities on the ground but also in the process of defining longer-term objectives that deal with Basin management. With the endorsement of the OMVS Water Charter, which places high emphasis on community involvement and consultation, it is further intended that this component will become established as a feature, which can feed into the broader Senegal River Basin decision-making processes. Finally, it is planned that the public participation program will feed into the completion of the SAP.

Subcomponent 5.1 Public information and awareness
GEF: US$m 0.16

43. This subcomponent will support the development and delivery of transboundary environmental awareness campaigns by utilizing the national media and by working at the local rural community level to raise awareness on the transboundary environmental issues in the Basin, and it will support the relevant Project's component activities. The goal is to reach as wide an audience as possible through activities tailored to the specific audience's context. Therefore, a variety of media tools will be used, including TV, radio, newspapers (print and electronic), and locally specific means to communicate with rural communities. At the national level, the activities will work with the national environment ministries and NGOs' networks.

44. The EIP will be responsible for the overall design and implementation of this public information and awareness campaign. Based at the OMVS, the EIP, together with the national EIPs, will work with the national media and NGO networks. The Expert will work with existing NGO networks, under the PASIE program, and build on the network established during project preparation. The communication potential will be assessed in each country and the media campaign will be adapted to the resources and capacity of each country. The component activities include (i) the preparation and translation to local languages—of media information on transboundary issues, including print media, television media (public announcements and television programming), and radio programming; (ii) contracting four national NGOs to assist in disseminating information at the local level; and (iii) creating a feedback mechanism, through web sites, and a public response campaign.

Subcomponent 5.2 Civil society participation
GEF: US$m 0.12

45. This subcomponent will strengthen civil society's participation in the decision-making processes in the Basin through the delivery of a transboundary environmental awareness campaign focusing on the decision-makers and local stakeholders.

46. The EIP will coordinate with Component 1 and Component 4 activities to ensure that the Basin's communities are engaged in decision-making. Together with the national EIPs, they will undertake advocacy within riparian governments and local community groups: (i) through regional workshops, sensitize decision-makers at the regional and national on participatory planning methods; (ii) together with the EIP, through local community workshops, train local communities on how to engage in the decision-making process; and (iii) promote public participation in the development of new perceptions and tools for the management of issues that are socially sensitive and ecologically and economically important to the livelihoods of communities in all four riparian countries.

Subcomponent 5.3 Scientific community involvement
GEF: US$m 0.050

47. This subcomponent will support the development of an academic exchange program related to the transboundary water and environment framework of the Senegal River Basin. To capture the complexities of transboundary issues, participants will be invited from both the physical and social sciences from competitively selected institutions in the Basin. The research program will be inclusive in defining key issues in the Basin. The program will also provide opportunities for knowledge sharing among universities and research institutions through (i) a regional conference; (ii) the design of joint water and environment education program; (iii) the development of environmental education modules; and (iv) an academic

exchange of students and professors to strengthen scientific community cooperation.

48. To maintain an uncomplicated structure, the CRGP EIP will liaise with the selected implementing institution to establish the broad guidelines for the exchange program and the regional conference. Together they will identify two institutions in each country to participate and will determine the criteria for selecting individual candidates.

Annex 2: Appendix A
Detailed Costs of Bank Managed Components

Senegal River Basin Water and Environmental Management Program
Table 1. Institutional Strengthening

Detailed Costs	**Totals Including Contingencies (US$)**				
	2003	**2004**	**2005**	**2006**	**Total**
I. Investment Costs					
A. Institutional Strenghtening					
1. Dialogue on legislation - Guinea speciafic					
a. Reviewing Guinea's water/env. legislation					
Desk review of Guinea's legislation (30NCD)	6,600	-	-	-	6,600
National working group meetings	3,000	3,000	-	-	6,000
Subtotal Reviewing Guinea's water/env. legislation	9,600	3,000	-	-	12,600
b. Facilitating dialogue between Guinea & OMVS					
Preparing papers for regional workshops	17,400	40,700	-	-	58,100
Regional workshops in Conakry	9,000	21,000	-	-	30,000
Consultant (1 reg facilitator)	690	1,610	-	-	2,300
Consultants (2 national experts)	780	1,820	-	-	2,600
Consulant (1 regional expert)	690	1,610	-	-	2,300
Consultant travel (2 reg cons)	1,680	3,920	-	-	5,600
Report: Synthesis of regional workshop	2,000	4,600	-	-	6,600
National working group meeting	450	1,050	-	-	1,500
Consultant (1 national expert)	200	200	-	-	400
Subtotal Facilitating dialogue between Guinea & OMVS	32,890	76,510	-	-	109,400
c. Reforming and strengthening the legal basis					
National workshop in Guinea	2,700	-	-	-	2,700
Consultant (1 national facilitator)	400	-	-	-	400
Consultants (2 national experts)	900	-	-	-	900
Report: Synthesis of national workshop (1 expert)	2,200	-	-	-	2,200
National meeting to review/draft legislation	2,000	8,500	-	-	10,500
Consultant (1 reg expert)	1,200	4,600	-	-	5,800
Consultant travel (1 reg cons)	1,000	4,500	-	-	5,500
Subtotal Reforming and strengthening the legal basis	10,400	17,600	-	-	28,000
Subtotal Dialogue on legislation - Guinea speciafic	52,890	97,110	-	-	150,000
2. Regional capacity building					
a. Training					
Preparing papers for regional workshops	21,000	83,000	-	-	104,000
Regional training workshops	51,000	204,000	-	-	255,000
Consultant (1 reg facilitator)	1,200	4,800	-	-	6,000
Consultants (4 trainers)	4,600	18,400	-	-	23,000
Consultant travel (5 reg cons)	4,500	17,500	-	-	22,000
Subtotal Training	82,300	327,700	-	-	410,000
3. Devpt of an inclusive institution					
a. Regional reports					
Reg report no.1 (1 inter expert)	-	4,600	-	-	4,600
Reg report no.2 (1 expert)	-	3,850	-	-	3,850
Reg report no.3 (1 expert)	-	4,600	-	-	4,600
Reg report no.4 (10 RCD)	-	3,850	-	-	3,850
Reg report no.5 (10 RCD)	-	3,850	-	-	3,850
Subtotal Regional reports	-	20,750	-	-	20,750
b. Regional workshops					
Reg workshop on dev. an inclusive inst	-	46,200	-	-	46,200
Consultancy (1 expert)	-	6,100	-	-	6,100
Consultancy (facilitator)	-	6,100	-	-	6,100
Subtotal Regional workshops	-	58,400	-	-	58,400
c. Study tour					
Study tour	-	53,500	-	-	53,500
Consultancy accompanying study tour	-	5,800	-	-	5,800
Preparation of papers	-	7,700	-	-	7,700
Study tour report	-	3,850	-	-	3,850
Subtotal Study tour	-	70,850	-	-	70,850
Subtotal Devpt of an inclusive institution	-	150,000	-	-	150,000

Senegal River Basin Water and Environmental Management Program
Table 1. Institutional Strengthening
Detailed Costs

	Totals Including Contingencies (US$)				
	2003	**2004**	**2005**	**2006**	**Total**
4. Project mgt & strenghtening of OMVS					
a. Establishing the CRGP					
1 Adm & Finance Assistant	13,200	13,200	13,200	13,200	52,800
4 Reg Experts	52,800	52,800	52,800	52,800	211,200
1 Adm Assistant	4,020	4,020	4,020	4,020	16,080
2 drivers	6,000	6,000	6,000	6,000	24,000
Provision for Personnel (home leave, medical benefit, salary in	19,596	48,989	58,787	68,584	195,956
PMU: PCs	32,000	-	-	-	32,000
Internet service subscription CRGP staff/5 experts	2,000	7,000	7,000	6,000	22,000
Communication/expert	3,500	12,500	12,500	10,500	39,000
Vehicles	83,000	-	-	-	83,000
Vehicule operations	3,600	12,800	12,800	10,800	40,000
Office furniture	27,000	-	-	-	27,000
Travel/yr ticket (4 staff)	9,000	28,000	28,000	26,000	91,000
Travel/yr DSA	11,000	34,000	34,000	32,000	111,000
Printing, translation, dissemination, stationary	8,000	8,000	8,000	8,000	32,000
Pjct finance & procurement training CRGP OMVS staff	7,500	22,500	-	-	30,000
Finalizing financial & operational manual (1 reg cons)	7,000	-	-	-	7,000
Coordination, supervision, follow-up/evaluation	9,000	27,000	27,000	27,000	90,000
Steering committee (Pilotage) meetings	40,000	-	-	40,000	80,000
Subtotal Establishing the CRGP	338,216	276,809	264,107	304,904	1,184,036
b. Supporting national pjct implementation					
4 National Account Assistant	12,000	12,000	12,000	12,000	48,000
4 drivers	8,016	8,016	8,016	8,016	32,064
National coordinator office: PCs Printers Potocopier	23,000	-	-	-	23,000
Office furniture	31,000	-	-	-	31,000
Vehicules	220,000	-	-	-	220,000
Vehicule operations	5,300	15,900	15,900	15,900	53,000
Communications/expert/month	3,100	9,300	9,300	9,300	31,000
Subtotal Supporting national pjct implementation	302,416	45,216	45,216	45,216	438,064
c. Audits					
Project launch reg workshop	49,000	-	-	-	49,000
Consultants (1 reg facilitator)	1,200	-	-	-	1,200
Consultants (3 SGP coordinators)	2,000	-	-	-	2,000
Consultant travel	4,500	-	-	-	4,500
Subtotal Audits	56,700	-	-	-	56,700
Subtotal Project mgt & strenghtening of OMVS	697,332	322,025	309,323	350,120	1,678,800
5. Africa regional forum					
a. Holding 1st consultative forum					
Prepare lessons (5 reg experts)	-	-	19,500	-	19,500
International conference	-	-	63,800	-	63,800
Consultants (1 reg rapporteur)	-	-	1,200	-	1,200
Consultant travel (1 reg cons)	-	-	2,500	-	2,500
Report: synthesis of lessons (1 reg expert)	-	-	4,000	-	4,000
Printing, translation, dissemination	-	-	9,000	-	9,000
Subtotal Holding 1st consultative forum	-	-	100,000	-	100,000
6. Techn capacity building - invasive species mgt					
Consultancy (1 reg expert)	-	-	7,750	7,750	15,500
Regional workshop	-	-	15,500	15,500	31,000
Report, dissemination	-	-	5,500	5,500	11,000
Action prog impl preparation	-	-	22,000	22,000	44,000
Emergency actions (Typha removing by mechanical means)	-	-	24,250	24,250	48,500
Subtotal Techn capacity building - invasive species mgt	-	-	75,000	75,000	150,000
7. Donors conference					
a. Assisting OMVS					
Consultants (2 reg experts)	-	-	5,000	-	5,000
b. Disseminating the project fiches					
Printing, translation, dissemination	-	-	9,000	-	9,000
c. Holding the donor conference					
Donor conference	-	-	34,000	-	34,000
Consultants (1 reg facilitator)	-	-	1,000	-	1,000
Consultants (2 reg experts)	-	-	2,000	-	2,000
Consultant travel (3 reg cons)	-	-	6,000	-	6,000
Subtotal Holding the donor conference	-	-	43,000	-	43,000
Subtotal Donors conference	-	-	57,000	-	57,000
Total	832,522	896,835	541,323	425,120	2,695,800

Senegal River Basin Water and Environmental Management Program
Table 2. Data and Knowledge Management

Detailed Costs	**Totals Including Contingencies (US$)**				
	2003	**2004**	**2005**	**2006**	**Total**
I. Investment Costs					
A. Data & knowledge management					
1. Preparing Guinea & enlarging the Observatory					
a. Assessing existing data on water & the env					
Study: Existing monitoring of Senegal River	-	-	-	-	-
Consultants (1 IC & 1 NC)	-	13,400	-	-	13,400
Consultant travel (1 IC)	-	7,000	-	-	7,000
Study: Comparative study of OMVS system	-	-	-	-	-
Consultants (1 IC, 4 NC)	-	17,000	-	-	17,000
OMVS expert travel	-	4,000	-	-	4,000
Study: Study: Current situation using OMVS indicators	-	-	-	-	-
Consultants (1 IC, 1 NC)	-	20,000	-	-	20,000
Consultant travel (1 IC)	-	9,000	-	-	9,000
OMVS expert travel	-	4,500	-	-	4,500
Consultant travel	-	1,500	-	-	1,500
Regional meeting in Dakar	-	35,000	-	-	35,000
Consultants (1 reg facilitator)	-	1,200	-	-	1,200
Consultants (1 reg expert)	-	1,200	-	-	1,200
Consultants (3 inter experts)	-	2,500	-	-	2,500
Consultant travel (2 reg cons)	-	2,500	-	-	2,500
Consultant travel (3 IC)	-	20,000	-	-	20,000
OMVS expert travel	-	1,500	-	-	1,500
Subtotal Assessing existing data on water & the env	-	140,300	-	-	140,300
b. Specific studies					
Cartography	-	-	-	-	-
Preparatory work	-	-	-	-	-
Needs identification workshop in Guinea	-	6,500	6,500	-	13,000
Consultants (1 reg expert)	-	750	750	-	1,500
Consultants (1 national expert)	-	350	350	-	700
Consultant travel (1 RC)	-	1,250	1,250	-	2,500
Consultant travel (1 NC)	-	750	750	-	1,500
OMVS expert travel	-	750	750	-	1,500
Cartography studies (1 RC, 1 IC)	-	28,000	-	-	28,000
Modelling rainfall/flow rates in the upper basin	-	-	-	-	-
National workshop in Guinea	-	13,000	-	-	13,000
Consultant (1 reg expert)	-	1,200	-	-	1,200
Consultant travel (1 RC)	-	1,500	-	-	1,500
OMVS expert travel	-	1,500	-	-	1,500
Equipment (computer)	-	5,500	-	-	5,500
Consultants (1 IC)	-	16,500	16,500	16,500	49,500
Consultant travel (1 IC)	-	-	7,000	-	7,000
OMVS expert travel	-	-	4,500	-	4,500
Early warning system feasibility/design	-	-	-	-	-
Consultants (1 IC)	-	18,000	-	-	18,000
OMVS expert travel	-	2,000	-	-	2,000
Consultant travel (1 RC)	-	7,000	-	-	7,000
Bush fire study	-	-	-	-	-
Consultant (1 NC)	-	9,000	-	-	9,000
Material purchase (satellite imaging, maps)	-	16,500	-	-	16,500
Publication, dissemination	-	3,500	-	-	3,500
Bafing basin studies (1 RC)	-	7,000	-	-	7,000
Subtotal Specific studies	-	140,550	38,350	16,500	195,400

Senegal River Basin Water and Environmental Management Program
Table 2. Data and Knowledge Management
Detailed Costs

	Totals Including Contingencies (US$)				
	2003	2004	2005	2006	Total
c. Designing a data system for Guinea					
Consultants: inter expert on hand (1 IC)	-	3,000	3,000	3,000	9,000
Defining information needed (1 RC)	-	3,500	-	-	3,500
Indentify existing data collection stations (1 NC)	-	6,000	-	-	6,000
OMVS expert travel	-	1,000	-	-	1,000
Consultant travel (1 NC)	-	1,000	-	-	1,000
Design data collection (1 RC)	-	7,000	-	-	7,000
Study: Technical & financial sustainability of data systems	-	-	-	-	-
Consultants (2 IC, 2 NC)	-	36,000	-	-	36,000
Consultant travel (2 IC)	-	16,000	-	-	16,000
Consultant travel (2 NC)	-	3,000	-	-	3,000
Design exchange network	-	-	-	-	-
Study: monitoring systems within OMVS (1 RC)	-	-	8,000	-	8,000
Regional training workshop	-	-	22,000	-	22,000
Consultant (1 reg expert)	-	-	2,000	-	2,000
Consultant travel (1 RC)	-	-	2,000	-	2,000
OMVS expert travel	-	-	1,000	-	1,000
Subtotal Designing a data system for Guinea	-	76,500	38,000	3,000	117,500
d. Data collection networks					
Inventory of laboratories (1 NC)	-	1,000	-	-	1,000
Equipment (laboratory, monitoring stations etc)	-	99,000	99,000	-	198,000
National training worshop	-	11,700	-	-	11,700
Consultants (2 reg experts)	-	2,100	-	-	2,100
Consultant travel (2 reg experts)	-	4,000	-	-	4,000
OMVS expert travel	-	-	2,000	-	2,000
Subtotal Data collection networks	-	117,800	101,000	-	218,800
Subtotal Preparing Guinea & enlarging the Observatory	-	475,150	177,350	19,500	672,000
2. Sustainable basin-wide data exchanges					
a. Regional training					
Regional training workshop	36,250	36,250	36,250	36,250	145,000
Consultant (1 RC)	1,750	1,750	1,750	1,750	7,000
Consultant travel (1 RC)	3,500	3,500	3,500	3,500	14,000
OMVS expert travel	3,500	3,500	3,500	3,500	14,000
Subtotal Regional training	45,000	45,000	45,000	45,000	180,000
b. Reg workshop to discuss exchange between Guinea & OMVS					
Regional training workshop	36,250	36,250	36,250	36,250	145,000
Consultant (1 reg expert)	1,750	1,750	1,750	1,750	7,000
Consultant travel (1 reg cons)	3,500	3,500	3,500	3,500	14,000
International consultant support (1 int expert)	2,500	2,500	2,500	2,500	10,000
International consultant travel	3,500	3,500	3,500	3,500	14,000
Subtotal Reg workshop to discuss exchange between Guinea &	47,500	47,500	47,500	47,500	190,000
c. Regional research network meeting					
Regional training workshop	-	-	50,000	50,000	100,000
Consultants (1 reg expert)	-	-	2,500	2,500	5,000
Consultant travel (1 reg cons)	-	-	4,500	4,500	9,000
Subtotal Regional research network meeting	-	-	57,000	57,000	114,000
d. Developing communication means					
Virtual center:	-	-	-	-	-
Design the web sites (1 reg expert)	-	8,000	-	-	8,000
Equipment, connection costs (4 countries)	-	90,000	-	-	90,000
Operation & maintenance during dev period	-	11,000	-	-	11,000
Information dissemination:	-	-	-	-	-
Design the newsletters & the broadcast (1 RC)	-	15,500	-	-	15,500
Information preparation (12 NC)	-	11,000	-	-	11,000
Publication, translation, dissemination	6,625	6,625	6,625	6,625	26,500
Radio transmission	5,500	5,500	5,500	5,500	22,000
Subtotal Developing communication means	12,125	147,625	12,125	12,125	184,000
Subtotal Sustainable basin-wide data exchanges	104,625	240,125	161,625	161,625	668,000
3. Equipment for OMVS	-	180,000	-	-	180,000
Total	104,625	895,275	338,975	181,125	1,520,000

Senegal
Senegal River Basin Water and Environmental Management Program
Table 3. TDA and SAP

Detailed Costs	**Totals Including Contingencies (US$)**				
	2003	**2004**	**2005**	**2006**	**Total**
I. Investment Costs					
A. TDA and SAP					
1. Transboundary diagnostic analysis					
a. Formulating the TDA					
Indentify multi-disciplinary team needs & logistics (1 NC)	4,500	-	-	-	4,500
Regional workshop	18,000	-	-	-	18,000
Consultants (1 reg facilitator)	1,200	-	-	-	1,200
Consultant travel (1 RC)	2,000	-	-	-	2,000
National workshops	-	30,000	-	-	30,000
Consultant (1 national facilitator)	-	2,500	-	-	2,500
Subtotal Formulating the TDA	25,700	32,500	-	-	58,200
b. Preparing the TDA					
National working group meetings validating prelim. matrix	-	20,000	-	-	20,000
Consultant (1 nat facilitator)	-	2,000	-	-	2,000
Studies (3 national experts)	-	13,200	-	-	13,200
Evaluation of micro-hydro potential	-	68,200	-	-	68,200
Consultants: inter TDA/SAP expert support	-	6,000	-	-	6,000
Consultant travel (1 trip to basin for IC)	-	6,000	-	-	6,000
National working group meetings to review studies	-	20,000	-	-	20,000
Consultant (1 national facilitator)	-	1,600	-	-	1,600
Reports: synthesize national analyses	-	8,000	-	-	8,000
Report: review of national systheses (1 RC)	-	3,200	-	-	3,200
Regional working group meeting	-	6,000	-	-	6,000
Consultant (1 reg facilitator)	-	700	-	-	700
Consultant travel (1 reg cons)	-	900	-	-	900
Steering committee meeting to review/validate TDA	-	20,000	-	-	20,000
Inter-Ministerial meeting to review/validate TDA	-	40,000	-	-	40,000
Publication, dissemination	-	6,000	-	-	6,000
Subtotal Preparing the TDA	-	221,800	-	-	221,800
Subtotal Transboundary diagnostic analysis	25,700	254,300	-	-	280,000
2. Strategic action plan					
a. Evaluating/establishing institutions for SAP consultation					
4 National Information & participation coordinators	20,016	20,016	20,016	20,016	80,064
Provision for Personnel (medical benefit, salary increase, home leave)	5,443	13,609	16,331	19,053	54,436
Evaluate existing CLCs (3 NC)	9,500	-	-	-	9,500
Establish new CLCs (computer, printer, photocopier)	57,000	-	-	-	57,000
Local capacity building workshops for CLCs	-	20,000	20,000	20,000	60,000
Consultant (1 national facilitator)	-	4,500	4,500	4,500	13,500
Consultant (1 national expert)	-	4,500	4,500	4,500	13,500
Consultant travel (2 consultants)	-	5,000	5,000	5,000	15,000
Local capacity building workshops for CNCs	-	-	14,000	-	14,000
Consultant (1 national expert)	-	-	5,500	-	5,500
Regional capacity building workshops for CNCs	-	-	33,000	-	33,000
Consultant (1 reg expert)	-	-	8,500	-	8,500
Consultant travel (1 reg cons)	-	-	8,000	-	8,000
Local consultation workshops per CLCs	-	-	35,000	-	35,000
Consultant (1 national facilitator)	-	-	6,500	-	6,500
Consultant (1 national expert)	-	-	6,500	-	6,500
Consultant travel (2 cons)	-	-	6,500	-	6,500
Validating results (4 NC)	-	-	14,000	-	14,000
National workshops at the district level	-	-	14,000	-	14,000
Consultant (1 national facilitator)	-	-	3,000	-	3,000
National validation workshop	-	-	46,000	-	46,000
Consultant (1 national facilitator)	-	-	3,000	-	3,000
Report: national report consolidation (4 NC)	-	-	9,000	-	9,000
Subtotal Evaluating/establishing institutions for SAP consultation	91,959	67,625	282,847	73,069	515,500

Senegal River Basin Water and Environmental Management Program
Table 3. TDA and SAP

Detailed Costs	**Totals Including Contingencies (US$)**				
	2003	**2004**	**2005**	**2006**	**Total**
b. Preparing the SAP					
Draft SAP doc synthesising nat. priorities (1 RC)	-	-	4,000	-	4,000
Consultant: inter TDA/SAP expert support (1 IC)	-	-	5,500	-	5,500
Meeting of reg working group to review SAP	-	-	16,500	-	16,500
Consultant (1 reg facilitator)	-	-	6,500	-	6,500
Consultant travel (1 cons)	-	-	7,500	-	7,500
1st reg workshop to validate/finalize results	-	-	20,000	-	20,000
Consultant (1 reg facilitator)	-	-	1,500	-	1,500
Consultant travel (1 cons)	-	-	2,500	-	2,500
Report: reg workshop outcome consolidation (1 RC)	-	-	3,500	-	3,500
2nd reg workshop to validate/finalize SAP	-	-	5,500	-	5,500
Consultant (1 reg facilitator)	-	-	1,500	-	1,500
Consultant travel (1 cons)	-	-	2,500	-	2,500
Reg workshop for donor consultation	-	-	20,000	-	20,000
Consultant (1 reg facilitator)	-	-	1,500	-	1,500
Consultant travel (1 cons)	-	-	2,500	-	2,500
Reg report donor comments inclusion (1 RC)	-	-	2,000	-	2,000
Inter-Ministerial meeting to validate SAP	-	-	44,000	-	44,000
Publication, dissemination	-	-	5,500	-	5,500
Nat. public part./info expert local travel costs	1,350	4,050	4,050	4,050	13,500
Nat. public part./info expert national travel costs	450	1,350	1,350	1,350	4,500
Vehicle operations	7,000	22,500	22,500	22,000	74,000
Subtotal Preparing the SAP	8,800	27,900	180,400	27,400	244,500
Subtotal Strategic action plan	108,925	95,525	460,525	95,025	760,000
Total	134,625	349,825	460,525	95,025	1,040,000

Annex 2: Appendix B

Senegal River Basin Microgrant Program
Summary of Possible Interventions and Mitigation Measures

The community-based Microgrant Program will support activities at selected transboundary sites to pilot feasible local-level approaches in implementing best practices in land and water conservation. Precedence will be given to pilot activities that address the local priority issues while demonstrating a commitment to support viable economic, social, and environmentally sustainable practices. The types of activities to be supported by the Microgrant Program will include the following:

1. Activities to abate Land Degradation

- Installing soil erosion control measures;
- Regenerate and reforest degraded areas;
- Production or procurement of multipurpose tree seedlings;
- Agroforestry demonstration plots;
- Water harvesting to decrease soil erosion;
- Implement best management farm practices;
- Physical or biological soil conservation measures; or
- Improve pastoral land management.

2. Activities to Improve Water Quality

- Restore stream banks;
- Control water weeds and invasive species;
- Mitigation of non-point source pollution from agriculture, including but not limited to vegetative buffers or holding ponds;
- Introduce environmentally sustainable farming practices;
- Community-based extension services to support best management practices; or
- Improve flow from irrigation ditches.

3. Activities to Support Wetland Management

- Restore local wetland habitats;
- Establish community wetland protection and surveillance;
- Protect community nature reserves;
- Establish protected areas; or
- Conduct small-scale research on wildlife and habitats.

4. Local Capacity Building to Support Activities

- Establish or strengthen a national transboundary network of NGOs working on environment and sustainable development;
- Training for NGOs, CBOs, and PVOs on lessons learned and best management practices in relation to abate land degradation, improve water quality, and support better wetland management practices;
- Transboundary workshops and other activities to strengthen NGOs', CBOs', and PVOs' capacity for community-government collaboration and support for environmental management;
- Support for local environmental education and awareness; or
- Community exchange of best practices, tools, and techniques to improve community livelihood.

Annex 3: Estimated Project Costs

AFRICA: Senegal River Basin Water and Environmental Management Project

World Bank Global Environment Facility (GEF) Components

A. Project Cost by Component

Project Cost By Component	Local US $million	Foreign US $million	Total US $million
1. Environmental Management Capacity Building	1.90	.80	2.70
2. Data and Knowledge Management	0.84	0.68	1.52
3. TDA and SAP	0.82	0.22	1.04
Total Baseline Cost	**3.56**	**1.70**	**5.26**
Physical Contingencies	0	0	0
Price Contingencies	0	0	0
Total Project Costs	**3.56**	**1.70**	**5.26**
Total Financing Required	**3.56**	**1.70**	**5.26**

B. Project Cost by Category

Project Cost By Category	Local US $million	Foreign US $million	Total US $million
A.Consultant' Services	0.86	0.36	1.22
B.Training/Workshop	1.34	0.36	1.70
C.Goods	0.44	0.62	1.06
D.Operating Costs	0.95	0.33	1.28
Physical Contingencies	0	0	0
Price Contingencies	0	0	0
Total Project Costs	**3.56**	**1.70**	**5.26**
Total Financing Required	**3.56**	**1.70**	**5.26**

Annex 4

AFRICA: Senegal River Basin Water and Environmental Management Project

Cost-Benefit Analysis Summary
Incremental Cost Analysis

A. Introduction

Global Environmental Objective and Value of Project Increment

*1. **Global Environmental Objective***. The global environmental objective of the Project is to establish a participatory basin-wide framework for the integration of transboundary water resource activities and to launch a basin-wide action program for the global environment. The significance of the Senegal River Basin has been highlighted by the international interest in the hydro-ecological state of the Basin, with donors, which have included *inter alia*, France, the Netherlands, Canada, Germany, the United Kingdom, Norway, the World Bank (WB), and the United Nations Development Programme (UNDP). The premise of the Global Environmental Facility (GEF) Project is that current management practices need to be strengthened to develop an over-arching environmental framework, with special attention given to transboundary issues attempts to achieve sustainable use of the Basin's water resources and associated values.

*2. **Transboundary Issues.*** If the transboundary issues are not considered as part of land and water management practices, the direct and indirect impacts will result in the progressive breakdown of the hydrological and ecological integrity of the Senegal River Basin ecosystem, a deterioration in riparian populations in their ability to achieve food security, a resultant diminution of environmental values due to an acceleration of unsustainable agricultural and forestry practices, and a likely trend in migration to already overcrowded urban areas. All of these likely trends would make it increasingly difficult to address poverty in the participating countries.

*3. **The Incremental Value.*** In preparing the Incremental Cost Analysis and initial evaluation of the basin-wide activities, each relevant project in the Basin contributing to Basin development was identified. However, for the sake of clarity, to define the true value of the incremental benefit from the GEF Project, the baseline was defined by specific parameters to include just those activities that contribute directly to the Project as paralleling activities. The GEF alternative is then considered the incremental value to the Basin activities.

Regional Context and Broad Development Goals

*4. **Regional Context.*** The linkages between environmental degradation and poverty are clearly established, and combating the former will result effectively in reducing the latter and vice versa. Conforming to the UNDP-Bank International Waters Partnership, the Bank's Environmental Strategy, the Country Assistance Strategy (CAS), and the UNDP-Country Cooperation Framework (CCF), the Project is designed to support sustainable development, reduce poverty, and improve the quality of life by providing economic opportunities to empower people to manage their environmental resources. The Project specifically addresses the goal to assist a "group of countries to utilize the full range of technical, economic, financial, regulatory, and institutional measures needed to operationalize sustainable development strategies for international waters and their drainage basins." Special attention is given to integrated land and water

resource management and the special protection of sensitive areas, because "land degradation resulting in damage to the water resource" is often a transboundary problem that requires "political commitments on the part of the neighboring countries to work together, establish factual priorities, and decide on joint commitments for action."

5. ***Development Objective.*** The development objective of the Senegal River Basin Water and Environmental Management Project is to provide a participatory strategic environmental framework for the environmentally sustainable development of the Senegal River Basin and to launch a basin-wide cooperative program for transboundary land-water management.

6. ***Achieving the Development Objective***. To successfully achieve the development objective, the Project proposes to strengthen regional and national institutional capacity to enable these institutions to address the priority basin-wide, transboundary water, and environment management issues. This will enable the Senegal Basin's four riparian countries—Guinea, Mali, Mauritania, and Senegal—to jointly build on the baseline activities; to develop a cooperative regional approach to the environmental management of the Basin; and to contribute to the effective operation of the Basin's water resources, providing benefits beyond the Basin's boundaries. The above-mentioned development objective was greatly strengthened by the May 2002 approval by the three *Organisation pour la Mise en Valeur du Fleuve Senegal* (OMVS) *Organisation pour la Mise en Valeur du Fleuve Sénégal* (OMVS) members incluse Mali, Mauritania, and Senegal. Heads of State of a new treaty, the Water Charter (Annex 16). The Charter specifically addresses the issue of sound environmental management and public participation in the management of the shared water resources.

Removing the Challenges

7. ***Regional Cooperation***. The Bank and other donors are already funding water resource management programmes in the participating countries. Three of the four countries participating in the Project (Mali, Mauritania, and Senegal) have provided and continue to provide funds to OMVS for issues related to the management of the Basin's water resources. However, little attention has been given to the identification and assessment of environmental issues. Guinea has been active as an observer within the OMVS, and an objective of this Project is to further integrate Guinea into an overall basin-wide approach to the management of the Basin's water resources.

8. ***Basin Cooperation—Challenges and Opportunities.*** In meeting the challenge of sustainably developing the Senegal River Basin, the four riparian countries have committed themselves to establishing an inclusive framework to jointly manage their shared resources. Thus far, this framework has included (i) negotiating and ratifying the Water Charter, which outlines state-of-the art principles on international water allocations and management; (ii) Guinea's endorsement of OMVS as the sole GEF grant recipient for the GEF Project, even though it is not a member country; and (iii) continuing, in parallel to this Project and with the Bank's facilitation of inter-riparian dialogue, ongoing discussions among all four Basin countries on the mechanisms necessary to establish an inclusive framework to enhance national and regional capacity in formulating an integrated development action plan for the entire Basin. The GEF Project provides the incremental cost to bridge the individual baseline activities to achieve a strengthened decision-making framework.

B. Baseline

9. ***Baseline assessment.*** The scope of the baseline is set spatially by the natural limits of the Basin and the locus of external demands on the Basin's resources. Thematically, the Project components and the outcomes create the framework for defining the parameters of the baseline, and temporally, the baseline is defined by the life of the Project (four years). A number of complementary activities in the Basin provide paralleling technical and financial support to the Project. This parallel funding, or co-financing as it pertains to the incremental cost analysis, provides the baseline to this Project, the GEF Alternative. The total financing which defines the baseline amount is US$m 14.798, includes this includes national governments' in-kind contributions of US$m 0.38, which generally contribute to Component 2, and the OMVS in-kind contributions of US$m 0.50, which generally contribute to Component 1, the preparation costs of US$m 0.835, and the parallel project contributions of US$m 13.074 from the African Development Bank (AfDB), the governments of the Netherlands and France, and the Institutional Development Fund (IDF), detailed in Table 1, lend themselves for direct support to the GEF Project and are in line with corresponding components of the GEF Project:

Table 1. Donor Co-financing Defining the Baseline

Co-financing Projects	US$m	Donor	Corresponding to GEF Project Components
1. Study to restore hydraulic network of the Senegal River Basin	1.133	AfDB	Component 2
2. Supporting the implementation of the Environmental Observatory in the Senegal River Basin	0.653		Component 2
3. Support for water resources management in the Senegal Basin	0.805		Component 1
4. Fight against (rural) poverty in terms of resource use	0.85		Component 4
OMVS/AfDB Subtotal	**3.441**		
5. Niger River Basin Restoration Project			
National cooperation and capacity building,	0.319		Component 2
National network development, and	0.095		Component 2
Lessons learned experience exchanged in West Africa	0.167		Component 1
AfDB Basin Restoration Subtotal	**0.581**		
AfdB Subtotal	**4.022**		
6. Inclusive governance of Senegal River Basin	0.31	IDF Grant	Component 1
IDF Subtotal	**0.31**		
7. Government of Netherlands support to IUCN for implementing a wetland management and conservation plans in the Senegal River Basin	6.46	Netherlands	Component 4
8. Conservation and environmental protection efforts in the Djoudj National Park	0.702		Component 4
Netherlands Subtotal	**7.162**		
9. Support OMVS in decision-making for management of the Senegal River	0.878	France	Component 1
10. Continue support for the Environmental Observatory	0.702		Component 2
French Subtotal	**1.580**		
Parallel funding subtotal	**13.074**		
12. GEF and other donor preparation funds	0.835	Donor/GEF Preparation	Component 1
13. In-kind OMVS	0.50	In-kind	Component 1
National government in-kind contribution	0.38		Component 2
Co-financing Baseline Total	**14.789**		

10. A summary of the baseline costs, inclusive of GEF and donor preparation costs, and in-kind national and OMVS contribution, for each component is provided in Table 2:

Table 2. Summary of Baseline Costs for Each Component	
GEF Project Component	**Baseline**
Component 1 Capacity Building	3.495
Component 2 Data and Knowledge Management	3.282
Component 3 Transboundary Diagnostic Analysis	0
Component 4 Microgrant Program	8.012
Component 5 Public Participation and Awareness	0
Total Baseline	**14.789**

C. GEF Alternative

11. ***Incremental Cost.*** Consistent with GEF operational policy, the requested GEF funds would only be used to finance the incremental costs; hence the economic evaluation methodology is the GEF incremental cost analysis. Although a number of baseline activities touch on the proposed Project, the incremental costs are substantial. Project investment addresses the transboundary overlay of Senegal River Basin environmental management. The GEF-supported interventions would provide incremental support costs to

a) ***Develop an inclusive cooperation framework for the shared water resource and its environment***. A major objective of the proposal is to support and encourage the full involvement of Guinea in the effort to develop a comprehensive environmental framework for the Basin.
b) *Improve policy and institutional effectiveness*. The need for policy and institutional reforms will be addressed directly by the Project.
c) *Improve transboundary water management capacity at the national level.* A key policy and institutional priority is to strengthen institutions that relate to transboundary waters in each of the riparian states, thus benefiting efforts to take an integrated and basin-wide management approach.
d) *Strengthen environmental management at the Basin level.* The strengthening of OMVS's capacity regarding environmental management is crucial to improved communication and cooperation among the four riparian states.
e) *Create a strong, ongoing, basin-wide participation program.* Effective basin-wide management will require effective basin-wide stakeholder participation. The GEF intervention will focus considerable resources on this effort.

12. ***The Project is designed to be cost effective***. Further, it is designed consistent with the need to analyze the ongoing and planned future activities of the countries, the OMVS, Implementing Agencies, and other donors active in the region. This makes it possible to avoid duplication, to isolate the incremental activities necessary to Project execution, and to request funding only for the incremental costs associated with Project components.

13. ***The GEF Alternative and GEF Increment.*** The total Project costs inclusive of the GEF and donor preparation costs is US$m 22.039 and USm$21.204 without preparation costs (US$m -0.835). The total costs includes donor parallel funding (US$ 13.074) and in-kind contributions (US$m 0.88); and a total GEF contribution of US$m 7.25 as the Project increment (UNDP US$m 1.99; and Bank US$m 5.26).

D. Scope of Analysis and Project Financing

14. The physical scope of analysis will include the entire length of the Senegal River, which is approximately 1,800 km long. It will include the entire Senegal River drainage basin, an area of approximately 300,000 square km. The basin is shared by Guinea (which controls 11% of the Basin area), Mali (53%), Mauritania (26%), and Senegal (10%). The physical scope of the Project includes a variety of biomes, as the Project addresses semi-arid areas in the highlands of the Fouta Djallon in Guinea, to arid and semi-arid areas at lower elevations in Mali, Mauritania, and Senegal, and estuarine areas at the mouth of the River at St. Louis. The scope of analysis also encompasses both rural and urban populations.

15. Requisite institutional strengthening across related sectors, and particularly for the OMVS, is of the essence. The design of the Project has taken into full account its complementarity with other existing Projects in the region, such as ongoing projects at country level; projects of the OMVS; and projects of the Implementing Agencies, including associated GEF projects.

16. The temporal boundary for the Project is set by the anticipated time of implementation, which is four years. Project benefits will clearly continue to accrue beyond the four-year intervention. Strengthening of the OMVS, increased capacity for transboundary and a greater sensitivity at the national level to basin-wide issues, and the commitment to act on the results of the transboundary diagnostic and action program will require an indefinite commitment of country and donor resources well beyond the initial scope of this GEF intervention. It is highly unlikely that the individual countries could or would take actions independently to preserve a resource that will be available for neighboring countries to use. The present GEF Project therefore provides an essential element to sound and sustainable management of the shared transboundary water resources.

17. Additional financing for these activities is being secured from donors and other partners, as the Basin within the overall programmatic approach. The countries are refining details as the specifics become clearly defined during the Project preparation process. The GEF financing is intended to act as a bridge and as a catalyst to encourage further investment in specific proposals as part of the ongoing project preparation for review and incorporation as appropriate within the World Bank project document before appraisal. Several donors—including France, the Netherlands, and others—have been participating in and contributing to the process to date and have shown their commitment to the development of the basin-wide programmatic approach based on stakeholder involvement. It is confidently expected that the interest of these donors will be further confirmed with financial commitment as soon as the details are finalized.

Project Financing and Incremental Cost Matrix

18. ***Project costs.*** The total Project costs are US$m 22.039 inclusive of the GEF and donor preparation costs (US$m 0.835), the baseline (US$13.074) and in-kind contributions (US$m 0.88); and a total GEF contribution of US$m 7.25 as the Project increment (UNDP US$m 1.99; and Bank US$m 5.26). The co-financing comes from the IDF, AfDB, and Governments of France and the Netherlands. In terms of the GEF funds, the Bank will manage US$m 05.26 and UNDP will manage US$m 1.99. The Project is designed to complement, reinforce, and expand institutional elements of the current ongoing baseline projects and provide a basin-wide framework within which the future activities envisaged under the Strategic Action Plan will be carried out. Therefore, GEF financing will thus act as a bridge and as a catalyst to encourage further investment in the Basin within the overall programmatic approach.

19. Table 3 provides a summary of the baseline and incremental costs of the GEF Alternative, and Appendix 1 provides a summary of the domestic and regional benefits of the GEF Alternative.

Table 3. Summary of the Baseline, GEF Increment, and GEF Alternative

Component	Baseline	GEF Increment	GEF Alternative
	(US$m)	**(US$m)**	**(US$m)**
Component 1 Capacity Building (WB)	3.495	2.7	6.195
Component 2 Data and Knowledge Management (WB)	3.282	1.52	4.802
Component 3 Transboundary Diagnostic Analysis and Strategic Action Plan (WB)	0	1.04	1.040
Component 4 Microgrants Program—Priority Actions (UNDP)	8.012	1.66	9.672
Component 5 Public Awareness and Participation (UNDP)	0	0.33	0.33
Totals	**14.789**	**7.25**	**22.039**

Appendix A

Incremental Cost Matrix (US$m)

Component/ Other Costs	Category	Amount (US$m)	Domestic Benefits	Global Benefits
1.Environmental Management Capacity Building	Baseline	3.495	Current capacity at national and regional levels suited to focus management on local and country-specific impacts. National legislation, environmental plans, and projects geared to national concerns with little attention paid to transboundary issues.	
	Alternative	6.195	Strengthened regional decision-making capacity will benefit the national and local institutional and human capacity through training, exchange of lessons, and involvement of national and local experts in the Project. Improvement of national level inter-ministerial and inter-agency cooperation.	Generally, improvements in participating states' ability to address transboundary environmental and socio-economic issues. More specifically, a strengthened regional entity (OMVS) with increased capacity and institutional legitimacy to act at the regional level to secure an integrated, multi-sectoral approach to water management issues. An accelerated timetable for the full integration of Guinea into a regional participation in issues of the Senegal River Basin.
	Increment	*2.700*		
2. Data and Knowledge Management	Baseline	3.282	Some focused effort on the Environmental Observatory will strengthen the technical capacity, however, emphasis has often been on the collection of data on an ad hoc basis. Even when data has been collected and synthesized, it has been used inconsistently and has been allowed to become dated (abandoned) or lost altogether. Data and information for the critical Guinean part of the Basin are largely absent or not consistent with the basin-wide approach.	
	Alternative	4.802	The strengthened capacity of the Environmental Observatory, together with the	Data sets will be shared by all of the participating countries; will be maintained centrally (in the

			strengthened national capacities of the participating countries, will enable more systematic and better-maintained data sets at national level, and subsequently will provide a stronger foundation for decision-makers.	offices of the OMVS); will include socio-economic and bio-physical assessments; and will characterize cross-country (transboundary) linkages among water, ecosystems, and livelihoods. This will enable the development of a regional and ecosystem approach and will generate benefits to the Basin's ecological resources.
	Increment	*1.52*		
3. Transboundary Diagnostic Analysis and a Strategic Action Plan	Baseline	0.00	Primary emphasis has been and continues to be on national issues with transboundary issues addressed in a limited way, if at all; limited national and OMVS resources make it difficult and often impossible to define transboundary issues systematically or to address these issues as priority concerns.	
	Alternative	1.04	Additional effort to understand the entire Basin as it pertains to domestic benefits, which would include additional human and financial resources being committed at national level to more rigorously identify and address project-related issues of national concern.	Transboundary issues identified during the Project would enable prioritization of interventions based on the most urgent transboundary environmental issues requiring attention, thus ensuring benefits to the Basin's natural resources and helping ensure their long-term sustainable use. The identification of prioritized transboundary issues and the identification of approaches to address these issues will facilitate the identification of additional policy and institutional reforms necessary to enhance transboundary management.
	Increment	*1.04*		
4. Microgrants -Priority Actions	Baseline	8.012	National level, targeted activities will take place, but basin-wide actions taken to date have been largely limited to the exchange of lessons with stakeholders up- and downstream of the activity and with limited public input.	
	Alternative	9.672	There will be targeted local benefits from community-driven	Microgrant-supported interventions will be selected for their transboundary benefit and

			development, and some pilot activities will directly benefit local stakeholders in the exchange of lessons learned in the Basin.	impacts and will also meet the test of replicability in other parts of the Basin and globally. Transboundary hotspots and urgent issues (such as environmental actions that yield a human health benefit) will yield regional as well as global benefits.
	Increment	*1.66*		
5. Public Participation Program	Baseline	0.00	Low level of environmental awareness, public participation, and public education on the issue of shared water resources (issues related to transboundary use and considerations) among all stakeholders.	
	Alternative	0.33	Some domestic benefits by virtue of expanded knowledge leading to better-informed judgments regarding water use at local and national levels.	Expanded information concerning the transboundary issues related to an integrated approach to the management of Basin resources. Specific improvements in information to the OMVS and senior levels of government to facilitate a basin-wide approach to integrated management of shared resources. Expanded provisions for community-level input into regional management approaches.
	Increment	*0.33*		
Baseline Total		**14.789**		
Alternative Total		**22.039**		
GEF Increment Total		**7.250**		

Annex 5: Financial Summary

AFRICA: Senegal River Basin Water and Environmental Management Project

	IMPLEMENTATION PERIOD			
	Year 1	Year 2	Year 3	Year 4
Total Financing Required				
Project Costs				
Investment Cost	4.95	6.53	5.47	4.20
Recurrent Costs	0.00	0.00	0.00	0.00
Total Project Costs	4.95	6.53	5.47	4.20
Total Financing	**4.95**	**6.53**	**5.47**	**4.20**
Financing				
BIRD/IDA				
Government				
Central	0.09	0.10	0.10	0.09
Provincial				
World Bank GEF	1.07	2.14	1.34	0.71
UNDP GEF	0.03	0.50	0.74	0.66
IDF	0.15	0.16	0.00	0.00
African Development Bank	1.00	1.01	1.01	1.00
French Government	0.53	0.53	0.53	
Government of Netherlands	1.96	1.96	1.62	1.62
OMVS	0.12	0.13	0.13	0.12
Total Project Financing	**4.95**	**6.53**	**5.47**	**4.20**

Annex 6(A): Procurement Arrangements

AFRICA: Senegal River Basin Water and Environmental Management Project

Procurement

1. General Overview

1. ***CPAR.*** A Country Procurement Assessment Review (CPAR) was conducted in 1994 and its main recommendations were reflected in a new procurement code. This code was published in the official gazette of Senegal in July 2002. The implementation of this code has been incomplete, as some of the arrangements have not yet been made operational. Some of the key improvements include devolution or procurement responsibility to ministries and public entities, which would streamline the process and reduce processing time. The present Project, under Components 4 and 5, will contribute to a better dissemination of the code within the communities and private sector. A new CPAR has been completed and was made available April 2003. The ensuing recommendations are expected to help further enhance the procurement framework. The overall procurement context in Senegal has been deemed satisfactory and no major problems have been identified in Bank projects.

2. ***Bank.*** The Bank will finance goods, consultancies, training, and other local activities necessary to implement the Project. The procurement of goods, works, and services will be done in accordance with the Bank's *Guidelines on Procurement under IBRD Loans and IDA Credits* (January 1995, Revised January and August 1996, September 1997, and January 1999) and the *Guidelines on Selection and Employment of Consultants by World Bank Borrowers* (January 1997, revised September 1997, January 1999, and May 2002). The Bank's standard bidding documents for goods and the standard forms of contract and request for proposals for consulting services will be used under the Project. Any goods or services not financed by the Bank will be procured in accordance with the public procurement regulations of the country or the co-financing institution's procurement regulations.

2. Advertising of Procurement Opportunities

3. ***GPN.*** A General Procurement Notice (GPN) will be published in the United Nations Development Business (UNDB) on-line and print versions (date will be determined) as well as in local newspapers to advertise for any International Competitive Bidding (ICB) for goods and for major consulting assignments to obtain expression of interest. The GPN will be updated when the final procurement plan is completed to indicate all of the procurement contracts for goods estimated to cost the equivalent of US$100,000, or more, where ICB would be used. The GPN will be updated on an annual basis to indicate all outstanding ICBs for goods, contracts, and all International Consulting Services estimated to cost the equivalent value of US$200,000 or more.

4. ***SPN.*** Specific Procurement Notices (SPN) for goods to be procured under ICB and expressions of interest for consultants' services estimated to cost the equivalent of US$100,000 and above would also be published in UNDB, as well as in the national press of the Senegal River Basin riparian countries and in international newspapers or acceptable magazines. In addition, expressions of interest for such contracts may be sought from prospective consultants by advertising in national newspapers of riparian countries or technical magazines. Assignments estimated to cost US$100,000 or less may be advertised regionally in riparian countries. The short-list for assignments estimated to cost the equivalent amount of US$100,000 or less may be made up entirely of consultants from the Senegal River Basin riparian countries, provided that no more than two consulting firms or individuals from any one riparian are on the short-list, at least three

qualified firms or individual consultants from the Senegal River Basin riparian countries are available, and foreign consultants who wish to participate are not excluded from consideration. Procurement notices for contracts below US$100,000 will be placed in the regional press in each of the Senegal River Basin countries.

5. ***Procurement Capacity.*** The Cellule Régionale de Gestion du projet (CRGP) is the unit in charge of the Project coordination and execution; it is based at Dakar within the Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS) office. Because there is no procurement specialist in the CRGP, it is envisaged to use the *Assistance administrative et financier* (AAF, administrative and financial assistant) for handling procurement activities. Nevertheless, to provide procurement support, a full-time procurement specialist will be recruited prior to effectiveness.

6. ***Procurement Specialist***. This procurement specialist will be recruited and located within the CRGP and will give help and advice to the National Cellule teams from time to time to monitor the progress of procurement and implementation of each contract under the Project and will ensure effective and timely Project execution. The procurement specialist will be expected to (i) help ensure quality, (ii) focus on specific procurement problems and issues, (iii) make a significant contribution to ensuring that procurement takes place as rapidly and effectively as possible; and (iv) coordinate with the AAF to ensure overall integration of procurement plans and financial reports.

3. Procurement Planning

7. ***Procurement Plans.*** Draft procurement plans for the program's first-year implementation were prepared during appraisal. These plans were finalized during negotiations and will be included in the Project Implementation Plan (PIP). The plans are based on the initial needs of the program and the work programs submitted by the OMVS. The exact mix of procurement will be determined on an annual basis during the annual joint reviews among OMVS, Bank, and other partners, when procurement plans for the following financial year will be presented and agreed upon. The plan will include relevant information on goods and consulting services under the Project, indicating the procurement method as well as the timing of each milestone in the procurement process. The procurement schedule will be updated every semester and reviewed by Bank during each supervision mission.

8. ***Procurement Arrangements.*** The Senegal River Basin Water and Environmental Management Project is a stand-alone GEF Project. The Bank-financed portion will be executed on behalf of the Senegal River Basin riparian countries by the OMVS and is funded from one single source: the GEF Trust Fund in the amount of US$m 5.26 equivalent. This Annex outlines procurement arrangements for GEF-funded activities. The procurement of goods and equipment financed through the World Bank by the GEF Trust Fund will follow the World Bank's *Guidelines for Procurement under IBRD Loans and IDA Credits* dated January 1995, and revised January and August 1996, September 1997, and January 1999. Procurement of services financed by the GEF Trust Fund will follow the World Bank's *Guidelines for Selection and Employment of Consultants by World Bank Borrowers* dated January 1997 and revised September 1997, January 1999, and May 2002. The World Bank's latest editions of standard bidding documents and contracts will be used.

9. ***Procurement Package Preparation.*** All procurement will be carried out in accordance with the procurement plan and as agreed with the Bank. The CRGP/OMVS will forward the procurement packages to the Bank for prior review and non-objection, as required.

4. Procurement Methods (See Table A)

10. ***Procurement Methods***. The Project elements by disbursement category, their estimated costs, and procurement methods are summarized in Table A. Thresholds for procurement methods and prior review are summarized in Table B.

4a) Goods (GEF World Bank (WB) US$m 1.06).

11. Goods financed under the Project would include light vehicles, computers, and miscellaneous equipment for implementing agencies. The total value of goods is estimated at about US$m 1.06 equivalent for the Project.

12. Technical equipment and other goods costing US$200,000 and more per contract will be subject to ICB requirements. For goods estimated to cost less than US$200,000 equivalent per contract may be awarded on the basis of National Competitive Bidding (NCB)—it should be noted that, for this Project, NCB includes all of the participating riparian countries and bidding opportunities will therefore be published in all riparian countries for NCB.

13. For goods, contracts below US$50,000 will be procured through prudent National Shopping in accordance with provisions of paragraph 3.5 of the Guidelines and the Bank's guidance procurement note on handling procurement under shopping method (June 8, 2000) up to an aggregate amount of US$340,000. Solicitations will be issued in writing to at least three reputable suppliers (preferably more) in order to receive at least three competitive quotations. Solicitations will give specifications, and if not immediately available, the delivery time. Written quotations will be opened at the same time for evaluation and records of award decisions will be kept for Bank supervision missions and audits.

14. Direct contracting may be occasionally used with prior non-objection of the Bank for the procurement of spare parts, operating expenditures, minor off-the-shelf items, and other specialized equipment and proprietary items costing less than US$5,000 equivalent per contract up to an aggregate of the equivalent value of US$200,000.

4b) Consultants' Services (GEF WB US$m 1.22).

15. ***Consultant Services***. Because the majority of work undertaken in this Project is capacity building and technical assistance to the Senegal River Basin riparian countries, a large percentage of the expenditures will be for Consultants' Services, much of which will be based in the Senegal River Basin. Following agreed upon criteria, the CRGP will maintain and update a list of consultants that will be used to establish short-lists. The short-lists will be established based on expressions of interests received through GPNs and Specific Advertisements placed in the UNDB and/or regional newspapers, depending on the estimated value of such assignments. Consultant firms financed under the Project will be selected in accordance with Bank Consultant Guidelines through a Quality and Cost-Based Selection (QCBS), and by using the Bank's Standard Request for Proposals. Specialized Consultants' Services from the Senegal River Basin riparian countries, below an estimated contract value of US$100,000 equivalent, will be selected on the basis of Consultant Qualifications (CQ) from the predetermined roster of qualified consultants. Training under the Project will be implemented according to an annual training plan that the CRGP will prepare and submit to the Bank for non-objection before implementation. More specifically, the following selection procedures would be used for Consultants' Services:

a) *QCBS:* All consulting service contracts valued at more than US$100,000 equivalent would be awarded through the QCBS method. To ensure that priority is given to the identification of suitable and

qualified national consulting firms, short-lists for QCBS contracts estimated at or less than US$100,000 equivalent may be composed entirely of national consultants from the Senegal River Basin riparian countries, with no more than two firms on the short-list from any one riparian country (in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines), provided that a sufficient number of qualified individual or firms (at least three) are available. However, if foreign firms have expressed interest, they would not be excluded from consideration.

b) *Selection based on CQ Selection* may be used for Consultants' Services contracts below an estimated contract amount of US$100,000 equivalent for research and targeted interventions for which organizations with specialized expertise, strong capacities to work with multi-national groups, and proven track records would be recruited. CQ may also be used for the selection of training institutions for contracts to provide training services that are estimated to cost up to US$100,000 equivalent per contract.

c) *Single Source Selection (SSS)* may be used exceptionally for training, for a specific task in a case where only one firm has specific qualified experience, and for consulting assignments costing less than US$50,000 per contract up to an aggregate amount of the equivalent value of US$300,000.

d) *The selection of Individual Consultants (IC) services*: Consultants for services meeting the requirements of Section V of the Consultant Guidelines will be selected under the provisions for the *Selection of Individual Consultants* method. ICs will be selected through the comparison of curriculum vitae against job description requirements of those expressing interest in the assignment or of those having been identified directly by the CRGP. Civil servants from the riparian countries cannot be hired as consultants under the Project.

4c) Training and Workshops (GEF WB US$m 1.70)

16. Training, workshops, conference attendance, and study tours will be carried out on the basis of approved annual programs that will identify the general framework of training and similar activities for the year, including the nature of training/study tours/workshops, the number of participants, and cost estimates. For national training and workshops, preference will be given to consultants from the country in which the training is being organized, provided that a sufficient number of qualified individuals or firms (at least three) are available. For regional training, preference will be given to consultants from the Senegal River Basin riparian countries, provided that no more than two consultants from any one riparian are short-listed and a sufficient number of qualified individuals or firms (at least three) is available.

4d) Operational Expenses (GEF WB US$m 1.28)

17. The OMVS will establish and staff the CRGP office at the OMVS High Commission in Dakar. The CRGP will assist OMVS in Project management and implementation. Project staff will be employed using standard OMVS employment contracts and those Project staff employed under the World Bank-funded portion of the Project will be hired in accordance with Section V of the Bank's Consultant Guidelines. Other operational costs, such as utilities, printing, translation, and office supplies, will be purchased based on standard OMVS procedures. All the above positions will be advertised.

18. ***Prior Review Thresholds (Table A).*** The World Bank will conduct a prior review of the following procurement documentation:

a) *Goods and equipment:* All Contracts estimated to cost the equivalent value of US$100,000 or more will be submitted for prior review. The first NCB contract shall also be subject to prior review.

b) *Consultants' services*: All contracts with firms estimated to cost the equivalent value of US$100,000 or more, will be submitted for prior review as per Appendix I of the Guidelines, while the first contract with firms below US$100,000 will be reviewed. Individual consultant contracts above US$50,000 will all be subject to prior review. Preparing TORs will be under the responsibility of the appropriate CRGP staff and OMVS shall be responsible for review of all TORs. A large portion of this Project will consist of small stand-alone Consultants' Services. To streamline Project operations, the Bank will not review the TORs for any contract less than US$50,000. Moreover, the Bank will only review the first TOR for Consultants' Services that falls in the following broad categories:

- Workshop facilitation (national workshop)
- Workshop facilitation (regional workshop)
- Water quality training workshop facilitation (national workshop)
- Water quality training workshop facilitation (regional workshop)
- Interpretation/translation
- Information Technology (IT) technical support to CRGP

c) *Operational expenses:* All individual long-term contracts (greater than six months) for Project staff will be subject to prior review.

d) *SSS:* All Single Source Selection (regardless of value), assignments of a critical nature (as determined by Bank), or amendments of contracts raising the contract value above the prior review thresholds will be subject to the Bank's prior review.

19. Ex-post review: Contracts that are not subject to prior review are subject to ex-post review.

Procurement methods (Table A)

Table A. Project Costs by Procurement Arrangements
(US$m equivalent)

Expenditure Category	ICB	Procurement NCB	Method[1] Other[2]	N.B.F.[3]	Total Cost
A. Consultant' Services	0.00	0.00	1.22 (1.22)	0.00	1.22 (1.22)
B. Training/ Workshop	0.00	0.00	1.70 (1.70)	0.00	1.70 (1.70)
C. Goods	0.45 (0.45)	0.20 (0.20)	0.41 (0.41)	0.00 (0.00)	1.06 (1.06)
D. Operating Costs	0.00 (0.00)	0.00 (0.00)	1.28 (1.28)		1.28 (1.28)
Total	0.45	0.20	4.61	0.00	5.26
	(0.45)	(0.20)	(4.61)	(0.00)	(5.26)

[1] Figures in parenthesis are the amounts to be financed by the Bank Grant. All costs include contingencies.

[2] Includes civil works and goods to be procured through national shopping, consulting services, services of contracted staff of the Project management office, training, technical assistance services, and incremental operating costs related to (i) managing the Project and (ii) re-lending Project funds to local government units.

[3] N.B.F. = Not Bank Financed

Table B. Thresholds for Procurement Methods and Total Amount of Contract under Prior Review

Expenditure Category	Contract Value Threshold (US$ thousands)	Procurement Method	Contracts Subject to Prior Review (US$m)
1. Works			
2. Goods	**>200** **<200** **<50** **<5**	**ICB** **NCB** **Shopping** **Direct contracting**	**All** **First NCB contract** **First two contracts** **All**
3. Services			
Firms	**>100** **<100** **<100** **<50**	**QCBS** **CQ (training)** **CQ (for research)** **SSS**	**All** **based on approved annual programs** **First contract** **All**
Individuals	**>50** **>10**	**Section V of Consultants Guidelines** **SSS**	**All** **ALL**

*20. **Overall Procurement Risk Assessment***. The risk identified in the procurement aspect is average, so particular attention should be paid during the recruitment of the procurement specialist to be in charge of these aspects of the Project execution.

*21. **Frequency of Procurement Supervision Missions Proposed***. Once every four months (includes special procurement supervision for post-review/audits) during the first year and once every six months for the remaining period.

B. Disbursement

*22. **Allocations of Grant Proceeds (Table C).*** The proposed allocation of grant proceeds is shown in Table C. Disbursements of GEF funds will finance 100 percent of all expenditures in foreign and local currency: (i) 100 percent of local and international consultants services; (ii) 100 percent of personnel; (iii) 100 percent of training/workshops; (iv) 100 percent of equipment; and (v) 100 percent of operating costs and training. The OMVS has International Organization status in Senegal and, therefore, is exempt from the Standard Disbursement Percentage (SDP) requirement. This exemption has also been documented in Section I: *Compliance with Bank Policies* of the Project Appraisal Document. All withdrawal applications must be fully documented, except for expenses claimed against contracts not subject to prior review by the Bank. For the rest of the contracts, disbursements will be made against Statement of Expenses (SOEs) certified by the AAF at the CRGP.

Table C. Allocation of Grant Proceeds

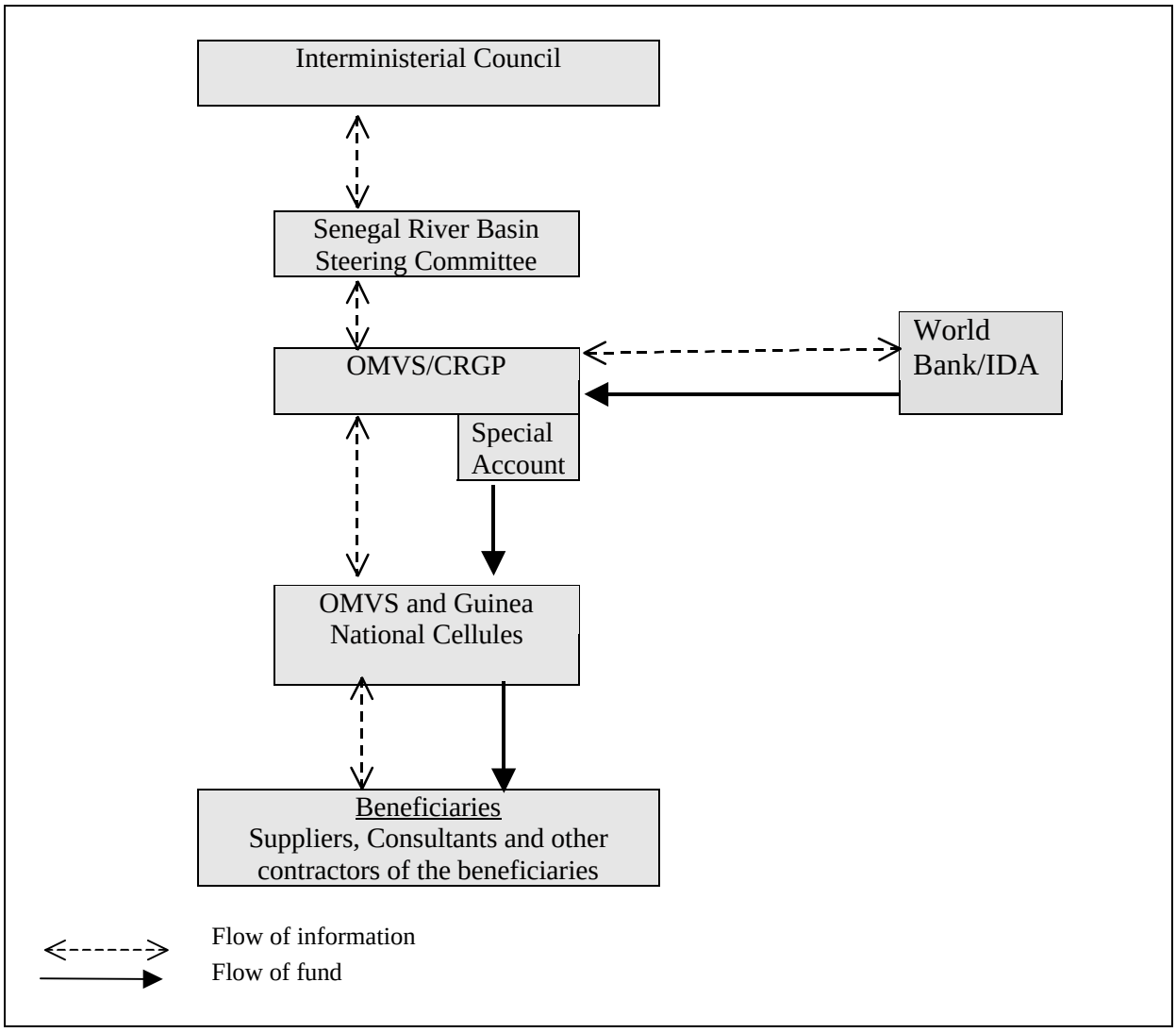
Expenditure Category	Amount in $USm	Foreign Financing Percentage	Local Financing Percentage
1. Consultant Services	1.22	100	100
2. Training and Workshops	1.70	100	100
3. Goods	1.06	100	100
4. Operating Costs	1.28	100	100
Total Project Costs	**5.26**		

*23. **Use of SOEs.*** Requests for funds withdrawals will be properly documented for all expenditures to be paid out of the GEF Grant, except for the following contracts for which disbursements will be made against SOEs certified by the CPRG regional Project coordinator: (i) contracts for goods with a unitary value below US$50,000 equivalent; (ii) contracts with consulting firms with a unitary value below US$100,000 equivalent and with individual consultants for an amount below US$50,000 equivalent; (iii) additional operating expenses; and (iv) training. Documentation of such SOEs will be retained by the CRGP and made available for review, on request, to procurement and financial auditors and to WB/GEF supervision missions.

*24. **Special Account.*** In order to facilitate the Project implementation and reduce the volume of withdrawal applications, the OMVS will open a Special Account in CFAF in a commercial bank on terms and conditions acceptable to WB/GEF. The authorized allocation will be CFAF300,000,000 and will cover about four months of eligible expenditures. Upon Project effectiveness, WB/GEF will deposit the amount of CFAF 150,000,000 representing 50 percent of the authorized allocation into the Special Account. The remaining balance will be made available when the aggregate amount of withdrawals from the GEF Grant account, plus the total amount of all outstanding special commitments entered into by the WB/GEF, shall be equal to or exceed the equivalent of Dollar 1,000,000. Payments out of the Special Account shall be made exclusively for eligible expenditures in accordance with the provisions of the grant agreement. After the Bank has received evidence satisfactory to it that the Special Account has been duly opened, withdrawals of the Authorized Allocation and subsequent withdrawals to replenish the Special Account shall be made. For each payment made by the Recipient out of the Special Account the Recipient shall, at such time as the Bank shall reasonably request, furnish to the Bank such documents and other evidence showing that such payment was made exclusively for eligible expenditure.

25. ***Flow of Funds***. Project flow of funds and flow of information is illustrated in Figure 1.

Figure 1. Flow of Funds



C. Financial Management

1. Staffing and Implementation Arrangements

26. ***Implementation Arrangements.*** CRGP will be housed at OMVS offices and will be, under the supervision of OMVS, in charge of all aspects of financial management of the Project. CRGP will thus benefit from OMVS experience in terms of managing Bank funds. The main recommendations below relative to the staff, to the information system, and to the organization should be implemented before the effectiveness of the Project.

27. ***Staffing at the Central Level (regional).*** CRGP will be headed by a regional coordinator who will supervise a team including a financial and administrative assistant (AAF). The AAF must be in place before effectiveness and will have a technical support of the OMVS accounting staff already in place. OMVS accounts and finance staffs have satisfactory qualification and professional experience and have been trained in World Bank procurement, disbursement, and financial management procedures. The experience of OMVS managing its own IDA credit has proved satisfactory.

28. ***Staffing at the Country Level (three country members of OMVS, including Guinea).*** At a national level, the Project will be managed by an OMVS National Cellule with the support of Comité National de Coordination (CNC). The National Cellule will be made of four staffs (*Coordinateur Cellule Nationale, Expert en information et participation, Assistant Comptable, Expert National Micro Finance*). An accounting assistant will assume, at a national level, all the accounting and financial duties for the Project, including justification of the management of funds at the local level. To that extent, the accounting assistant will work closely with the Comité Local de Coordination (CLC). The AAF and four accounting assistants at the National Cellule should be hired prior to the Board date and the OMVS has agreed to finance this staff with the understanding that a retroactive financing clause, to reimburse the OMVS, will be included in the grant agreement. A procurement specialist will be recruited and located within the CRGP, will give help and advice to the National Cellule teams from time to time to monitor the progress of procurement and implementation of each contract under the Project, and will ensure effective and timely Project execution.

29. ***Accounting Policies and Procedures.*** OMVS has been applying satisfactory procedures since it was set up. However, these procedures have not been formalized in a reference document such as a manual, and they will probably be different from the procedures of the current Project. A manual of administrative, accounting, and financial procedures will be developed by the Project before effectiveness. This manual must include accounting policies and procedures, definition of respective duties with a good segregation, budgeting system and all relevant administrative and financial procedures, relation among the components of the Project, and reporting mechanisms at each level (regional, national, and local). All the staff and the stakeholders involved in the Project must be trained in those procedures.

30. ***Reporting and Monitoring.*** CRGP will prepare quarterly Financial Management Reports (FMR). The format of the FMR will be discussed and agreed upon before effectiveness. The quarterly reports will cover financial management, procurement, and physical progress monitoring, covering all activities financed under the Project regardless of the source of funding. No major problem is expected with the financial and procurement reports. Areas of concern include the physical progress monitoring report where CRGP lacks experience, which would require additional efforts. Those physical progress reports will be based on the outcome indicators.

31. ***Financial Management Information System.*** A computerized financial management system must be installed for the CRGP. The chart of accounts of the Project and the report formats must be customized prior to effectiveness.

32. ***Audit Arrangements.*** The Project's accounts will be subject to annual external audit by a reputable auditing firm based on TOR appropriate for the Project's scope to be approved by Bank. These TOR will cover the Project's accounts, the statements of expenditures, and the special account. The selection of the auditor for the Project will be a condition of credit effectiveness. The annual audit reports will be submitted to Bank within six months of the end of each fiscal year (i.e., by June 30).

33. ***Conditions.*** The Board Conditions and Effectiveness conditions are detailed in PAD Section G. As part of the financial management assessment, Table D reflects the action plan that was agreed on with OMVS and that was part of the negotiation package, and financial management assessment.

Table D. Financial Management Action Plan

Action	Tasks	Target Completion Date
1) Recruitment of the FAA and accounting assistant in each country	▪ Advertisement and selection of the candidates	▪ August 15, 2003
	▪ Submission to Bank non-objection	▪ August 31, 2003
2) Recruitment of the auditor	▪ Preparation of the request for proposal package, including the TOR and the standard bidding documents and submission to Bank non-objection	▪ September 7, 2003
	▪ Bank's non-objection on the request for proposals package	▪ September 12, 2003
	▪ Requests for proposals sent out	▪ September 15, 2003
	▪ Proposals received	▪ October 7, 2003
	▪ Technical evaluation completed and approved by Bank	▪ October 15, 2003
	▪ Financial evaluation completed and contract awarded and approved by Bank	▪ October 21, 2003
3) Training	▪ Financial management, procurement, and disbursement training for new staff	▪ November 10, 2003
4) Development of the Project's manual of procedures	▪ Recruitment of a consulting firm (TOR and short-list approved by Bank)	▪ November 15, 2003
	▪ Draft manual submit to Bank and comments sent to borrower	▪ December 7, 2003
	▪ Final version incorporating WB comments ready	▪ December 15, 2003
	▪ Training of the staff and stakeholders	▪ December 31, 2003
5) Installation of the computerized financial management system	▪ Developing a chart of accounts reflecting the activities/sources of financing of the Project	▪ December 15, 2003
	▪ Bank and Project to agree on set of physical progress monitoring indicators	▪ December 31, 2003
	▪ Customizing the agreed format for the quarterly FMRs	▪ December 31, 2003
	▪ Completing the testing of the transactions recording and reports printing	▪ December 31, 2003

Annex 6(B): Financial Management and Disbursement Arrangements
AFRICA: Senegal River Basin Water and Environmental Management Project

Financial Management

1. Summary of the Financial Management Assessment

see Section C above

2. Audit Arrangements

see paragraph 34 above

3. Disbursement Arrangements

See Section B above

Allocation of loan proceeds (Table C)

see Table C above

Annex 7: Project Processing Schedule

AFRICA: Senegal River Basin Water and Environmental Management Project

Project Schedule	Planned	Actual
Time taken to prepare the project (months)	13	18
First Bank mission (identification)	09/27/2001	09/27/2001
Appraisal mission departure	01/11/2003	01/22/2003
Negotiations	02/24/2003	07/29/2003
Planned Date of Effectiveness	07/01/2003	01/05/2004

Prepared by:

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Preparation assistance:

Preparation assistance:	US$ million	
GEF PDF Block A Grant	0.025m	
GEF PDF Block B Grant	0.350m	
World Bank BB Budget	0.032m	
World Bank BBGEF Budget	0.282m	
Canadian International Dev. Agency Trust Fund	0.111m	
Germany Government of the Federal Rep. Trust Fund	0.035m	
Total	**0.835m**	

Bank staff who worked on the project included:

Name	Speciality
Inger Andersen	Sector Manager, AFTU2
Ousmane Dione	Senior Water Resources Management Specialist, Task Team Leader, AFTU2
Hans Werner Wabnitz	Senior Legal Counsel, LEGAF
Jean-Paul Lecomte	Senior Water Resources Management Specialist, AFTU2
Undala Alam	Water Resources Specialist AFTU2
Steven Lintner	Senior Advisor, ESDQC (Peer Reviewer)
Irene Xenakis	Operations Advisor, Quality Assurance, AFTOS
Bourama Diaite	Senior Procurement Specialist, AFTPC
Fily Sissoko	Lead Financial Management Specialist, AFTFM
Aissata Zerbo	Procurement Analyst, AFTU2
Wolfgang Chadab	Finance Officer, LOAG1
Marie-Adele Tchakounte-Sitchet	Program Assistant, AFTU2
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Jeffrey Lecksell	Cartographer, GSDGP

Annex 8: Documents in the Project File*

AFRICA: Senegal River Basin Water and Environmental Management Project

A. Project Implementation Plan

Senegal River Basin Water and Environmental Management Project—Project Implementation Plan.
Senegal River Basin Water and Environmental Management Project—Microgrants Program Operational Manual (draft).
Senegal River Basin Water and Environmental Management Project—Environmental Management Framework.

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*Including electronic files

Annex 9: Statement of Loans and Credits

AFRICA: Senegal River Basin Water and Environmental Management Project

06-Aug-2003

Project ID	FY	Purpose	Original Amount in US$ Millions IBRD	IDA	GEF	Cancel.	Undisb.	Difference between expected and actual disbursements[a] Orig	Frm Rev'd
P072881	2003	[3T] BEAC Regional Payment System	0.00	14.50	0.00	0.00	16.06	0.88	0.00
P063683	2001	[3E] REGIONAL TRADE FACILITATION PROJ	0.00	5.00	0.00	0.00	1.83	0.66	0.00
P054884	2001	[3W] BCEAO REGIONAL PAYMENT SYSTEMS	0.00	9.40	0.00	0.00	3.00	1.25	0.00
P036037	1999	OIL SPILL CONTINGENCY	0.00	0.00	3.15	0.00	0.45	3.55	0.00
P000001	1996	COMM CONSERV & WILDL	0.00	0.00	4.40	0.03	0.84	1.88	0.00
		Total:	0.00	28.90	7.55	0.03	22.17	8.22	0.00

AFRICA
STATEMENT OF IFC's
Held and Disbursed Portfolio
June 30 - 2003
In Millions US Dollars

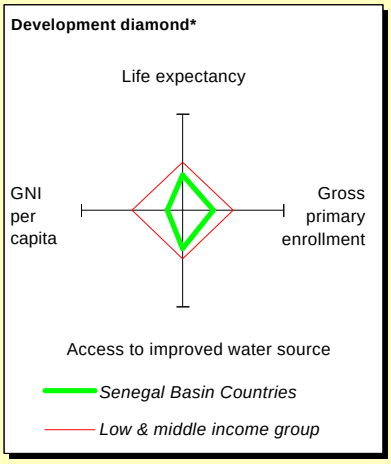
		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic	Loan	Equity	Quasi	Partic
1999	AIF	0.00	74.49	0.00	0.00	0.00	26.80	0.00	0.00
1999	AIF (Mgmt)	0.00	0.20	0.00	0.00	0.00	0.10	0.00	0.00
2003	AIFH	0.00	6.62	0.00	0.00	0.00	0.27	0.00	0.00
1993	Africa Fund	0.00	7.25	0.00	0.00	0.00	7.25	0.00	0.00
2002	Africap	0.00	2.00	0.00	0.00	0.00	0.46	0.00	0.00
0	Energy Afr Ltd	0.00	38.02	0.00	0.00	0.00	38.02	0.00	0.00
2001	MACS	30.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00
2000/01	MSICIH	0.00	0.00	20.00	0.00	0.00	0.00	20.00	0.00
2002	Osprey	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.00
2002	SABCO	10.00	10.00	0.00	0.00	0.00	10.00	0.00	0.00
2001	TV Africa	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00
	Total Portfolio:	40.00	147.83	20.00	0.00	0.00	88.15	20.00	0.00

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic
1999	AIF	0.00	0.00	25.00	0.00
2001	MACS	0.00	0.00	0.00	40.00
2001	PAIP	0.00	0.00	50.00	0.00
	Total Pending Commitment:	0.00	0.00	75.00	40.00

Annex 10: Country at a Glance

AFRICA: Senegal River Basin Water and Environmental Management Project

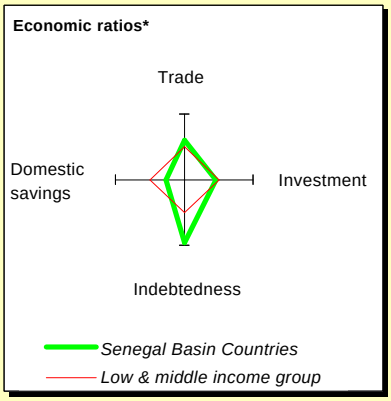
POVERTY and SOCIAL	Senegal Basin Countries	Low & middle income
2001		
Population, mid-year *(millions)*	31.2	5,177.8
GNI per capita *(Atlas method, US$)*	350	1,160
GNI *(Atlas method, US$ billions)*	11.0	5,990.3
Average annual growth, 1995-01		
Population *(%)*	2.5	1.5
Labor force *(%)*	2.5	1.8
Most recent estimate (latest year available, 1995-01)		
Poverty *(% of population below national poverty line)*	..	..
Urban population *(% of total population)*	38	42
Life expectancy at birth *(years)*	47	64
Infant mortality *(per 1,000 live births)*	96	58
Child malnutrition *(% of children under 5)*	25	..
Access to an improved water source *(% of population)**	62	79
Illiteracy *(% of population age 15+)*	59	24
Gross primary enrollment *(% of school-age population)*	62	104
Male	71	107
Female	53	100



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

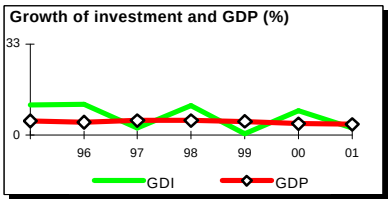
	1981	1991	2000	2001
GDP *(US$ billions)*	6.2	12.1	10.8	11.2
Gross domestic investment/GDP	16.1	17.0	21.7	22.0
Exports of goods and services/GDP	27.5	24.6	28.9	30.1
Gross domestic savings/GDP	-5.0	10.1	12.5	13.2
Gross national savings/GDP	-6.2	8.8	13.5	11.5
Current account balance/GDP	-16.2	-7.4	-6.7	-7.5
Interest payments/GDP	1.5	1.4	1.3	1.6
Total debt/GDP	78.3	91.0	113.0	..
Total debt service/exports	17.7	16.5	15.5	..
Present value of debt/GDP	..	..	67.7	..
Present value of debt/exports	..	..	203.4	..

	1981-91	1991-01	2000	2001
(average annual growth)				
GDP	2.5	4.3	4.0	3.9
GDP per capita	-0.2	1.6	1.5	1.4
Exports of goods and services	3.2	4.9	5.9	3.7

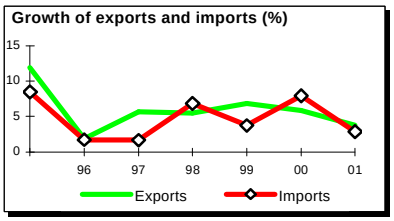


STRUCTURE of the ECONOMY

	1981	1991	2000	2001
(% of GDP)				
Agriculture	28.2	27.0	25.1	24.5
Industry	16.7	23.6	29.1	30.5
Manufacturing	..	9.1	9.7	9.7
Services	55.1	49.4	45.8	45.0
Private consumption	85.6	77.4	77.4	76.8
General government consumption	19.5	12.5	10.1	9.9
Imports of goods and services	48.6	31.5	38.1	38.8



	1981-91	1991-01	2000	2001
(average annual growth)				
Agriculture	3.3	3.4	5.2	-2.4
Industry	2.8	5.4	6.1	10.0
Manufacturing	4.1	3.7	5.2	3.9
Services	2.6	4.1	4.1	3.8
Private consumption	1.8	3.7	4.0	4.4
General government consumption	2.2	3.0	7.3	3.2
Gross domestic investment	4.6	4.0	8.7	2.5
Imports of goods and services	2.3	2.7	7.9	2.8

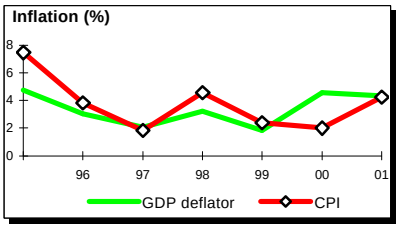


Note: 2001 data are preliminary estimates.This table was produced from the Development Economics central database.
The Senegal Basin Countries includes Guinea, Mali, Mauritania, and Senegal.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

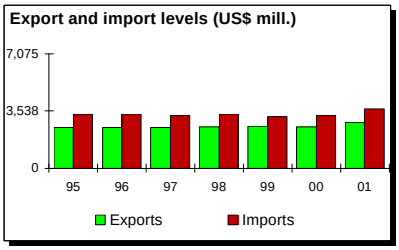
PRICES and GOVERNMENT FINANCE

	1981	1991	2000	2001
Domestic prices				
(% change)				
Consumer prices	..	3.7	2.0	4.2
Implicit GDP deflator	8.0	5.9	4.5	4.4
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	18.5	16.4	17.2
Current budget balance	..	3.9	4.2	3.4
Overall surplus/deficit	..	-4.5	-4.6	-6.1



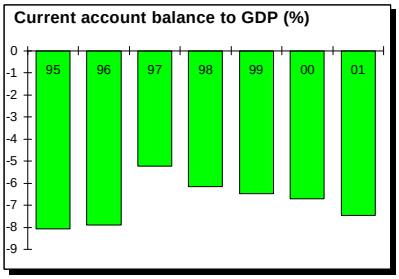
TRADE

	1981	1991	2000	2001
(US$ millions)				
Total exports (fob)	..	2,499	2,544	2,862
Manufactures	196	213	241	250
Total imports (cif)	..	3,181	3,293	3,643
Food	379	607	624	684
Fuel and energy	410	335	645	630
Capital goods	358	564	702	755
Export price index *(1995=100)*	..	..	..	..
Import price index *(1995=100)*	..	..	..	..
Terms of trade *(1995=100)*	..	..	..	..



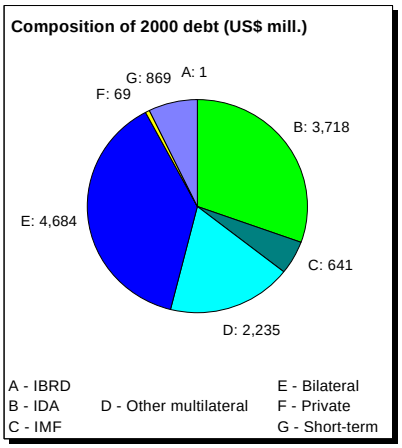
BALANCE of PAYMENTS

	1981	1991	2000	2001
(US$ millions)				
Exports of goods and services	1,969	3,328	3,170	3,485
Imports of goods and services	3,007	4,085	4,123	4,351
Resource balance	-1,038	-757	-953	-866
Net income	-180	-425	-219	-368
Net current transfers	132	285	447	400
Current account balance	-1,001	-896	-725	-833
Financing items (net)	860	1,137	616	937
Changes in net reserves	141	-241	108	-104
Memo:				
Reserves including gold *(US$ millions)*	211	577	1,342	1,541
Conversion rate *(DEC, local/US$)*	..	..	..	..



EXTERNAL DEBT and RESOURCE FLOWS

	1981	1991	2000	2001
(US$ millions)				
Total debt outstanding and disbursed	4,836	10,977	12,217	..
IBRD	139	133	1	..
IDA	376	2,073	3,718	..
Total debt service	380	587	559	..
IBRD	16	51	5	..
IDA	3	21	66	..
Composition of net resource flows				
Official grants	296	824	791	..
Official creditors	544	375	89	..
Private creditors	-20	-47	-4	..
Foreign direct investment	50	35	251	..
Portfolio equity	0	0	0	..
World Bank program				
Commitments	..	..	354	508
Disbursements	119	216	228	..
Principal repayments	6	43	45	..
Net flows	113	173	183	..
Interest payments	13	29	27	..
Net transfers	100	144	157	..



Note: 2001 data are preliminary estimates.This table was produced from the Development Economics central database. 8/23/02

Inflation figures are median values. Balance of payments items excluding exports and imports are simple sums and may not reconcile.
The Senegal Basin Countries includes Guinea, Mali, Mauritania, and Senegal.

Additional Annex 11: Preliminary Findings Transboundary Environmental Analysis AFRICA: Senegal River Basin Water and Environmental Management Project

A. Introduction

As part of the Project preparation and Project design process, a preliminary transboundary analysis was conducted. Initially, key environmental issues were reviewed, environmental threats identified, biodiversity and water resource priorities recognized, the root causes determined (refer to Appendix A), and individual national concerns were evaluated and agreed upon (Appendix B–E). An agenda for basin-wide priority concerns and actions, necessary to promote sustainable land and water management of the Senegal River Basin, was then prepared. Annex 11 provides an overview of the preliminary findings of a transboundary environmental analysis.

B. Key Environmental Resources and their Uses

1. Water Resources

Rainfall occurs from April to October causing an annual flood from July to October, reaching its peak during the months of August, September, and October. The flood is almost entirely generated by rain occurring in the upper basin over the Fouta Djallon highlands and there is negligible inflow downstream of Bakel, which is at the head of the main valley. The mean annual flow has varied from 1904 to the present day with a dramatic reduction of flow over the last twenty years. Today the average is less than half the overall average of 711 m3/s. While the mean annual flow is 20,903 Mm3, the minimum annual flow recorded was 6,695 Mm3 in 1984, with the maximum-recorded annual flow being 41,769 Mm3. In terms of flooding characteristics the valley may be divided into four stretches as follows:

River Sections	Length (km)	Distance from Sea (km)
Gouina to Bakel	202	996
Bakel to Kaedi	262	794
Kaedi to Dagana	363	532
Delta	169	n/a

In the upstream stretch from Gouina to Bakel, the River is steep with a series of rapids, and lies within an incised valley without a significant floodplain. Downstream of Bakel, the valley widens and the floodplain can be up to 10–15 kilometers (km) wide in peak flood. The average slope is 3 centimeters (cm)/km. Downstream of Kaedi, the River divides into two arms—the Doué on the left and the Senegal on the right. Downstream of Dagana, the River returns to a single channel before opening up into the delta. Flooding on the left bank has been controlled by embankments constructed in 1969 from Rosso to Saint Louis, however, following the construction of the Diama dam, barrage embankments control flooding on both banks as far upstream as Dagana.

The floodplain on both sides of the main River channel is made up of large natural depressions or basins termed *Unités Naturelles d'Equipements* (UNE). There are approximately 72 UNEs, varying from 1,000 hectare (ha) to more than 15,000 ha in size, and it is the use of these UNEs that formed the basis of the traditional flood recession cropping. They serve to trap the flood long enough to collect moisture in the heavy soils sufficient to sustain crops.

2. Ecology

There is a major difference in ecological conditions between the highlands above Bakel, and the River valley downstream from Bakel.

The upper basin corresponds to the Fouta Djallon highlands and is characterized by different landscapes, ranging from a mountainous ecosystem to savannah and steppe vegetation, with an elevation ranging from 500 to 1350 m (Mount Tinka at Dalaba in Guinea: 1320 m and Mount Loura in Mali: 1538 m). The highlands are also significant for their biological diversity, which comprise 43 animal species, including 3 rare species (small wild goat, crocodile, and hippopotamus), 3 threatened species, and 33 tree species, including 4 threatened species.

In the lower part of the Senegal River basin, major changes in hydrology and floodplain ecology started in the 1960s. In 1964, part of the left bank deltaic ecosystem was diked. Later on, the Foum Gleita dam was planned and built in early 1986 on the Mauritanian side of the Basin. However, the major schemes that completely modified the River and floodplain hydrology were the Diama and Mananali dams, which were completed in 1985 and 1987 respectively. An additional disturbance to the Basin's hydrology and water resources development derives from the development of irrigated agriculture in the valley and delta, in particular, sugar cane perimeters in the delta.

Since these dams have been operational, the ecology of the floodplain has changed drastically from salty and brackish water ecology with marked seasonal changes to a low-flow perennial freshwater ecology. Inadequate agricultural practices and options have exacerbated existing poor hygiene conditions to set off a major health and nutrition crisis. Since 1987, the Senegal River has in effect become an artificial system. The Diama and Manantali dams were built for hydro-electricity generation, irrigation, and navigation control; the accompanying hydraulic networks needed for flood control and water supply in the valley and delta have also been constructed. Before the Diama and Manatali dams were built, the River had markedly different hydrological conditions that varied in time and space. Fluctuations occurred seasonally in water level and quality, which added to the annual or cyclic episodes of dry and wet conditions. These fluctuations characterized by erratic flows and episodic inundation prevented a single species from dominating the ecology and contributed to the real diversity of habitats and species. In turn, this resulted in a variety of natural resources and production systems. The Diama and Manantali dams, and their accompanying infrastructure, contributed substantially to the uniformization of the ecosystem and provided the habitat for aquatic weeds and disease vectors.

A number of other factors have contributed to the decline in environmental and social welfare. For example, the production of water intensive commercial crops, which needed irrigating, brought communities into contact with unsafe water without changing traditional attitudes toward water. Nor were these communities provided with safety knowledge and equipment. Another aspect of growing irrigated crops is that irrigation is labor intensive, which leaves little time to devote to traditional crops that used to be the major nutritional supply to households. In addition, communities have started to consume rice, the production of which is heavily subsidized by revenues sent back from migrant workers. These revenues previously were used to buy a variety of inputs to family nutrition. Under such conditions, malnutrition is likely among women, children, and ethnic minorities. All these changes constitute a burden on the labor force and a trigger to social unease that, in turn, can disturb community life.

The River has distinctly different physiognomy in the upper, middle, and lower reaches as described above and shows various soil types and agricultural activities in these different sections. The natural vegetation formations consist of the following:

- Seasonally flooded areas that are uniformly occupied by gallery forests where *Acacia nilotica* predominates, particularly in the alluvial valley; and
- Areas of semi-deciduous forests on laterite or sandstone, in the sub-Guinean domain, sparse woods slowly transforming to savannah trees in the Sudano-Sahelian domains, and shrub steppesin the Sahelian domain.

The natural vegetation has been profoundly degraded particularly due to impacts from the expansion of agricultural as well as of resident and migratory herds of grazing animals. The clearing of gallery forests has been most extensive in the alluvial area, not only for agriculture but also for fuel wood.

The region is important for migratory birds, notably water birds, which arrive in large numbers during the European winters to wetlands in the Senegal valley and delta. There are protected areas of international significance, such as the Djoudj National Bird Sanctuary on the Senegalese side of the delta, which is a World Heritage Site, and the Diawling Strict National Reserve on the Mauritanian side.

3. Land Use

Land use varies throughout the Basin, too, showing similar differences between the upper watershed and the floodplain downstream from Bakel. In the upper valley, the main agricultural production systems are as follows:

- Intensive gardening around houses for family consumption and exchange goods;
- Extensive farming outside housing areas producing cereals (rice, fonio, millet) and groundnuts. The system is characterized by agro-pastoralism, shifting cultivation and ash farming;
- Farming of valley bottoms during the dry season for the market; and
- Animal husbandry that is another key feature of the region, either in a semi-sedentary form or based on seasonal transhumance. More than 40% of Guinea's dairy herd is located in the highlands.

Because of the high demographic pressure in the highlands, widespread poverty and the lack of alternative livelihoods, traditional land use practices have become unsustainable, these include the following:

- The practice of shifting farming by slash-and-burn cultivation coupled with increasingly short fallow periods;
- Excessive cutting down of forests to satisfy the ever-growing needs for firewood and timber; and
- Uncontrolled bush fires and overgrazing.

In the middle valley, downstream from Bakel, there is a major topographical division between the alluvial zone, which can be inundated, and the higher ground, which borders the valley. Three forms of land use characterize the alluvial zone of the main floodplain:

- The Riverbanks between the low water level and the normal annual flood level are seasonally cultivated. The local name for these is *falo.*
- Levees up to 10 m or more above the water level, which are only covered during the very worst floods. Quite a few villages are situated on these embankments, known locally as *fondé.*
- Seasonally flooded depressions between the levees and the valley sides, for which the local name is *walo*. These depressions are flooded via numerous creeks and small streams, and support a

number of small, permanent bodies of water. Flood recession agriculture is practiced in these areas.

Another zone comprises the areas further from the River (the higher banks and adjacent plateau), sometimes 15 km or more from the River itself. Conditions in these areas are semi-arid and are used primarily by nomadic herdsmen.

C. Environmental Threats

The overall basin ecosystem and agricultural production systems are being degraded by the conjunction of natural drought and desertification processes, with inadequate land, forest, and water resources uses and management. The degradation processes are dynamic and on a broad spatial and temporal scale. Despite a number of attempts at the national and international level to initiate adequate management systems, the degradation continues with the intertwining of many environmental factors. Unsustainable land use derives from the survival strategies employed by rural communities in the face of severe poverty. These communities often have low incomes but have to contend with high commodity prices. An additional factor is weak national afforestation policies.

1. Land Degradation

Land degradation processes severely impact the stability of the physical environment, agricultural production systems, and people's livelihoods. The effects on the regional environment can run deep in the longer term. Unfortunately, land degradation has long been neglected and has not been regarded as a priority for action by the national governments. This is because of a lack of hard evidence on perverse effects of degradation and insufficient information on the processes and magnitude of the problem, as well as the fact that it is mostly the poorest and least voluble people that are affected.

The interdisciplinary nature of land degradation may have contributed to the situation and there is a lack of adequate data. This has not helped governments to plan projects on the ground. At the basin-level, changes in the hydrological cycle and/or availability of water resources have been linked to land degradation. This is particularly so in the Senegal River Basin. Although flow regimes in the Basin have been recorded for more than 100 years, data on land degradation are site specific, collected by national bodies, without any attempt to collect or analyze this data at the basin-level. By analyzing the four intertwining processes (deforestation, soil erosion, overgrazing, and desertification) involved in degrading land, a better understanding of the nature and impact of land degradation may be gained. Desertification is the sum of these processes and a final stage of land degradation.

2. Deforestation

Deforestation continues in the Basin due to increased competition for agricultural land and firewood. This is especially so in the upper-basin highlands in Fouta Djallon and around the Manantali dam. Yet, once soil fertility decreases on the area being cultivated, the land is abandoned for new more fertile land. However, this often results in the clearing of marginal land, such as Riverbanks and slopes of the Basin thereby triggering soil erosion. Increasing demand for fuel wood and charcoal, also from the urban areas, is encouraging uncontrolled logging and the abandonment of degraded areas without any attempt to reforest. The inadequacy of the forestry policies and services contribute to this problem.

3. Soil Erosion

Agriculture in sub-Saharan Africa is extensive rather than intensive and does not maintain soil fertility. With increased demographic pressures and demands for food, the soils are mined for their fertility, which is rapidly lost. Even in irrigated areas, fertility reduction is accompanied by rapid erosion and/or soil compaction. The land is then abandoned for newly cleared land where the organic matter and mineral content is still high. This clearing and abandoning cycle leaves vast areas exhausted, denuded, and uncultivated. This situation derives from a lack of water and soil conservation practices, inadequate agricultural practices such as slash and burn, and a lack of awareness on land and water interactions.

The importance of controlling erosion in the Senegal River Basin is evident from the configuration of rainfall and runoff coming mainly from the Fouta Djallon highlands. Depletion of resources in the Fouta Djallon highlands is of major significance not only to the River system and its infrastructure, but also to the water systems and environment at the regional level.

In the floodplain ecosystems, land fertility, productivity, and wetland maintenance occurred with the supply of organic matter from productive land in the upper basin. With the ecological degradation of highland ecosystems and damming of the River, morphological processes in the floodplains have turned from accretion and sedimentation to erosion, compaction, and salinization. Due to a reduced hydraulic force induced both naturally and by the dams, sediment deposition is confined to the main River channel.

4. Overgrazing

Drought, desertification, and the need for more agricultural land has gradually pushed livestock into marginal lands just as the number of cattle is growing. Even in areas that are intended to be used for grazing, the resources are usually ill managed. Overgrazing leads to the destruction of topsoil by hydraulic and aeolian erosion, degradation of vegetative cover that is aggravated by use of tree canopy as fodder, and growing conflicts between farmers and herders, and among the herders themselves for the control of these scarce resources. Large areas of the Basin have been denuded due to overgrazing, thereby changing completely the runoff and River regime.

Although large numbers of people within the Senegal Basin depend completely upon livestock, and large areas are therefore being utilized, the riparian governments have not given their full consideration to formulating policies to better manage livestock. Therefore, the root causes of overgrazing, which include increasing population, increasing competition between agriculture and pastoralism, and abandonment of traditional transhumance practices have not yet found their way into the management of the Senegal River Basin.

5. Desertification

Desertification is the degradation of drylands, which involves the loss of biological productivity and complexity in croplands, pasture, and woodlands, and consequentially a loss in economic productivity. It is mainly due to climate variability and unsustainable human activities leading to the overexploitation of natural resources. In the Senegal River, basin desertification is mainly occurring in the marginal areas surrounding the dry ecosystems of Trarza, Ferlo, and Yelimané, and is due to rainfall shortages, water resources depletion, drought, and land and flora destruction. The major impacts of desertification are lower soil productivity, destruction of vegetative cover, a reactivation of aeolian processes,

watershed degradation and water scarcity, disturbance of fauna and flora, and soil resources depletion (salinization, compaction, etc.).

Some of desertification consequences and impacts are borne by people living outside the area immediately affected. In the Senegal River Basin, away from the immediately affected areas, the main impacts of the land degradation accompanying desertification are downstream flooding, reduced water quality, sedimentation in rivers and lakes, and the silting up of reservoirs and navigation channels. In addition, the floodplains experience dust and pollution, damage to machinery, mental stress, and worsening health problems.

There are also social costs aside from the environmental impacts due to decreasing food production, leading to malnutrition and famine, civil unrest, and conflicts over access to, and control of, increasingly scarce resources.

D. Water Resources Management

Paradoxically, as rivers are controlled more and more through barrages and other infrastructure, the riverine response becomes increasingly unpredictable. The unpredictability produces unfavorable conditions for communities living along a river, for the environment, and for natural resources upon which they rely for their survival.

1. Information and Data Collection

Many of the negative consequences of river manipulation, such as ground and surface water quality deterioration or depletion, health risks, and food production disruption derive from the use of inadequate data for planning purposes. Where data does exist, it is either confined to sub-basins that generally correspond to national limits or to only a specific aspect of the resource is considered. Rarely do complete historical records exist from which patterns can be elicited.

Time series data on hydrology in the Senegal River Basin does exist for the valley from Bakel to Saint Louis in the delta. The data has been used for basin water resources planning and management. However, the changing patterns of rainfall and its implication on runoff and the governing processes are not yet fully understood. This problem originates from a lack of data in the catchment areas above Bakel, especially in the Guinean territory. This is partially due to Guinea's withdrawal from *Organisation des Etats Riverains du Fleuve Senegal* (OERS) and to its previous disinterest in collecting data in the Fouta Djallon highlands despite the fact that many rivers of regional importance originate from this area.

This problem is exacerbated by the weakness of ecological monitoring in almost the entire basin and especially in the upper basin. Geomorphologic processes, dynamic ecological phenomena, and associated modification of flow regimes have been totally ignored. Ecological, economic, and social water demand is unknown, as well as water flows and extreme events such as floods and droughts. Hydrological instruments, remote sensing, conventional cartography, geographic information systems (GIS) tools, and adequate ground monitoring of all key elements of the landscape and dynamic processes would rapidly provide reliable knowledge and appropriate planning tools for the proper management of the Basin's ecology and resources. However, collecting new but disparate sets of data is unlikely to resolve the problem. It is important that the data protocols are agreed to based on which data can be collected, analyzed, and shared in a harmonized fashion.

Corrective measures are being taken by OMVS within the Regional Hydropower Project and the related program, PASIE. A Water Charter, hydrological studies, and an Observatory of the Environment are being implemented. However, the problem of inadequate data is likely to remain until the upper basin in general, and Guinea in particular, is adequately instrumented and studied in terms of hydro-ecological conditions and the effects of production systems on land and water modifications.

2. Groundwater Resources

Despite the presence of a potentially large groundwater supply, riverine communities throughout the Senegal River Basin remain dependent economically and socially upon the river's floods. Though the *Maastrichtien* and other *Cretaceous* sub-surface water bodies have started to be studied, the process is unsustainable. Groundwater monitoring in the valley has long been abandoned despite possible benefits from its use and this should be rectified.

From the limited data that is available on water quantity and quality, negative changes such as salinization and lowering of the water table have been detected over the past decades. This is mostly attributed to a lack of groundwater recharge due to the reduction of flood areas. Underground and surface exchanges and lateral sub-surface interflows are found among the river, floodplains, and deep aquifers.

3. Water Availability and Needs

It was acknowledged during the Manantali dam's planning and management for power generation that there is insufficient water to meet the energy needs of the member states without placing major economic, environmental, and social burdens on the communities and national economies. Recent studies of water availability have demonstrated that it will be necessary to reconcile all the potential uses and make a political choice as to how to utilize the resource. This includes reducing the forecasted yield of hydropower despite the present and acute energy crisis that results in frequent power failures, the unsatisfied energy demand in all the countries, and low connectivity in the rural areas.

This situation arises from inadequate energy policies and hydrodam planning and interconnection at a regional level, as well as from a lack of financial resources to conduct hydrodam studies, planning, and construction. Although Guinea has a large potential, it is limited in its capacity to exploit the opportunity because of a deficient energy transport and marketing system that would allow it to sell electricity to other countries where demand is very high. Therefore, the upper basin, despite its potential for hydropower, is highly dependent on traditional energy sources such as kerosene, fuelwood, and gas.

4. Water Quality

Water quality degradation can result from eutrophication processes due to reduced velocity and oxygenation present in bodies of stagnate or slow moving water reservoirs, which are produced by damming and diking water bodies. Chemical and biological contamination through discharges of wastewater and agricultural water pesticide can also degrade water quality. In Guinea, small-scale mining is a particular threat to water quality.

Water quality problems are due entirely to either a lack, or weak implementation, of water standards and regulation, the absence of treatment facilities, and a low environmental awareness and value for environmental protection. Water pollution occurs from point sources such as cities and irrigated areas,

and non-point sources such as the Fouta Djallon highlands and delta. The impacts of pollution are a seasonal shortage of drinking water, waterweed infestation, a year-round increase of diarrheal diseases, and a serious threat to plant and animal ecology, and to human health.

5. Food Security and Nutrition

Whether traditional cropping practices are better than irrigation has been debated since the dams of the Senegal River Basin were first planned. Although there is insufficient data to conclude this debate, it is worth remembering that river basin management has an impact at the local level on people's livelihoods. What remains clear is that agricultural productivity has decreased with increasing land degradation. Any links to the development of the dams has not yet been elicited.

In the Fouta Djallon mountains and along the River, there appear to be two main problems: food diversity has decreased because of irrigation without substantially increasing production, and overall food production has decreased due to land degradation. Nutrition among the deltaic population has improved since the floods were artificially restored when compared with the dry years before the dam was built. The increased flooded areas and cropping patterns are likely to have been factors in this, because of the production of traditional staple crops and the availability of meat and dairy products.

6. Environmental Health

There is increased concern over issues of health, nutrition, and sanitation. Poor water management results in pollution of sources and public health risks. Poor water management refers to inappropriate planning of the water regime, a lack of secure water supply systems, and inadequate management of floods. The direct consequences of inadequate management include flooding and changes in the abundance and distribution of disease vectors. The indirect consequences of poor management can include malnutrition, contaminated drinking water, injury, stress, communal violence, and a loss of well-being.

Communicable diseases such as diarrhea, malaria, and schistosomiasis (bilharzia) remain considerable problems and are strongly associated with a lack of infrastructure and poverty. Improved planning and communication between the principal proponents and the health sector can avoid these diseases and other health impacts. Any water management plans that ignore the issue of health may be simply transferring hidden costs to the health sector, which is often already under-funded and stretched to capacity. This can lead to economic consequences such as lost productivity.

Malaria is the most important vector-borne disease and is likely to find increasing areas of favorable conditions with the decisions made regarding flood management in most hot climates. Bilharzia or schistosomiasis, which comes second, is found on many floodplains, and transmission depends on contact with water through fishing, bathing, farming, and washing. This is a chronic disease with relatively little apparent morbidity for many years, though with possibly high morbidity rates in later life. Two other mosquito-borne arboviruses are also important—rift valley fever and Japanese encephalitis. River blindness or onchocerciasis still occurs in a few areas such as those with rapid stream flows above the floodplain.

The construction of the dams changed the Senegal Basin's floodplain ecology from a salty and brackish aquatic environment with marked seasonal changes, to a low-flow perennial freshwater ecology. Apart from urinary bilharzia, which was and is endemic in the whole Basin, other waterborne diseases were not as common. Seasonal fluctuations in water level and water quality prevented any particular species

from dominating. Malaria was then cyclical, arriving with the rains and disappearing in the dry season, with an endemicity that mirrored the rainfall. Incidences of malaria varied across the Basin—it was low in the delta, medium in the middle valley, and high in the upper valley. Onchocerciasis was an important public health concern for riverine communities, while tripanosomiasis, skin leishmania, and Guinea worm cases were rare.

E. Biodiversity Conservation

1. Biodiversity Degradation

Fauna and flora diversity has decreased because of drought and impacts from the development of dams and irrigation. Riverine forests that constituted habitats for fauna have been cleared in many parts of the Basin for irrigation and fuelwood. In some parts, species have disappeared because unsuitable modification of flow regimes or improved accessibility of the highlands with roads to and around the Manantali dam has led to increased hunting in those areas. While protection remains insufficient in most of the Basin, the loss of rare species justifies the creation of protected areas around the Manantali reservoir in the upper basin and around the Djoudj and Diawling in the delta. The evolution of fish diversity is less evident—while studies have shown that there is a loss of some species, other species are simultaneously being found.

2. Wetland Degradation

Due to the construction of the dams and irrigation infrastructure and drought, the wetlands have diminished. The conversion to agricultural land, deforestation, and overexploitation of water resources has dried out some wetlands in the Basin. The principal culprit seems to be a lack of awareness of the role a wetland plays in the ecosystem and, therefore, its value to the ecological and economic processes depending upon it. Throughout the Basin, poverty continues to put pressure on natural resources, especially on wetland products due to a shortage of land, water, and wood. Visible deterioration is occurring in confined ecosystems such as the Magui and Lere ponds, cuvettes around Kayes, deltaic and lacustrine environments in the lower valley, and the delta (Lake de Guiers and Rkiz and floodplain cuvettes).

F. Opportunities and an Agenda for Action

A thorough knowledge of the riverine ecosystem, productivity, and actual efforts for poverty alleviation would greatly ease pressure on natural resources and would stimulate sustainable development. For this to happen, capacity building is necessary, as is the development of an institutional framework for regional cooperation because of the transboundary nature of the key environmental and resource issues in the Basin. National priorities reflect the general concern to account for the needs of local communities in natural resources utilization. There is a substantive interest in promoting sustainable development at the basin level based on the following:

- Integrated hydro-ecology and natural resources management, which would include mapping and collecting data on natural resources (land, water, and forests), groundwater monitoring, modeling the interaction between ground and surface water, and flow forecasting;
- Community-based integrated rural development schemes, including land and water management, health and nutrition improvement, and ecological maintenance of natural vegetation; and
- Wetland restoration and biological resources conservation by studying the feasibility of transboundary nature reserves and wildlife management, aquatic weeds control programs, and ecological rehabilitation of wetlands for fishery development.

These concerns reflect the view that environmental management is the key to maintaining political and economic equilibrium in the Senegal River Basin. The natural phenomena of drought and desertification, in addition to the decades of infrastructure development, have left unresolved the major challenges of providing economic benefits to the riparian countries and improving livelihoods in the Basin. Based on key environmental threats and resource uses, activities can be initiated in four majors fields:

- Regional cooperation on water resources and environmental management to build capacity at the regional and national level to manage their shared natural resources, promote a participatory approach based on the identification of priority actions and their implementation, and initiate coordination and reconciliation of resource uses and opportunities for economic and environmental cooperation;
- Studies and data collection on hydrological and sediment regimes, including rainfall/runoff and sediment transfer monitoring, water quality monitoring, groundwater modeling, initiating erosion control, and soil investigation measures;
- Land and water management projects by investigating opportunities to develop small hydrodams and small-scale irrigation, extend erosion control and land resources conservation, and promote integrated agro-ecological and sustainable agricultural schemes; and
  Wildlife and biodiversity conservation projects through ecosystems and habitats inventory, hydro-ecological restoration of floodplains and low-flow waters, constitution of natural reserve for large mammals in highland ecosystems, and control of waterweeds and disease vector habitats.

Annex 11: Appendix A
Transboundary Environmental Analysis—Root Cause Analysis

Issues	Symptoms/Impacts	Immediate Causes	Root Causes	Extent	Severity
Land Degradation					
Deforestation	• Decrease of vegetation; loss of savanna and forest cover • Energy crisis associated with competition for fuelwood and charcoal • Large-scale habitat destruction and loss of wildlife; progressive degradation of national parks and protected areas	• Increased competition on arable land leading to the extension of bushfire methods and savanna clearing for agriculture • Uncontrolled logging for charcoal and fuelwood production, which remains the main energy source • Non-planting or replanting of degraded areas	• Poverty stricken population with an obvious lack of food security • High charcoal and fuelwood prices due to increasing demand from urban areas • Absence of sound policy for re-afforestation	Basin-wide critical areas: Fouta Djallon Manantali areas Senegal Valley	Very high
Soil Erosion	• Loss of soil of fertility leading to extended cultivated areas • Loss of habitats and biodiversity • Degradation of riverbanks with water surface siltation leading to increased water quality concerns	• Inappropriate agricultural practices and increased pressure on fragile areas • Lack of soil and water conservation practices • Neglect of soil restoration and protection • Bush fire and slash-and-burn practices	• Increased population with urgent economic needs • Topography and geology not suited to current agricultural practices • Lack of awareness of land/water interaction	Basin-wide critical areas: Fouta Djallon, Upper basin Middle valley	Very high
Overgrazing	• Appearance and large-scale spread of “bowe” in mountainous areas • High degradation of vegetative cover • Reduced grazing areas and increased conflicts over shared natural resources	• Inappropriate control and management of land pasture • Increase of erosion and top soil losses resulting from overexploitation of natural resources • Property damage of farming exploitation	• High livestock density • Non-integration of farming and pastoral practices • Inefficient/inappropriate policies on transhumance practices	Regional critical areas: Fouta Djallon Magui pond Bafoulabe areas (Mali) Senegal valley around the sylvo-pastoral zone and Trarza region	Very high
Desertification	• Destruction of vegetation; increase of dune formation and mobility • Watershed degradation and increase of water scarcity • Disappearance of fauna and flora • Soil salinization due to dry conditions	• Rainfall shortages associated with water resource depletion • Increase of drought periods • Inappropriate land and flora protection	• Growing trend of climatic variability • Overexploitation of natural resources • Land tenure issues • Lack of investments	Localized: Mainly in the northern part of the Basin Critical areas: Northeastern part of Yelimane area, Eastern part of Trarza Surrounding part of the Ferlo	Moderate to severe

Water Resources Management					
Groundwater Use	• Groundwater depletion due lack of recharge • Inadequate supply for rural population	• Reduction of flooded areas for aquifer recharge • Insufficient aquifer reserve to provide enough water quantity • Emerging water quality issues, including salt intrusion	• Insufficient water release from storage facilities • Overpumping of groundwater aquifers • Inadequate knowledge on groundwater reserve	Localized: Critical areas: Fouta Djallon Brakna region Ferlo and delta areas	Moderate Severe in certain locations
Information and Data Collection	• Unreliable water resource data and information • Absence of basin-wide data collection network • Lack of cooperation for basin-wide information sharing • Absence of basin-wide data collection parameters • Absence of reliable measuring stations	• Lack of water availability and demand data • Lack of upstream water flow information • Absence of basin-wide forecasting system for of extreme weather events (flood or drought) • No harmonization of software and geographic information systems (GIS) for data and information collection and management • Outdated and out-of-repair gauging stations	• Sectoral management of data and information gathering • Lack of financial means for sustainable data and information collection • Lack of attention to the centrality of data and information sharing	Basin-wide critical areas: Bafing basin in Guinea basin-wide for environmental data and information	Very high to high
Water Quality	• Degradation of water quality making water unsuitable for domestic, industrial, and agricultural uses • Pollution of groundwater and water storage, resulting in contamination of drinking water • Adverse impact on water-dependent flora and fauna; • Nutrients and pesticides discharges leading to increase eutrophication • Decrease in environmental quality and waterweeds infestation	• Uncontrolled effluents, discharge of untreated water from urban areas, industrial water release and non-point sources from agricultural sector • Degradation of vegetative cover, especially Gonaike forest and wetlands that could act as filters • Inadequate response mechanisms	• Non-existence of harmonized water quality standards, laws, and regulations • Lack of funding and appropriate policy on operation and maintenance for treatment facilities • No operational laboratories for water source pollution control • Low environmental awareness and sense of value of environmental protection	Basin-wide critical areas: • Point source pollution localized around urban center such as Kayes, Matam, Podor, Dagana Rosso, and Saint Louis • Non-point sources: regional problem causing waterweed infestation (largely *Typha* and *Salvina* on all water surface areas in the middle valley and the delta region	Severe

Energy Needs	• Absence of alternative energy sources • Electricity crisis and low connection rate within countries • Persistence of energy outages and related inconvenience for the economies	• Energy shortages, mainly firewood and electricity • Low electrification rates of rural areas • Economy slowdown due to lack of energy supply • High prices applied for electricity connection	• Absence of a basin-wide energy planning forum to optimize energy production and use • Lack of financial and human resources to explore alternative energy options and multipurpose developments	Basin-wide critical areas: Bafing basin in Guinea Upper basin in Mali and Guinea	Severe
Food Security	• Low food production and occurrence of famine • Inefficient irrigation practices with predominance of rice • Limited capabilities in comparison with the international market	• Inadequate extension and technical inputs in irrigation sector • Undiversified crop production • Limited understanding of macro-economic policies and their impact on incentive structures in agriculture sector	• Huge constraint on the acquisition of modern technology and extension services • Lack of capacity and financial resources to develop performing agriculture • Lack of policy reform based on analysis of macro-linkages to low agricultural outputs production	Basin-wide critical areas: Upper basin Middle valley	Severe
Waterborne Disease	• Pollution of drinking water sources, spread of infectious diseases (diarrhea, bilharzia, cholera, malaria, and Guinea worm) • Risk to public due to poor sanitation conditions especially in urban areas during the rainy season • Increase of malnutrition among small children and the elderly; increased absence from work due to sickness	• Lack of water supply systems and reliable drinking water sources • Insufficient facility maintenance; lack of urban stormwater sewers and solid waste disposal • Annual high water volume in the River, causing increased breeding ground for waterborne viruses in irrigation canals and waterweeds infested areas	• Lack of environmental regulations and laws • Urban population growth and absence of sanitation facilities • High capital costs for investment, operation, and maintenance for irrigation schemes • Lack of awareness and connection among stagnant water, sanitation, safe drinking water, and waterborne diseases • Poverty and poor health condition in large parts of the Basin	Basin-wide localized critical areas: Senegal valley Upper basin	Very high to high

Siltation	• Siltation and reduced effectiveness of floodplains, ponds, and irrigation canals • Reduction of wetlands areas and decrease of beneficial functions and uses • Heavy silt load in water bed leading to formation of sand bars (marmite de geants) and riverbank erosion	• Continuous degradation of fragile and mountainous areas upstream of the Basin • Poor land use practices and overuse of forest and vegetative cover • Watershed degradation due to population pressures, wood energy demands, and agricultural expansion	• Population pressure in the upper watershed and absence of non-wood-based energy sources • Inappropriate land and livestock management • Absence of basin-wide soil conservation and protection practices • Lack of awareness of links between land-based activities and water pollution	Basin-wide localized critical areas: • Tributaries of the Bafing river in the Fouta Djallon • Tributaries of the Bakoye in the Manding plateau • The Baoule sub-basin • The Kolombine, Karakoro and Gordol sub-basins • The Ferlo Valley	Very high to moderate

Biodiversity Conservation					
Fauna, Flora, and Fisheries Degradation	• Increase of endangered species • Decrease in fisheries productions • Decline in species diversity • Decrease in numbers of large mammals with negative impact on tourism • Decrease in forest cover	• Disappearance of unique habitats and ecosystems • Increase of poaching in protected areas • Construction • Absence of nursery grounds and way of passage for fisheries at small dams • Lack of alternative income sources especially in resettlement areas • Introduction of exotic species	• Land-use planning not enforced or absent • Lack of appropriate policy and legislation for species protection • Lack of awareness on biodiversity concerns and benefit from conservation • High reliance on primary natural resources and income from agriculture • Increased population pressure on natural resources coupled with climate change trend	Basin-wide localized critical areas: Diawling and Djoudji National Parks Bafing/Faleme protected areas Baoule/Keniebako game reserve	High to moderate
Wetland Degradation	• Decrease and degradation of wetland areas (siltation, flood damage, low water flows waterweeds infestation, agriculture extension) • Decrease in benefits from functioning wetlands (less groundwater recharge, destruction of habitats and loss of biodiversity, reduction of floodplain area, reduction in pasture grass (bourgou)	• Progressive intrusion into wetlands for agricultural purpose • Deforestation, erosion, and siltation • Overuse of natural resources (over-fishing, hunting, overgrazing, farming practices)	• Lack of wetlands protection and management regulation • Lack of awareness on wetlands functions, value, and cultural functions • Poverty and population pressure; shortages of water and land	Basin-wide localized threatened wetlands: • Magui and Lere ponds • Kayes regions (basfonds) • Ndiael cuvette • Guiers and Rkiz lakes • Senegal valley floodplain	Very high to high

Annex 11: Appendix B Environmental Priority Action by Country: Republic of Guinea

Environmental Issues	Priority Action	Spatial Scale	Type of Action	Urgency
Land Degradation				
Deforestation	• Promote and enhance reforestation in mountainous areas • Promote and control overgrazing in slope areas • Develop and promote alternative energy source • Promote public awareness on environmental degradation and related impacts • Promote land reforms program	National	• Environmental and water resource management plans • Transboundary joint management • Bush fire management • Awareness and education campaign • Review of current land tenure system and recommend reforms through broad participation	Very high
Erosion	• Promote watershed management based on holistic approach and sound consultation among stakeholders	National	• Land management program • Capacity building • Education program	Very high
Mining	• Monitor ongoing activities and assess negative environmental impacts	Regional	• Environmental policy and regulation	Moderate
Water Resources Management				
Information and Data Collection	• Improve knowledge base on water availability (inventory: water demand, data base, and groundwater monitoring) • Updating basin master plan (1960s)	National Regional	• Rehabilitation/installation of key hydrometric stations • Diagnostic study of basin • Comprehensive water policy and enhanced legislation • Capacity building	Very high
Energy Needs	• Promote alternatives to wood as energy source • Develop forest management program • Promote small sustainable hydroelectric power generation	National Regional	• Sustainable energy options, including small scale hydro • Reforestation and land management programs. • Feasibility studies on identified small hydro sites	High
Ground-water Use	• Promote sustainable groundwater uses	National Regional	• Groundwater aquifer studies • Water supply development	High
Biodiversity Conservation				
Biodiversity Conservation	• Species and habitat inventory • Habitat mapping • Improve knowledge on endangered ecosystems and species • Integration of biodiversity management concerns in land use planning	Regional	• Capacity building for biodiversity management • Management plans for protected areas	Very high
Community-Based Biodiversity Conservation	• Promotion of sustainable community-based biodiversity conservation • Rehabilitation of degraded ecosystems • Enhance public participation in biodiversity conservation • Inventory of and application of customary practices for biodiversity conservation and sustainable resources uses	Regional Local	• Cooperation with community groups for conservation • Reforms to ensure community captures part of conservation revenue • Locally defined biodiversity management plans	High
Biodiversity Management and Monitoring System	• Promote biodiversity monitoring program • Create national forum for information sharing	National Regional	• Capacity building at local, regional, and national levels • Awareness and outreach: information sharing • Strengthening Ministry of Environment for biodiversity monitoring	Very high
Institutions, Policy, and Capacity Building				
Institutional Capacity Building	• Enhance the capacity of institutions involved with environmental management • Promote cooperation among national institutions for efficient use of existing capacity	Regional National	• Capacity building • Institutional reforms	Very high
Legislative Reforms	• Promote flexible land tenure reforms	Regional National	• Land tenure legislation	High

Annex 11: Appendix C Environmental Priority Actions Republic of Mali

Environmental issues	Priority Action	Spatial Scale	Type of Action	Urgency
Land Degradation				
Deforestation	• Promote reforestation in fragile and marginal areas • Promote alternative energy sources • Promote alternative grazing source	Local National Regional	• Environment and water resource management plans • Enforce legislation on natural resources uses	Very high
Soil Erosion and Siltation	• Develop riverbank management plans	National Local Regional	• Technical improvement of land use • Land tenure and water legislation	Very high
Overgrazing	• Develop sound policy and management of transhumance	National Regional	• Transboundary livestock management plan	Very high
Desertification	• Promote sound policy for desertification control and land conservation through the **[[define]]**CCD convention	National Regional	• Land use • Awareness campaign • Bush fire management plan	High
Water Resources Management				
Illegal Water Withdrawals	• Develop a sound water resource management policy	Local Regional	• Capacity building • Water legislation	Very high
Water Allocation	• Promote comprehensive water allocation among sector	Local National	• Water demand studies • Water allocation and management plan	Very high
Floods and Droughts	• Develop comprehensive disaster management plan • Improve water release information between Manantali and downstream	Regional Local National	• Water release forecasting model • Flood early warning system • Drought monitoring • Capacity building • Communication	High
Food Security	• Promote replication of village-level small irrigation schemes	Local Regional	• Rehabilitation of small **[[define?]]**PIV • Technical improvement • Dissemination of best practices	Very high
Wetlands Degradation	• Establish wetland development and conservation policies	Local National Regional	• Conservation measures • Enforcement of policies • Public awareness	Very high
Climate Changes				
Climatic Variability and Trend of Decreasing Rainfall	• Improve collection of rainfall data to improve forecast abilities • Long-term forecasting and data exchange	Regional National	• Improve knowledge and information • Enhanced modeling capacity • Cooperation among countries	Very high
Institutions, Policy, and Capacity Building				
Stakeholder Participation	• Enhance coordination/information sharing among stakeholders	Regional National	• Coordinate mechanism • Awareness, education	Very high
Unplanned/Badly Planned Settlement	• Undertake curative measures to reverse and rehabilitate degraded areas • Provide support to areas to prevent widespread degradation • Migration management	Local Regional	• Emergency plan and support • Sustainable development • Local consultation and participation	High

Annex 11: Appendix D Environmental Priority Actions Republic of Mauritania

Environmental Issues	Priority Action	Spatial Scale	Type of Action	Urgency
Land Degradation				
Soil Salinization	• Appropriate policy and regulation on irrigation water use • Adequate planning on drainage	Local Regional	• Technical improvement of irrigation practices • Capacity building	Very high
Overgrazing	• Enforcement of legislation on transhumance • Promote transboundary convention on transhumance issue • Land tenure policy and reforms	Local Regional	• Integration of livestock management and irrigation program	Very high
Deforestation	• Promote reforestation of Gonakie areas • Promote alternative energy sources	Local Regional	• Promote sound education and awareness on forest degradation	Very high
Desertification	• Implementation of National Action Plan prepared under CCD • Promote adequate land management	Local	• Land management • Awareness and education	Very high
Water Resources Management				
Groundwater Depletion	• Promote water planning and management policy • Develop appropriate water allocation model for groundwater recharge	Local	• Technical studies • Awareness and education	High
Waterborne Diseases	• Promote and apply policies to stop spread of waterborne diseases	Local	• Medicine dissemination program • Awareness, education	Very High
Pollution Increase	• Enforce legislation on pesticide use • Control effluent, sewage, and fertilizer uses	Local	• Environment policy and regulation • Create awareness among farmers	High
Waterweeds Infestation	• Develop adequate measures against waterweed infestation • Intensify research and possible use of removed waterweeds	Local Regional	• Management plan • Capacity building	Very high
Food Security	• Promote replication of village level small irrigation schemes (VSIP)	National Regional	• Rehabilitation of VSIP • Technical improvement • Dissemination of best practice	Very high
Biodiversity Conservation				
Biodiversity and Habitat Losses, Including Fisheries Degradation	• Biodiversity management and capacity building • Protected areas management plans and implementation • Enforcement of existing policies • Physical delineation of protected areas • Development of reliable model for water flow release • Fisheries management • Enforce appropriate regulations on fauna and flora protection	National Regional	• Capacity building and awareness • management plans • Strengthened enforcement capacity • Survey for delineation of park boundaries • Creation of protected areas	High
Institutions, Policy, and Capacity Building				
Legislative Reforms	• Promote flexible land tenure reforms and water resources management legislation	National	• Land tenure and water legislation • Capacity building • Awareness and education	High

Annex 11: Appendix E Environmental Priority Actions Republic of Senegal

Environmental Issues	Priority Action	Spatial Scale	Type of Action	Urgency
Land Degradation				
Soil Erosion and Loss of Soil Fertility	• Establish sound policy for land use agriculture practices • Promote program for soil conservation and restoration • Promote anti-erosion measures	National Regional	• Technical improvements in soil use practices • Management information • Capacity building	Very high
Deforestation	• Promote restoration of Gonakie forest • Encourage creation of protected areas and forest reserves • Manage natural forest	Regional Local	• Develop transboundary action for Gonakie forest restoration and management • Enforce legislation and raise awareness	Very high
Transhumance and Overgrazing	• Develop adequate regulation on livestock management • Enhanced community-based management of pasture on floodplains • Integrate livestock management with irrigation program	National Regional	• Integrate livestock and irrigation program	High
Desertification	• Promote sound policy for desertification control and land conservation through the CCD convention • Implementation of National Action Plan prepared under CCD • Promote adequate land management	National Regional	• Land use planning • Sand dune fixation • Reflooding of floodplains • Awareness	High
Water Resources Management				
Prevalence of Waterborne Diseases	• Promote program against waterborne spread of disease • Create awareness on waterborne sources	National Regional	• Education and awareness on water sanitation • Medicine dissemination	Very high
Waterweeds Infestation	• Develop adequate measures against waterweed infestation • Intensify research and possible use of removed waterweeds • Floodplains management	Local Regional	• Technical studies • Management plan • Capacity building	Very high
Water Resources Variability	• Improve water release information between Manantali and downstream • Strengthen early warning system on drought and floods • Develop relevant data base • Increase communication among stakeholders on water precipitation and releases • Manage low flows and levels	Local Regional	• Water release forecasting model • Flood early warning system • Drought monitoring • Capacity building • Communication • Water release management plan	Very high
Food Security	• Promote replication of VSIP • Stakeholders participation in management schemes	Local Regional	• Rehabilitation of small VSIP • Technical improvement • Dissemination of best practices	Very high

Biodiversity				
Threat to Fauna and Fisheries	• Enforce appropriate regulation on fauna and flora protection • Develop management plan • Reduce fishing pressure	National Regional	• Enforce legislation (licenses) • Protection areas policy • Protect and rehabilitate spawning and nursery grounds • Education, awareness	High
Wetlands Degradation	• Develop environmental management policy • Monitor environmental conditions • Provide water to wetlands	National Regional	• Enforce legislation on wetlands uses • Awareness creation	Very high
Institutions, Policy, and Capacity Building				
Community-Based Development	• Initiate poverty alleviation program	National Regional	• Feasibility studies • Capacity building • Technical development	Very high
Strengthen EIA	• Institutional setting and reforms	National Regional	• Capacity building • Technical development	Very high

Additional Annex 12 Public Involvement Summary
AFRICA: Senegal River Basin Water and Environmental Management Project

A. Introduction

1. This annex describes the involvement of the public to date in designing the Project and how the Project will later involve the public during implementation. Sections B and C describe the extensive consultative process during the Project's preparation and design, which included workshops, consultations, and field studies at the regional, national, and local levels. More than a thousand individuals participated in these activities. (Appendix A provides an overview of stakeholders consulted during Project preparation and summarizes elements of the Public Participation Program). Section D describes how the Project will engage the public during implementation.

B. Basin-wide Stakeholder Consultation and Participation in Project Formulation

2. ***Project Formulation.*** The Project preparation phase provided an opportunity for *Organisation pour la Mise en Valuer du Fleuve Senegal* (OMVS), and its specialized services, to actively involve the public in all four riparian countries in the Project's design. Given the World Conservation Union's (IUCN's) experience in facilitating public participation in the region, it was selected to assist OMVS and the Global Environment Facility (GEF) Implementing Agencies to ensure extensive participation of the public in the discussions that formed the Project. These activities were through the Project Development Facility–B (PDF-B) grant and contributions from IUCN and the World Bank managed Norwegian Trust Fund.

3. ***Launch Workshop.*** The consultations to shape the Public Participation Program were launched with a workshop in May 2000 in Saint Louis, Senegal. Shortly after the launch workshop, IUCN initiated broad consultations in the four riparian countries. Local coordinating committees set up under the *Regional Hydropower Project and the* Plan D'atténuation Et De Suivi Des Impacts Sur L'environnement (PASIE) program in Mali, Mauritania, and Senegal (*Comités locaux de coordination* , CLC) were consulted. As CLCs do not yet exist in Guinea, a local Nongovernmental Organization (NGO) carried out this work instead. (This Project will establish CLCs in Guinea and build capacity to ensure that all the CLCs can implement work at the community level.) After a lengthy consultation process with concerned stakeholders, the Program's formulation began formally in February 2001. The formulation involved defining the Program's objectives and framework, and securing adequate funding for project preparation. OMVS and IUCN discussed the Program's formulation in detail and sought agreement with the World Bank.

4. ***Public Participation Program Framework.*** The importance of stakeholder involvement has become increasingly clear during Project preparation as the only way of sustainably tackling environmental degradation by promoting engagement with local communities and by involving the private sector and locally elected organizations. The Public Participation Program's objectives were defined as follows:

- Providing a framework for consultation at the local level and enabling reconciliation of stakeholders' concerns, perceptions, and advice with regard to management of the Basin's natural resources;
- Enabling integration of local knowledge and strategies into the planning process for water and environmental management;
- Using a variety of communication means to ensure equal access not only in planning the program but also in implementation; and

- Promoting integration of such factors as health, education, and food security as perceived by the communities affected by the management of the Basin's water resources and environment thus far.

5. ***Meetings Arranged in Preparing the Public Participation Program.*** Continuing the consultations made in project identification, the pre-appraisal mission met with community groups, NGOs, and academic institutions in the Basin countries. Table 1 details the consultations held to date. The Project itself will continue to broaden stakeholder participation from community-based organizations, academic institutions, and NGOs with whom contacts have not yet been made.

Table 1. Local, National, and Pre-Appraisal Meetings in Riparian Countries

Meetings	**Date and Location and Participants**
Local Meetings	
Mali Meetings	2 to 22 July 2001 Three meetings in each district of Bafoulabe, de Kita, and Kati.
Senegal Meetings	5 to 26 July 2001 Three meetings in each district of Dagana, Matam, and Podor
Mauritania Meetings	24 June to 15 July 2001 Three meetings per wilaya in Trarza, Gorgol, and Brakna de Guidimakha
Guinea Meetings	23 July to 12 Aug 2001 Three meetings in each region of Labe, Mamou, Kankan, and Faranah
Participants: Villagers, women's groups, farmers' groups, economic interest groups, local technical agencies, local governments	
National Meetings	
Mali Meetings	13, 14, and 15 August 2001 in Bamako
Participants: 42 participants, 7 community organizations, 10 village representatives, 8 technical services, 7 NGOs 4 private-sector people, 7 local governments	
Senegal Meetings	17, 18, and 19 August 2001 in Saint Louis
Participants: 47 participants, 9 community organizations, 12 village representatives, 8 technical services, 7 NGOs, 4 private-sector people, 7 local governments	
Mauritania Meetings	21, 22, and 23 August 2001 in Nouakchott
Participants: 48 participants, 8 community organizations, 14 village representatives, 9 technical services, 6 NGOs, 4 private-sector people, 7 local governments	
Guinea Meetings	6, 7, and 8 September 2001 in Conakry
Participants: 45 participants, 7 community organizations, 13 village representatives, 9 technical services, 7 NGOs, 2 private-sector people, 7 local governments	
Pre-Appraisal Meetings	
Senegal Meetings	13 and 27 June 2002, Dakar
Mauritania Meetings	15 and 17 June 2002, Rosso and Nouakchott
Mali pre Meetings	20 June 2002, Bamako
Guinea Meetings	25 June 2002, Conakry
Participants: NGOs, research institutes, universities, women's groups, technical ministries, others	

6. ***Principal Recommendations.*** The principal recommendations that have emerged from the participatory process are summarized below:
   - Promote inclusive partnerships among all affected parties (OMVS, governmental, communities, NGOs, etc.) to strengthen communication and information sharing on water resource management, and create an awareness of upstream-downstream linkages;
   - Improve information and awareness at the grassroots level needs to give communities the opportunity to articulate their vision for water resource management in the Basin;
   - Strengthen stakeholders knowledge and capacities at all levels; and
   - Expand membership of the OMVS Permanent Water Commission to include community-based representatives and selected NGOs. This broader membership would facilitate enhanced understanding and improved information sharing among all stakeholders.

7. ***Some Additional Issues.*** Other issues raised by the public included the following:
   - The significance of migration and transhumance in the Basin;
   - The importance of indigenous knowledge;
   - The necessity of disseminating information in local languages;
   - Inclusion of participatory options analysis in investment Project design; and
   - The need not only for coordination and public debate, but also for reaching convergence and/or consensus on key decisions.

C. Elements of the Public Participation Program

8. ***Public Participation Program.*** The objective of the public involvement process was to (i) provide mechanisms for public engagement and (ii) ensure that the stakeholder's interests and choices constitute the basis for decision-making in water and environmental management. To formulate a Public Participation Program to meet these objectives the following activities were carried out during Project preparation:
   - *Participatory analysis and Rapid Rural Appraisal (RRA).* National consultants used participatory analysis and RRA to assemble the perceptions, requests and knowledge of the Basin's people, followed by a review of the resulting material.
   - *Review of information collected and preparation of consultative meetings.* Based on reports from the participatory analysis, local assessments and appraisals were prepared to solicit further discussion on the Project and the design of its participatory process.
   - *Local level meetings.* Meetings at the local level were held in 12 different districts (three in each riparian country) between mid-June and mid-August 2001. These were attended by the different groups within local communities (such as women's and farmers' groups), local technical agencies, and local government representatives. The meetings discussed the priority concerns of the region's people and enabled a public exchange on the options for the Project's participatory process.
   - *National level meetings.* The local meetings' results were consolidated, then reviewed at national-level meetings held between mid-August and early September 2001. The national meetings' conclusions formed the basis for the planning of a regional meeting on public participation, and provided significant input to the Project Brief's preparation and Project Component 5, which addresses public participation.
   - *Regional forum*. The regional participation forum provided consolidated input into a broader regional forum held later in the preparation period, and brought together a broad base of technical and public and private citizens. The regional forum helped elaborate the additional details required for the post-GEF Executive Council elaboration of the Project Appraisal Document.
   - *Pre-appraisal mission.* A joint World Bank and UNDP pre-appraisal mission visited the four riparian countries between June 7–28, 2002. The joint mission met with the NGO and academic

community in each country. Using the successful experience of the GEF Small Grants Programme administered by UNDP, the use of microgrants was discussed in detail with the NGO community in the Basin, as was the anticipated Public Participation Program (Components 4 and 5 respectively).

D. Public Participation vis-à-vis the Project's components

9. ***The public and components.*** The Program's strategic approach is to ensure a broad stakeholder involvement at the regional, national, and local level. This will be achieved through (i) Component 3, which is preparing the Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP); (ii) Component 4, which will engage local stakeholders in community-based activities funded through microgrants; and (iii) Component 5, which will provide a forum for public information for national and local stakeholders.

10. ***Component 3 TDA and SAP.*** Stakeholder participation during the PDF-B phase's activities was critical. The Project will build on this level of public involvement in conducting the TDA and the SAP that will follow the TDA. In determining the Basin's priority actions, the various stakeholders and communities will be consulted through a series of workshops at the local, national, and regional levels.

11. ***Component 4 Microgrants Program.*** At the start of the Project, the National Coordinators will jointly develop a regional participatory strategy to engage the local communities, which will benefit the Microgrants Program. The strategy will include an extensive public information and awareness campaign on the Basin's priority issues. The communities will be able to address these issues through the Microgrant Program. National Coordination Committees will be established/strengthened in each country with representation from the nongovernmental and governmental sectors. These committees will be responsible for final approval of awards to communities applying for microgrants. The microgrants are targeted at community-based organizations, with individual grants having a ceiling of US$50,000. The grants will be awarded in accordance with agreed eligibility criteria, which will be established basin-wide. Special attention will be paid to the needs of women. The main emphasis to ensure that NGOs, academia, and community groups in the Basin are encouraged to undertake actions that will lead to improved environmental and water management and regional cooperation on environmental and water matters.

12. ***Component 5 Public Participation Program.*** The Project will engage international, national, and local NGOs; coordinate community implementation; and support the involvement of local community leaders, the broader public, and the scientific community in the planning and management of the Basin's environment and water resources. The Public Participation Program will strengthen coordination among the entities managing the Senegal River Basin at different levels. Awareness campaigns will use the national media and work with local communities to increase understanding in the Basin on the transboundary environmental issues and OMVS' activities. The approach is to reach a audience and, therefore, the activities will be tailored to the audience's context. A variety of tools will be used, including TV, radio, newspapers (print and electronic), and links to the national environment ministries and NGOs networks. The approach is to build awareness and capacity on both sides-—the decision-makers and those affected by the decisions—and thus strengthen decision-making in the Basin. The Project will facilitate exchanges among the scientific community in the Basin through a university networking program, which will have regional workshops and an student/staff exchange program. The component's overall objective is to share knowledge within the Basin, to encourage academic work on the sustainable management of the Basin's water and environmental resources, and to prompt the next generation of researchers and students in this field.

Annex 12: Appendix A

Stakeholders consulted during National Process

Guinea

- Centre de Promotion et de Développement Minier (CPDM)
- Direction National de l'Hydraulique (DNH)
- Direction Natioale de la Météorologie (DNM)
- Direction Nationale de l'Environnement (DNE)
- Direction Générale des Bauxites de Tougué–Dabola (DGBT/D)
- Direction Nationale de l'Energie (DNE)
- Centre de Promotion du Développement Minier (CPDM)
- Direction Nationale de l'Agriculture (DNA)
- Direction Nationale des Eaux et Forêts (DNEF)
- Direction Nationale des Forêts et Faune (DNFF)
- Direction Nationale des Mines (DNM)
- Direction Nationale du Génie Rural (DGR)
- Institut de Recherche Agronomique de Guinée (IRAG)
- Inspection régionale des Mines (IRM)
- Fond pour l'Environnement Mondial (GEF)
- ONG Ballal Guinée
- ONG Vita
- Préfecture de Manou
- Préfecture de Dalaba
- Préfecture de Tougué
- Préfecture de Labé
- Programme de Réhabilitation Agricole et d'Appui au Développement local (PRAADEL)
- Projet de Gestion des Ressources Naturelles (PGRN)

Mali

- Action d'Appui aux Initiatives de Développement (AIDEB)
- Aménagement Forêts (AF)
- Association d'Appui aux Actions de Développement Rural (ONG/ADR)
- Agence Nationale d'Investissement des Collectivités Territoriales (ANICET)
- Agence Malienne de Presse et de Publicité (AMCFE)
- Assemblée Régionale
- Association des Chasseurs
- Association des éleveurs transhumant de Mahina
- Association Coopératives pêcheurs de Kayes
- Association des exploitants forestiers de Kayes
- Association des orpailleurs de Kéniéba
- Association des transporteurs routiers
- Association Djama Djigui Marena
- Association des Exploitants Forestiers (AEF)
- Cabinet d'Assistance pour le Développement Intégré du Sahel (CADIS)
- Chambre d'Agriculture
- Collectif des Ingénieurs pour le Développement du Sahel (CIDS)
- Comité Nationale de Coordination (CNC)
- Comité nationale de suivi des recommandations de la table ronde de Kayes

- Comités locaux de coordination (CLC)
- Compagnie Malienne de Développement du Textile (CMDT)
- Conseil de Cercle
- Conseil Communaux
- Conseil de village
- Consortium Koyne et Bellier
- Coordination régionale des femmes de Kayes (CRFK)
- Coordination des Associations féminines et ONG (CAFO)
- Coopérative Agricole Multifonctionnelle de Somakidi (CAMS)
- Coopérative Multifonctionnelle de Kamankolé (CMK)
- Direction Régionale de l'Hydraulique et de l'Energie (DRHE)
- Direction Régionale de la Santé Publique (DRSP)
- Direction Nationale de la Conservation de la Nature (DNCN)
- Direction Nationale de l'Hydraulique et de l'Energie (DNHE)
- Direction Régionale de la Conservation de la Nature (DRCN)
- Direction Régionale de l'Agriculture et de l'Equipement (DRAE)
- Direction Régional de l'Aménagement Rural (DRAMR)
- Groupe de Recherche et de Réalisation pour le Développement Rural dans le Tiers Monde
- Haut Commissariat Kayes
- Ministère de la Sécurité
- Ministère des forces armées
- Ministère de Développement Rural (MDR)
- Office Malien du Tourisme et de l'Hôtellerie (OMATHO)
- Opération Parc National de la Boucle du Baoulé Projet Petite Irrigation (PPI)
- Projet National d'Infrastructure (PNIR)
- Programme de Gestion des Ressources Naturelles (PGRN)
- Projet de Développement Intégré de l'Agriculture
- Irriguée de Manantali (PDIAM)
- Sous commission Economie Rurale Kayes
- Service Local d'Appui-Conseil-Amenagement-Equipement Rural (SLACAER)
- Service Locale de la Réglementation et du Contrôle (SLRC)
- Union Générale des Associations pour le développement (UGAP)

Mauritania

- Association pour la promotion de Touguène
- Association Mauritanienne de Ingénieurs Agronomes et filières Associées (AMIFA)
- Association Mauritanienne de lutte contre la désertification (AMLCD)
- Centre Nationale de Recherche Agronomique et de Développement Agricole (CNRADA)
- Bureau foncier du Brakna
- Centre National d'Hygiène (CNH)
- Centre National d'Elevage et de Recherche Vétérinaire (CNERV)
- Comité National Préparatoire du Projet (CNPP)
- Comité Consultatif Local (CCL)
- Commune Ndiago
- Condition féminine de Boghé
- Coopérative des artisans de Taiba
- Coopérative Rindao Silla
- Coopérative Périmètre Pilote du Gorgol I (PPG)
- Coopérative Périmètre Pilote du Gorgol II (PPG)

- Coopérative Agricole Maghama
- Coopérative des artisans de Taiba
- Coopérative de Rindao Silla
- Coopérative des femmes de Birettes Coopérative des femmes de Gidr El Mohguène
- Coopérative rizicole de Touguène
- Coopérative Bok Dioum de Keur Mour
- Coopérative maraichère de Touguène
- Direction de l'Environnement et de l'Aménagement Rural (DEAR)
- Direction Régionale pour la Promotion de la Santé (DRPS)
- Direction régionale de la protection des sols du Gorgol (DRPG)
- Fédération Luthérienne Mondiale (FLM)
- Hôpital Régional de Kaedi
- Lutte Contre la Pauvreté
- Mairie d'Aleg
- Ministère du Développement Rural et de l'Environnement (MDRE)
- Ministère de l'Hydraulique et de l'Energie (MHE)
- Organisation pour la Mise en Valeur du fleuve Sénégal (OMVS)
- ONG SUD
- Parc National de Diawling (PND)
- Périmètre pilote du Gorgol (PPG)
- Programme d'Appui aux Coopératives Agricoles en difficultés (PACAD)
- Plan d'Atténuation et de Suivi des Impacts sur l'Environnement (PASIE)
- Programme des Nations Unis pour le Développement (PNUD)
- Projet Développement Communautaire et Sécurité Alimentaire du Brakna (PDCSAB)
- Projet de développement rural pour le groupement des femmes de Kaédi Projet Maghama Décrue
- Société Nationale de Développement Rural (SONADER)
- Société de Gestion de Diama (SOGED)
- Service du suivi écologique du PND
- Union Internationale pour la Conservation de la Nature (UICN)
- Union Nationale des Coopératives Agricoles et de Crédit d'Epargne de Mauritanie (UNACEM)

Senegal

- Association de développement de Cascas (ADC)
- Communauté rurale de Ross Bethio
- Commissariat de l'après barrage
- Commission Permanente des Eaux (CPE)
- Comité National de Coordination (CNC)
- Comités Locaux de Coordination (CLC)
- Comité National Projet Préparatoire du Projet (CNPP)
- Division régionale de l'hydraulique (DRH)
- Direction régionale du développement rural (DRDR)
- Fédération des Paysans Organisés du Département de Bakel (FPODB)
- Fédération des femmes productrices de St-Louis
- Mouvement des acteurs de la Vallée (MAV)
- Ministère de l'Agriculture et de l'Elevage (MAE)
- Ministère de la Jeunesse et de l'Environnement et de l'Hygiène Publique (MJE)
- Ministère des Mines de l'Energie et de l'Hydraulique (MMEH)
- Plan d'Atténuation et de Suivi des Impacts sur l'Environnement (PASIE)
- Société de Gestion et d'Exploitation de DIAMA (SOGED)

- Société de gestion de Manantali (SOGEM)
- Société d'Aménagement et d'Exploitation du Delta (SAED)
- Organisation pour la mise en valeur du fleuve Sénégal (OMVS)
- Ong Diapanté
- ONG OXFAM
- Société Nationale des Eaux du Sénégal (SONES) Société des eaux (SDE)
- Union des groupements des femmes des villages voisins du parc de la langue de Barbarie (UGFVPLB)

Additional Annex 13: Institutional Arrangements for Project Implementation
AFRICA: Senegal River Basin Water and Environmental Management Project

A. Institutional arrangements

Implementation at the Regional Level

1. ***Executing Agency***. The Project will be executed by *Organisation pour la Mise en Valeur du Fleuve Senegal* (OMVS). To assist in Project management and implementation, a Project office, the regional project management Cellule (CRGP), will be established as an integral part of OMVS High Commission in Dakar. The CRGP, working closely with Bank and United Nations Development Programme (UNDP) country offices, will be responsible for supporting OMVS in ensuring that national and regional priorities agreed on by the riparian states are substantively and coherently accommodated within the proposed Transboundary Diagnostic Analysis (TDA) and Strategic Action Plan (SAP).

2. ***OMVS.*** OMVS will play a key and continuous supervision and coordination role on behalf of the four riparian countries. World Bank and UNDP staff in charge of the Project will remain in direct and continuous contact with OMVS to ensure maximum cooperation for the successful implementation of the Project. OMVS will ensure close collaboration and harmonization between Project activities and the *Plan d'Attenuation et de Suivi des Impact sur l'Environment* (PASIE) project, especially as far as information sharing and PASIE's consultative committee are concerned. Collaboration with other current projects similar to those of the Global Environment Facility (GEF) or the Fouta Djallon project will be promoted.

3. ***Inter-Ministerial Council.*** The Inter-Ministerial Council is the highest authority responsible for ensuring project coherence and integration at the regional level. It is composed of the four Water Ministries in the basin countries. It instructs and discusses any Senegal River Basin management issue. It approves the strategic actions proposed by the Steering Committee. The Inter-Ministerial Council reports to the Heads of State of the four basin countries. It meets at least once a year, after a preparatory meeting of ad hoc experts of the four countries.

4. ***Senegal River Basin Steering Committee.*** The already established Regional Project Planning Committee (RPPC) will be transformed into the Senegal River Basin steering committee (CPBFS, *Le comite de pilotage de Basin Fleuve Sénégal*) and placed under the Inter-Ministerial Council. The CPBFS will ensure proper implementation of Project activities. The whole committee will meet at least once a year to review the annual action plan and progress in Project implementation. Administrative policies will define the operational procedures of the Committee. Commissions could particularly be established in order to facilitate issues reviews and decision-making. The CPBFS will report to the Council of Ministers through OMVS H.C. Figure 1 illustrates the institutional arrangements for the Project.

5. The following people will have membership in the Steering Committee; however, the Steering Committee will be able to call on anyone with the required expertise:

From OMVS

- The High Commissioner
- The General Director of SOGED
- The General Director of SOGEM
- The General Secretary of OMVS
- The OMVS Coordination Advisor

- The OMVS Legal Advisor
- The OMVS Technical Director
- The Administrative and Financial Director
- The CPGP Regional Project Coordinator
- The Head of the Environmental Observetoire
- The Managerial Staff nominated by the High Commissioner

From Guinea
- A representative of the Ministry of Hydraulics and Energy
- A representative of the Ministry of Mines, Geology and Environment
- A representative of the Ministry of Water and Forestry and Agriculture
- A representatives from the CNC
- Ministry of Economics and Finance (as member of the CNC)
- A representative from the National Cellule

From Mali
- A representative of the Ministry of Environment
- A representative of the Ministry of Mines, Energy and Water
- A representative of the Ministry of Water and Forestry and Agriculture
- A representatives from the CNC
- GEF Focal Point (as member of the CNC)
- A representative from the National Cellule

From Mauritania
- A representative of the Ministry of Hydraulics and Energy (representative of the National Cellule)
- A representative of the Ministry of Mines, Energy and Water
- A representative of the Ministry of Rural Development and Environment
- Ministry of Economics and Finance
- A representatives from the CNC
- A representatives from the SONADER

From Senegal
- A representative of the Ministry of Environment
- A representative of the Ministry of Economics and Finance
- A representative from the National Cellule
- A represenative from Water Resource Services

From other agencies
- The World Bank
- UNDP
- Donors co-financing the Project

6. ***CPBFS Responsibilities.*** The CPBFS will be responsible for:
- Propose Project orientations;
- Supervise the Project and ensure that objectives are met, especially as far as budget and timeline are concerned;
- Ensure monitoring and evaluation of Project activities;
- Review program activities;
- Review Project progress reports;

- Advise CRGP on Project implementation; and
- Examine the reports of the auditor in charge of the mid-term independent audit and submit them to the approval of the Interministeriel Council.

7. ***Exchange of Regional Lessons***. In addition to the structures mentioned above and in order to ensure proper transfer of expertise and best practices, United Nations Environment Programme (UNEP) and the organs from other GEF Projects in Mauritania, Senegal, and the Fouta Djallon mountains project in Guinea, as well as GEF Project managers and coordinators in the region will also be invited to attend Steering Committee meetings. Close links will be maintained with current OMVS committees, especially the Permanent Water Commission. The World Bank and UNDP will provide assistance for Project supervision through frequent and regular meetings. Annual missions of the Steering Committe will visit the field to discuss Project progress.

8. ***CRGP Personnel.*** OMVS will manage the Project through the CRGP and at the national level, through OMVS National Cellules, and the National Cellule in Guinea. OMVS will nominate and support a regional project coordinator *Coordinateur Regional de projet* (CRP) entirely dedicated to the Project. The CRP will be ensconced from the OMVS, whereas other staff of the CRGP will be financed by the Project. Prior to effectiveness, the financial administrative assistant, *Assistant administratif et financier* (AAF) will be recruited. This assistant will be responsible, among other things, for monitoring the administrative and financial documents of the Project. To strengthen Project implementation, a technical expert will be recruited for each main Project component. A procurement specialist will be recruited and located within the CRGP and will give help and advice to the National Cellule teams from time to time to monitor the progress of procurement and implementation of each contract under the Project and will ensure effective and timely project execution.

9. ***CRGP Staff.*** The Project team will be composed of the following:
- CRP (financed by OMVS);
- AAF;
- Water/natural resources management Expert(Component 2: Data Knowledge and Management)
- Environmental planning Officer (Component 3: TAD/SAP);
- Regional Micro-finance Specialist (socio-economist) (Component 4: Priority Actions);
- Expert in public participation and information (EIP) (Component 5: Public Awareness and Participation); and
- Procurement Specialist Consultant with one-year non-renewable term contract.

CRGP Recruitment

10. ***CRGP Recruitment.*** To strengthen regional capacities, all CRGP staff will be recruited through a sub-regional competitive process. However, preference will be given to Basin nationals while seeking to maintain a balance among countries. OMVS will take the necessary steps to ensure Guinea's participation in the recruitment commission. If possible, OMVS personnel will provide support to the CRGP. National, regional, and international consultants will be recruited, when necessary, with a priority given to recruiting national and regional consultants. CRGP personnel will be recruited as follows:
- CRGP managers will be recruited on a competitive basis, with priority given to nationals from the region and then advertisement of the positions in national, regional, and international newspapers; and
- Assistants will be recruited on a competitive basis after advertisement of the positions in Senegalese newspapers.

11. ***Competitive and Transparent Selection Procedure.*** All personnel paid from project funds (either CRGP or National Cellules budget) will be recruited through a competitive selection process after advertisement of the positions in regional and international media.

12. ***CRGP Personnel.*** The candidates with the required competencies will be preselected by OMVS H.C. To ensure transparency, a review committee composed of donors and OMVS representatives will be set up and will make recommendations to OMVS H.C. on the selection of candidates. The selection will follow this competitive procedure to ensure that all four riparian countries are covered and represented. Preference will be given to personnel in the region with the assistance, if necessary, of regional and international consultants.

Implementation at the National Level

13. ***National Coordination Committees (CNC).*** Through PASIE, CNCs have been created in three OMVS member states. A CNC will be established in Guinea from the current National Project Planning Committee. The extended CNC will include but not be limited to the following institutions:

- Ministry of Hydraulics/Water
- Ministry of Environment
- Ministry of Health
- Ministry of Agriculture
- Ministry of Energy
- Ministry of Finance
- Ministry of Education
- NGO representatives
- Scientific and research institutions
- Women's groups representatives
- Ministry of Women Affairs
- Ministry of Territorial Communities
- Ministry of Economic Affaires and Development
- UNDP
- The World Bank

14. As far as Project activities are concerned, CNC will do the following:

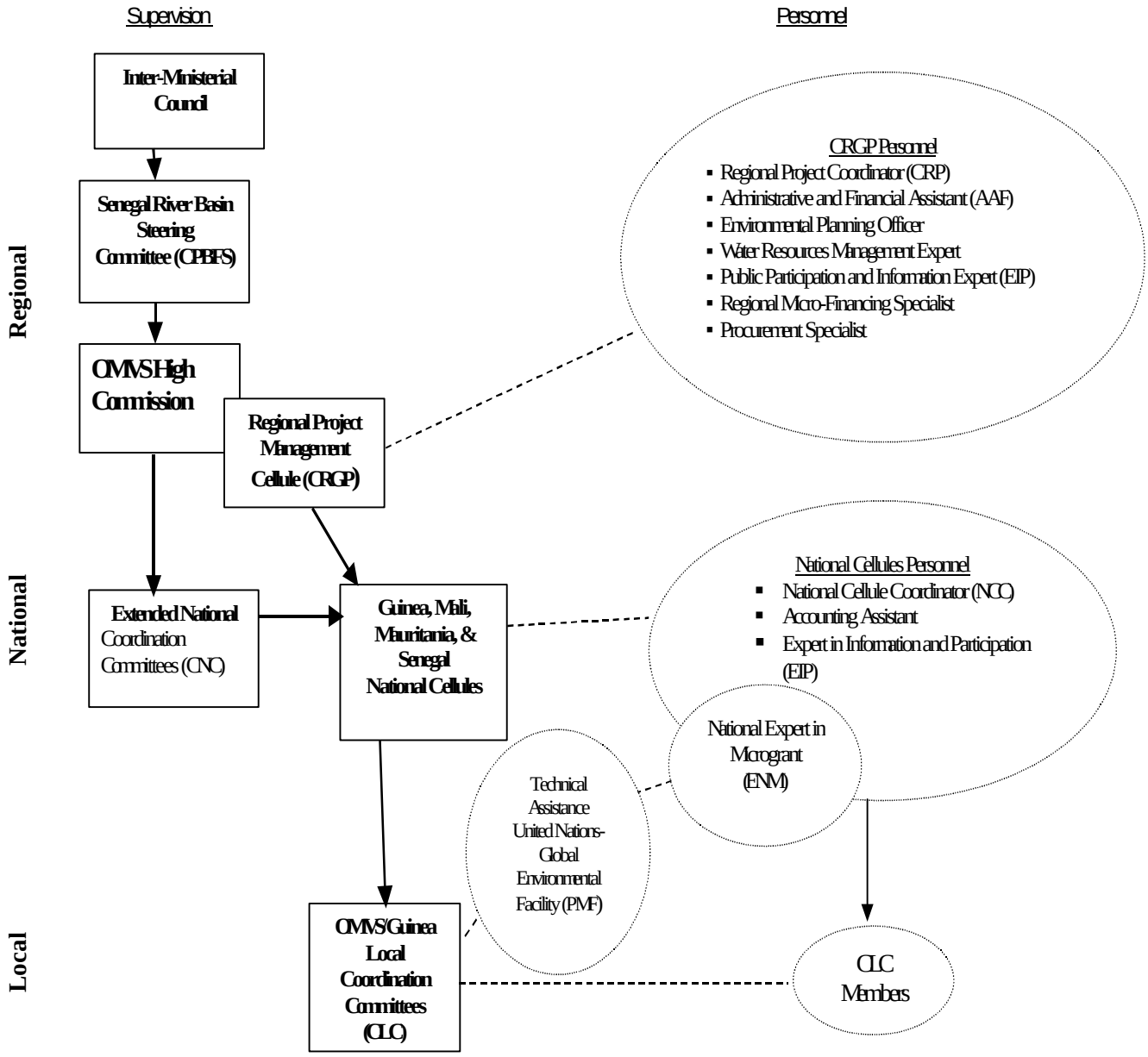
- Supervise all project activities at the national level;
- Ensure participation and information sharing at the national level among the various ministries involved;
- Facilitate the participation of NGOs (through member NGOs of CNC);
- Supervise the Project and advise on necessary policy orientations;
- Assess project implementation while providing guidance and technical advice to the National Cellule;
- Receive and analyze complete annual and financial reports on project activities; and
- Approve monitoring and evaluation reports on project activities.

15. ***National Cellules.*** OMVS National Cellules have already been established in the three OMVS countries as decentralized bodies. A fourth cellule will be established in Guinea through the current Project. The Cellule established in Guinea will have the same institutional setting as the three existing OMVS cellules, referenced as the four National Cellules. The National Cellules will be responsible for Project implementation at the national level. The current OMVS National Cellule Coordinators will manage the National Cellule and the national-level Project activities, working closely with the CRGP.

16. ***National Cellule Personnel.*** To facilitate Project implementation, the Project will recruit personnel to work in the National Cellules under the Technical Advisor in charge of coordination. The personnel will include, in additon of the National Cellule Coordinator (CCN), the Accounting Assistant, the EIP, and the National Microgrants Expert (ENM). The National Cellules will play a key role in the preparation of the environmental evaluations for the implementation of the microgrant program and if necessary, will be assisted by external experts.

- The CCN in coordination with the CRP, work in close collaboration with other Project resource persons and various national experts, as well as with the technical services and organizations involved in the implementation of various Project components in the country;
- The EIP will facilitate community involvement in the Project by working with local NGOs. He or she will be based in the field (Mamou in Guinea, Kita in Mali, Rosso in Mauritania, and St-Louis in Senegal) or in any other place that will facilitate efficient implementation; and
- The ENM will launch the national microgrant program for the Project and promote its activities with key actors. Like the EIP, the ENM should be based in the field (Mamou in Guinea, Kita in Mali, Rosso in Mauritania, and St-Louis in Senegal). He or she will develop the Microgrant Program National Action Plan in close collaboration with the CNC to ensure compatibility with the regional strategy of the microgrant component of the Project. The ENM will disseminate the guiding principles and any pertinent information to local associations, NGOs, and other stakeholders seeking financial and technical assistance through the program. He or she will organize workshops for all stakeholders on micro-project development to explain the Program and help potential participants establish a link between local environmental problems and basin-wide priorities.

Figure 1. Organigramme of Project Institutional Arrangements and Staff



*17. **National Cellule Recruitment.*** The personnel for National Cellules will be recruited according to competitive selection process.

Implementation at the Local Level

18. ***Local Coordination Committees (CLCs).*** CLCs have already been established in the three OMVS members states through PASIE. The CLCs were initially created as advisory structures for communities regarding compensations related to the installation of high-voltage cables in the energy project. Consequently, the CLCs do not cover the whole Basin, nor are they present in Guinea. The establishment of additional CLCs is thus necessary to ensure basin-wide coverage. The new GEF Project will promote the establishment of new and additional CLCs as indicated in the following Table 1 below:

Table 1. Total Number of CLCs at the End of the GEF Project

Country	Number of Established CLCs	Number of New CLCs Required	Total Number of CLCs at the End of the GEF Project
Guinea	0	4	4
Mali	5	5	10
Mauritania	4	3	7
Senegal	5	2	7
Total	**14**	**14**	**28**

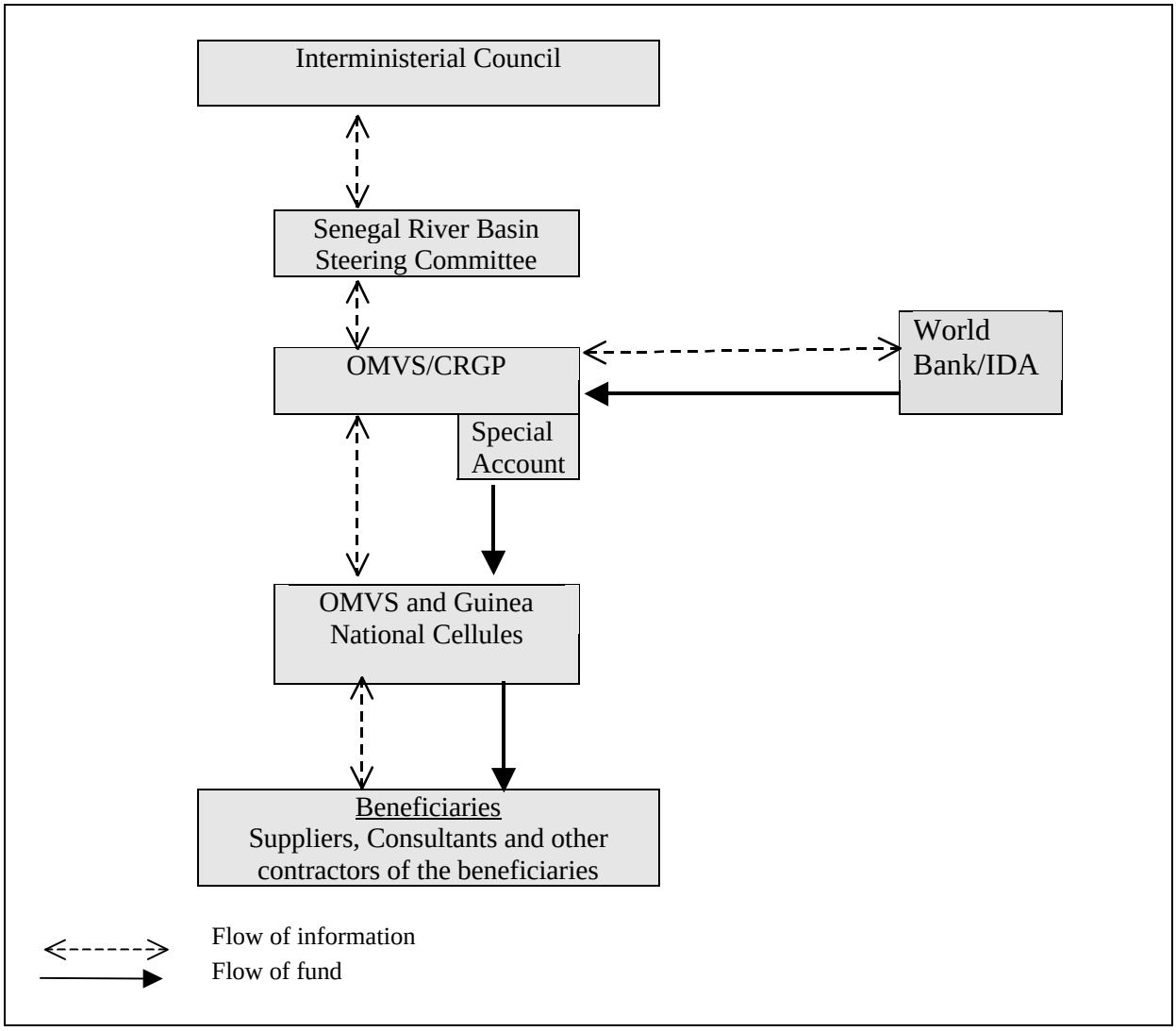
19. CLCs will be particularly active during the TDA/SAP phase in involving stakeholders and will also be responsible for local implementation of the micro-financing program. The lessons learned through PASIE are extremely positive as far as CLCs are concerned. With the appropriate assistance to organize themselves, the communities identify CLCs as an expression and communication channel that did not exist before. CLCs support the local implementation of the microgrant program and supervise all Project activities at the local level. CLCs will work under the supervision of the National Cellules.

B. Project Execution

20. ***Implementation Period.*** Project implementation is expected to become effective January 2003 and to last four years, unless otherwise negotiated.

21. ***Flow of Funds.*** Project flow of funds is described in Figure 2. As the Project's executing agency, the OMVS will be the recipient of the grant which will be transferred to a Special Account. The CRGP will be responsible for the regional implementation of Project activities. At the national level, each Cellule will have an open account. OMVS will pre-finance National Cellules eligible expenses and related activities. OMVS will validate and submit to the World Bank all appropriate documentation presented for reimbursement and Special Account replenishment. A direct payment amounting to 20% of the Special Account will be directly sent to the Bank for payments.

Figure 2. Flow of Funds



C. Microgrant Program—Priority Actions

22. ***Microgrant Program.*** The microgrant program builds upon lessons learnt from the one developed by the United Nations-Global Environmental Facility (PMF), although specific dispositions will have to be put in place in different countries. The GEF Project will require PMF assistance in each country to benefit from its field experience and institutional network. In Guinea, a comparable network will be established concurrent to the implementation of the microgrant program in the region.

23. ***Microgrant Program at the Regional Level.*** To implement Project Component 4, Microgrant Program–Priority Actions, OMVS will draw on lessons learned from existing microgrant programs like those of the UNDP Small Grants Program, the African Development Bank, the World Bank, the Social Funds, and others. Similarly, the implementation mechanisms of the microgrant program will be based on

the best practices drawn from these programs.

24. ***Microgrant Expert.*** The regional expert based at the CRGP will be recruited to manage the microgrant component under the supervision of the CRP in collaboration with the regional EIP and with—at the national level—the CCN, EIP, and ENM.

25. ***Training.*** The microgrant expert will organize training workshops for all those involved in the implementation of the review of microgrant activities, which includes the four CNC, the experts in charge of the GEF-OMVS project, the information and communication coordinators, the national managers of the subcontracted NGO, the CRP, the regional national EIPs, and members of the Project Steering Committee responsible for supervision of the microgrant program. The workshops will focus on program objectives and the social and environmental protection aspects. They discuss topics such as social sensitization principles; effective community participation; identification of appropriate formats; possible options for grant applications; and submission and conformity with environmental and social safeguards screening, monitoring, and evaluation procedures.

Microgrant Program at the National Level

26. ***CNC.*** The CNC will ensure the transparent and fair supervision of microgrant program implementation and will review the recommendations pertaining to the environmental and social safeguards. The CNC will review the rules outlined in the Microgrant Operational Manual. A draft version of the manual was developed during the preparation phase of the Project and will be attached to the Project documentation that will be finalized during the first year of Project implementation under the direction of the regional Microgrant Expert.

27. ***CNC Responsibilities.*** The CNC is responsible for selecting and approving the projects that will be financed through microgrants and monitor their technical quality. CNC members are also encouraged to take part in project preselection visits and to provide advice on proposal reformulation or, if necessary, conception revision, as well as project monitoring and evaluation. The CNC are invited to review the annual action plan proposed by the ENM and to regularly evaluate the microgrant program to assess and disseminate success stories, problems to avoid in the future, or lessons learned. Information on the microgrant program could also be disseminated through the network of CNC members, which will improve program visibility.

28. ***National Cellules and PMF Assistance.*** The National Cellule will subcontract the technical assistance for the microgrant program, which will report to the ENM. This expert will be institutionally and administratively supported by the National Cellules personnel and will work closely with the regional and national EIP. The microgrant offices in Mali, Mauritania, and Senegal are working together to organize and carry out a training program on the procedures of the microgrant program for Guinea's ENM. These offices will provide Guinea with technical assistance and support for the implementation of the microgrant program.

29. ***National Cellule Responsibilities.*** The National Cellules are responsible for implementing the national microgrant priority action plans. This action plan will follow the format proposed by the Microgrant Expert and will reflect the priorities of the TDA and SAP. The plan will be prepared in close consultation with the national groups and services involved. The national microgrant priority action plan will provide a strategic framework for the allocation of resources including the spatial and thematic priorities for the national implementation of the program. Upon finalization of the TDA and SAP, the microgrant program will be launched.

30. ***Local and National Promotion and Information Campaigns.*** Local and national promotion and information campaigns will be conjointly prepared and implemented at the regional and national levels to present the microgrant program and its objectives and to provide detailed information on the submission of grant proposals.

Microgrant Program at the Local Level

31. ***CLCs.*** The CLCs will work closely with the National Cellules to inform rural communities on the specificities of the microgrant program and will assist the stakeholders in the elaboration of proposals and the implementation of the initial environmental screening. The CLC will make recommendations to the National Cellules and, if an environmental evaluation is deemed necessary, the latter will prepare the documents with the assistance of the CLC. As soon as microgrant supported interventions are launched, the CLC will facilitate the implementation, monitoring, and evaluation. An essential condition for program success lies in CLC actions, which will facilitate communication among communities.

D. Coordination with Ongoing Current Initiatives

32. ***Joint Implementation.*** The World Bank and UNDP will jointly implement the Project to ensure efficient coordination of multilateral assistance in the Senegal River Basin. Both organizations currently have several ongoing programs and projects used as important references for the current GEF Project (see Appendix A at the end of this Annex). Moreover, it has been found that joint implementation makes the Project considerably stronger as it benefits from each agency's comparative advantage.

33. ***Integration in Regional Initiatives.*** The four participating countries are signatories of the convention to combat decertification. Moreover, they have successfully implemented their national action plans and have submitted them to the CCD secretariat in Bonn. A Regional Action Plan (RAP) has also been developed and, in this context, a sub-regional action plan was formulated. In addition, within the framework of the International Waters Partnership, the OMVS is the sub-regional lead agency in the sustainable management of shared water resources.

E. Project Reporting

34. ***Reporting Submissions from the OMVS.*** The regional project coordinator will submit to the OMVS the following progress and other reports which, once integrated, will be presented to the Project CPBFS, the Inter-Ministerial Council, and the World Bank:

a) Monthly narrative report by electronic mail (one page maximum): including main accomplishments over the course of the month and the goals set for the subsequent month and, if appropriate, the remarks and/or recommendations concerning unforeseen events susceptible to affect project progress and quality.

- Frequency: Monthly
- Responsibility: RPC
- Recipients: OMVS, CNP, UNDP, and World Bank (for internal use only).

b) Quarterly progress reports: covering intermediary periods between annual reports and reporting on (i) project progress, problems encountered, and necessary corrective action; (ii) actual cost of each project component with cost estimate to completion; (iii) degree to which objectives have been reached, as determined by project indicators. These reports will include specific sections on actual and estimated procurement activities and disbursements with information on progress in

procurement activities; gaps between estimates and actual figures and corrective actions taken; and project expenditures (local and foreign cost).

- Frequency: First report to be submitted within six months of project start
- Responsibility: RPC
- Recipients: All Steering Committee members and observers.

c) Annual Project progress report: Because of the involvement of multiple donors/agencies in this project, reporting procedures will be kept as simple and harmonious as possible. The Project Regional Coordinator will thus review UNDP and World Bank annual reporting requirements and elaborate a uniform report format to meet most of the requirements of both organizations. With the use of this unified approach, the report will meet UNDP (Annual Project Report, APR) and World Bank criteria. The Project Regional Coordinator will prepare annual progress reports describing implemented activities and compare them with the established work program, project documents, and general project objectives.

- Frequency: First report to be submitted within 12 months of effective Project launch and 2 months before the first annual report of the Project
- Responsibility: RPC
- Recipients: All Steering Committee members, observers included.

d) Work program: will be attached to the Project progress report. Frequency, responsibility, and recipients are the same.

e) Evaluation of GEF project implementation review (GEF PIR): The Regional Coordinator of the Project will also fill in the annual review form on the progress of GEF projects (GEF PIR). To avoid redundancies, it was agreed that the World Bank would submit this report on behalf of the two implementing agencies. The Regional Coordinator of the Project will get in touch with the Bank Task Team Leader to that effect.

- Frequency: To be submitted annually, normally in June of each year
- Responsibility: RPC and Bank Task Team Leader
- Recipients: OMVS, national Project coordinators, UNDP, World Bank (World Bank will ensure report transmission to the Secretariat of the GEF)
- Additional distribution: Parties other than the two GEF implementing agencies, if they so request in conformity with the established policy of the GEF.

f) Mid-term review report: Conforming to standard procedures, funds have been set aside for a mid-term review. The TOR and date of this evaluation will be determined during the annual review or by mail. This evaluation will normally be independent and carried out by consultants with no previous association with the Project.

- Frequency: Mid-term review during the third year of project implementation
- Responsibility: Preliminary TORs will be prepared by the RPC
- Recipients: All Steering Committee members including observers. This report could also be distributed to parties other than the two GEF implementing agencies, if they request it, in conformity with the established policy of the GEF.

g) Ad hoc reports: A large number of ad hoc reports will be produced in all thematic areas in which the Project intervenes. These reports will be produced at the national and regional levels for various purposes.

- Frequency: as needed
- Responsibility: The RPC for report repartition

- Recipients: Based on report objective
- Additional distribution: All Steering Committee members, observers included.

h) Audits: OMVS will submit an annual audit report to the Bank and UNDP. This audit will be carried out by independent auditors.

- Frequency: The annual reports must be submitted within six months after the end of the fiscal year (end of fiscal year n = June 30 of year n)
- Responsibility: The RPC will prepare the TOR of the independent audit, which will be carried out by the independent auditor

Project Supervision

35. ***Project Supervision Requirements.*** The project will follow UNDP and World Bank's supervision regulations. The following provisions have been made to that effect:

a) Annual supervision missions: An annual supervision mission will visit the field to assess project progress. This supervision mission will be a joint World Bank, UNDP, and OMVS mission.

b) Steering Committee annual meetings: The CPBFS will review and approve annual work programs. It will also receive and review financial reports on project activities. The CPBFS will meet at least once a year and these meetings will be held in conjunction with the annual supervision missions. They will take place at OMVS H.C. and will be attended by both the Steering Committee and mission members. The CPBFS will receive and review the annual progress and evaluation reports before the meetings.

c) Supervision of procurement activities: These missions will be synchronized with the annual supervision missions.

Project Evaluation

36. ***Mid-term Evaluation.*** A monitoring and evaluation plan will be integrated to the Project Implementation Plan. Conforming to standard procedures, funds have been set aside for a mid-term review. The TOR and the date of the evaluation will be determined during the annual review or by mail. This evaluation will normally be independent from those of the GEF implementing agencies and OMVC H.C. and will thus be entrusted to consultants not previously associated with the Project.

37. ***Implementation Completion Report.*** An Implementation Completion Report (ICR) will be prepared six months following the end of the Project. This report will be prepared in conformity with standard World Bank procedures.

Additional Annex 14: OMVS Mandate and Institutional Structure
AFRICA: Senegal River Basin Water and Environmental Management Project

A. Organisation pour la Mise en Valeur du Fleuve Sénégal (OMVS)

Introduction

*1. **Three Decades of Cooperation.*** The Senegal River's development potential and regional importance has long been recognized since the colonial era. However, it is after independence, and specifically in 1968, Guinea, Mali, Mauritania, and Senegal created the *Organisation des États Riverains du Fleuve Sénégal (* OERS) with a view to realizing the potential offered by the Basin's land and water resources in a framework of regional economic integration. In 1972, Mali, Mauritania, and Senegal formed *Organisation pour la Mise en Valeur du Fleuve Sénégal* (OMVS) the following year.

2. **OMVS Legislative Base**. OMVS was established in 1972 to promote the economic development of the Senegal River Basin for irrigation, power supply, and navigation sectors. OMVS is governed by four principal legal conventions: (i) *Convention relative au statut du fleuve Sénégal* (1972); (ii) *Convention portant création de l'OMVS* (1972); and (iii) *Convention relative au statut juridique des ouvrages communs* (1978). In Mai 2002, a Water Charter was approved by OMVS member countries (see Annex 16). This Charter ensures a sustainable management of the water resources among the OMVS member countries. In 1992, Guinea and OMVS signed the *Protocole d'accord-cadre de coopération entre la République de Guinée et l'OMVS* with a view to creating a framework for cooperation in actions of mutual interest concerning the Senegal River and its Basin. It also opened the possibility that Guinea participate in OMVS on observer status. The *Protocole d'accord-cadre de coopération entre la République de Guinée et l'OMVS* has been extended twice, creating an Inter-Ministerial Council and a Technical and Legal Commission of Cooperation

Organization

*3. **Management Bodies***. The supreme body of OMVS is the Conference of Heads of State and Government. There are also three permanent bodies: the Council of Ministers (COM), the High Commission (H.C.), and the Permanent Water Commission (PWC). There is a newly created Inter-Ministerial Council, which includes Guinea membership, that will serve in an advisory capacity and that has oversight over the Project. The CPBFS will report to the Council on Project progress. In addition, there is an advisory committee and the Regional Planning and Monitoring Committee, which advises on whether projects and measures planned in member states are consistent with the organization's objectives and whether the available resources in the Basin can meet the development plans. The Figure 1 below illustrates the OMVS organization. Other bodies could be established if necessary.

*4. **National Cellules.*** The National Cellules in the three countries are directly linked to the Committee of Experts of member states, established by the Council of Ministers (COMs) to advise the Council. For example, the Coordinator of the OMVS National Cellule for Senegal is also a member of the COM's Committee of Experts. The National Cellule assists in the implementation of OMVS projects and the National Cellule Coordinator is a permanent member of the advisory body of OMVS. In addition, local committees at the district level are needed to allow grassroots participation. The objectives of the national cellules are the same in each country and are as follows:

- Monitoring activities of OMVS,

- Formulating advice for the Ministry,
- Coordinating activities of OMVS (H.C., *Societe de gestion du barrage de* Diama [SOGED], and *Societe de gestion du barrage de Magantali* [SOGEM]) in the member states,
- Catalyzing relations between OMVS and national structures of member states,
- Participating in the implementation of programs of OMVS,
- Functioning as a permanent member of the Advisory Committee of High Commission, and
- Undertaking stakeholder consultations in cooperation with OMVS.

5. ***Consultative Committee of Donors.*** Liaison and coordination between donors and the organization are ensured through the Consultative Committee of Donors.

Involvement of NGOs. Recently, OMVS has became more aware of the importance of the participation and cooperation of NGOs. It has been more open to their involvement and has associated NGOs to the development process.

6. ***Staffing.*** The distribution of senior positions at OMVS is based on a political agreement at the highest level. Because the OMVS headquarters is located in Senegal, the senior positions of High Commissioner and Secretary General (four-year terms) are alternated between Mauritania and Mali. Other senior positions are distributed equally among the three member states. Other staff positions are open to competition with the general intention of keeping a balance among the countries. Junior staffs are recruited mostly locally.

OMVS Finances

7. ***Funding.*** Funding of OMVS is governed by the Mai 12, 1982 Convention. OMVS investments are in the form of loans both to the states as well as directly to the organization. In the latter case, collateral is required from the member states. Each state pays its own share of its loans.

8. ***Allocation of Costs for OMVS Operating Budget.*** The allocation of costs and debt-sharing is based on an agreed formula, covered in the conventions, with a provision that the formula can be revised. The World Bank and the University of Utah helped develop the formula after testing several methods of apportioning costs and charges. The underlying philosophy for cost recovery is that the user pays, but prevailing conditions are also taken into account. Fees paid to the organization are used to pay for operating expenses.

Note: Contributions to OMVS in 2000

Mali	US$ 429,435
Mauritania	US$ 419,435
Senegal	US$ 419,435
Total	**US$ 1,268,305**

9. ***Shared Ownership of Structures.*** As established by the Convention related to the legal status of the commun ownership, the OMVS structures (Manantali Dam located in Mali and Diama dam located in Senegal and Mauritania) are indivisible property, subject to common ownership. The River Basin is in a sense common property and taking on-board the interests of all riparian countries should be considered. If there is a national project with an impact on the regime of the River, or that could damage the interests of other members, it is normal under the principle of cooperation among member states that such a project should be submitted to the Permanent Water Commission (PWC) for its review and autorized by the

Council of Ministers.

OMVS Current Responsibilities

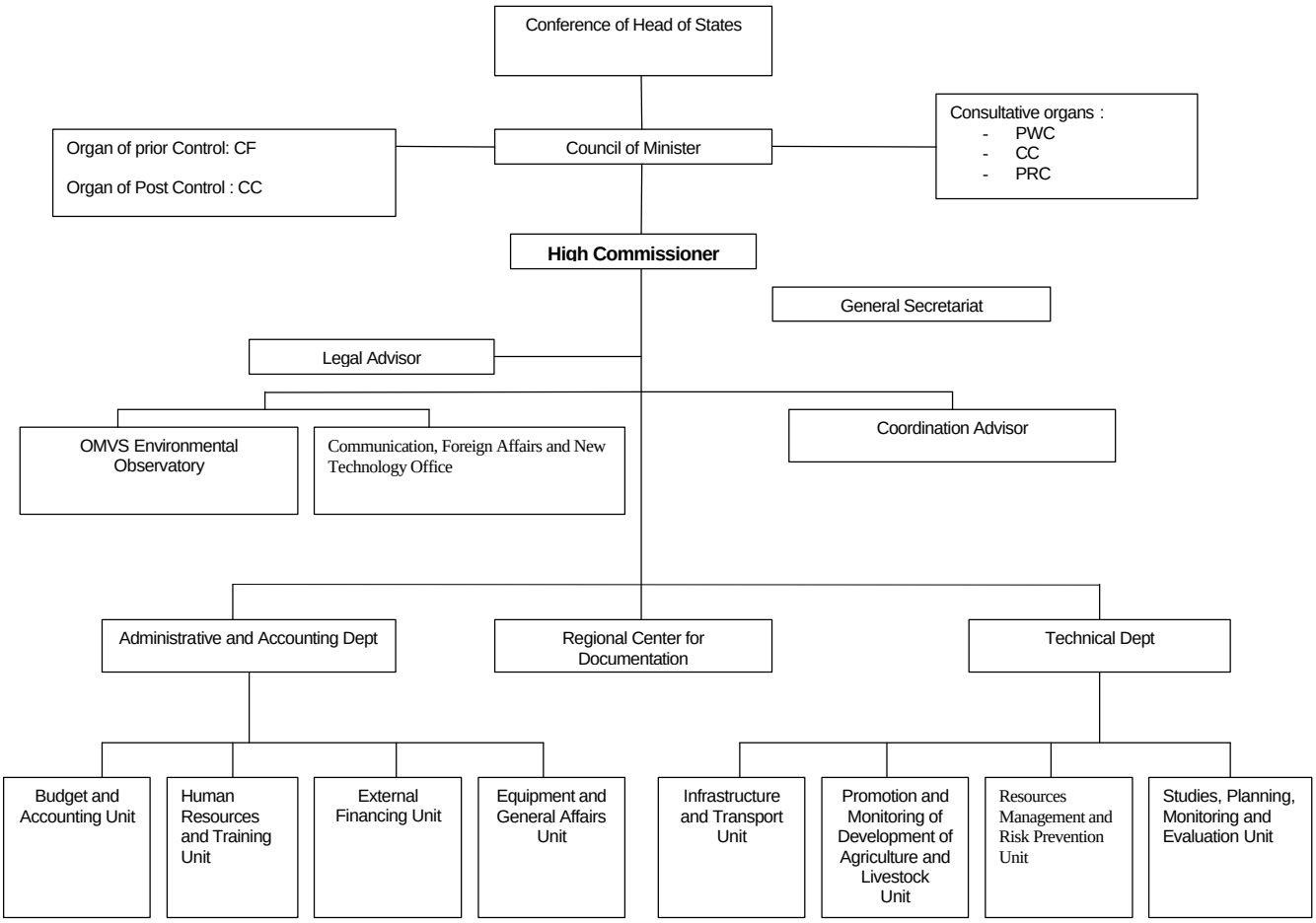
10. ***OMVS in Project Execution.*** OMVS is executing and overseeing the overall River Basin development program. This program consists of three main components namely irrigation, navigation, and energy.

- The *irrigation component* aims to establish approximately 375,000 hectare (ha) of irrigated agricultural land, with water being supplied from the Diama and the Manantali dams. The irrigation component has been under implementation since 1986.
- The *navigation component* includes the improvement of the main River channel to allow for year-round navigation over some 905 kilometers (km) between Kayes and Saint Louis. The component also addresses the construction of ports and places of call, the establishment of fleet operating agencies, and the maintenance of the navigable channel. The navigation component has not yet been started.
- The *Manantali dam supports the energy component* with a capacity of 200MW hydroelectric power plant generating 800 million kilowatt hours/year. The power transmission to the main cities of the three member states is ensured by a fully operational 1,300 km long high voltage transmission lines The first kilowatts from Manatali supplied Bamako in in January 2002, Dakar in July 2002 and Nouakchott in November 2002.

11. ***Dam Construction and Operation.*** OMVS has planned and overseen the construction of the two jointly owned and operated dams on the River. The Diama dam (located downstream) is an anti-saline intrusion dam with the basic purpose to halt saltwater intrusion into the Senegal River, thereby making agriculture possible in the delta. The construction of Diama dam started in 1982 and was completed in 1986. The Manantali dam (upstream) is a multi purpose dam, which facilitates the regulation of the Senegal River flows (300 meters cubic/second) for the three main components defined above. The Manantali dam construction began in June 1982 and ended in August 1988.

12. ***Dam Management.*** Two operating entities were established namely the Diama dam management company (SOGED) and the Manantali dam management company (SOGEM). Both of them have the overall responsibility for the dam operation and maintenance. SOGED and SOGEM are interstates parastatals agencies with their own institutional setting.

Figure 1: Organigramme of OMVS High Commission



Additional Annex 15: The Regional Hydropower Project and the Plan D'attenuation Et De Suivi Des Impacts Sur L'environment (PAISE)
AFRICA: Senegal River Basin Water and Environmental Management Project

A. The Regional Hydropower Development Project

1. ***World Bank Involvement.*** Manantali and Diama dams were built in 1986 and 1988 respectively. However, in view of financing constraints, the initial (non-Bank financed) projects did not include power generation. Without power generation and supply to the urban centers, such as Bamako, Nouakchott, and Dakar, as originally envisaged, the dams did not generate sufficient revenue stream either to meet the required debt service requirements or to ensure proper operation and maintenance of the dams. In the mid-1990s, the three states requested the World Bank to participate in a donor consortium to bring value to the previous investment by completing the power generation and transmission facilities. As the dams had created considerable negative impacts, it was further agreed that this second phase would also mitigate these impacts and improve the living conditions of the people affected by the two dams.

2. ***Purpose of the Project.*** The purpose of the Project was "to improve the capacities of Mali, Mauritania, and Senegal to meet the increasing demands for electricity supply in their respective territories" JPA–Schedule 1), through the following:

- Reduction in the cost of power,
- Increase of efficiency and reliability of the power supply systems in the three countries, and
- Mitigation of environmental problems.

3. ***Project Financing.*** The Project financed the construction with associated supervision services of a 200 Megawatts (MW) hydropower station at the Manantali dam; high voltage transmission lines and associated power transformation systems; as well as institutional strengthening of the two implementing agencies, *Organisation pour la Mise en Valeur du Fleuve Sénégal* (OMVS) and *Societe de gestion du barrage de Magantali* (SOGEM), including the PASIE (see box overleaf). The three International Development Agency (IDA) credits, approved on September 10, 1997, in the amounts of Special Drawing Rights (SDR) 12.6 million for Mali, SDR 8.1 million for Mauritania, and SDR 7.7 million for Senegal, represent a small part (9%) of this multi-donor initiative (US$m 445 equivalent).

4. ***Current Project Implementation Status.*** At the last project donor meeting held in Bamako, on December 10–11, 2001, the Project implementation status was thoroughly discussed among the parties. Based on these discussions and on a formal request for extension, project closure will now be June 2003, instead of June 2002 as originally planned.

B. Project Components

5. The Regional Hydropower Development Project's four components (A–D) are identified and the status of the financial support briefly described below.

Component A: Power Station. Power station construction includes four primary activities:

- Civil works for the power station and dispatching center at Manantali,
- Electromechanical equipment (5 units of 40 MW each),
- Step-up substation, and
- Reinforcement works on the dam.

6. The major part (US$m 28.5) of the IDA credits (US$m 38.7 equivalent) were used to co-finance with the Islamic Development Bank (IDB) and Banque Ouest-Africaine de Développement (BOAD) for the civil works contract for the construction of the power station, the step-up transformer, and the dam reinforcement. The electromechanical equipment was financed by the African Development Fund (AFD), Canadian International Development Agency (CIDA), and KfW. The bulk of the civil works was completed December 2001. The remaining works are as follows:

- Rehabilitation of the cushion basin of the spillway,
- Paving of site roads, and
- Special coating of buildings and finishing works inside power station.

Component B: Transmission System. The transmission system component has three major activities:

- Eastern transmission system to Bamako (operational since July 2001),
- Western transmission system to Nouakchott and Dakar, and
- Dispatching center at Manantali and equipment to link it to the three national dispatching centers.

7. There was no IDA financing for this component, which was financed jointly by AFD, Banque Européenne d'Investissement (BEI), Fonds Européen de Développement (FED), African Development Bank (AfDB), KfW, Fonds Arabe de Développement Economique et Social (FADES), and BOAD.

8. ***Component C – Supervision.*** Consultant services for construction supervision (all components) until project completion. There was no IDA financing for this component. It was entirely financed by AFD, KfW, and CIDA.

Component C: Institutional Strengthening. Support to the two implementing agencies (SOGEM and OMVS H.C.), including the following:

- Assistance with the recruitment of a private operator for the management and operation of project facilities,
- Assistance with implementation of environmental mitigation and monitoring plan, and
- Support to establishment/review of tariff principles and mechanisms and energy purchase agreements.

9. Related studies:

1. Reservoir management optimization program,
2. Mitigation measures for environment (health, traditional agriculture, etc.),
3. Promoting electrification of the Senegal Valley,
4. Developing of new hydroelectric sites,
5. Training of SOGEM and OMVS H.C. staff,
6. Acquisition of related equipment, materials, and vehicles, and
7. Operating costs of SOGEM and OMVS H.C.

10. All the activities listed under (a) and (b) were either solely or partly IDA funded. Component D (below), activity (a)(ii) and all the studies listed under (b) are part of the PASIE.

C. Programme d'Atténuation et de Suivi des Impacts Environnementaux (PASIE)

11. ***PASIE***. The PASIE is a jointly financed environmental and social management plan by the AfDB, AFD, CIDA, IDA, and OMVS. It consists of six sub-programs: (i) Construction Impact Mitigation and Monitoring Program for the power generation and transmission facilities; (ii) Appropriations and Right of

Way Program to carry out compensation activities for land acquisition and resettlement; (iii) Optimal Reservoir Management Program to prepare, *inter alia*, the Manantali Reservoir Management Plan and the Water Charter; (iv) Environmental Sanitation Program to implements pilot projects related to water related diseases and a regional sanitation plan; (v) Monitoring, Coordination, and Communication to monitor any environmental impacts and implement immediate remedial measures; and (vi) Associated measures for poverty reduction to maximize the benefits of the Project.

D. Status Of Regional Hydropower Development Project and PASIE

12. ***Regional Hydropower Development Project****.* ***Component A: Power Station.*** To date, the power station provisional acceptance is scheduled for May 2003 with project completion by June 2003. The early problems experienced during the commissioning of the first unit of the power station are about to be resolved following the aggressive remedial action plan implemented by the consortium ANS (ABB-NORELEC-SULZER), which is responsible for the supply and installation of the electromechanical equipment, including strengthening the team in the field with significant resources from their technical departments. Because of the delay in the installation of the electromechanical equipment, there is an associated delay in completing the civil works, in particular the finishing works in the power station.

13. ***Component B: Transmission Networks.*** The high voltage transmission network (HVTN) in Mali was connected to the Manantali grid in July 2001 and the combined system is operational under the supervision of the private operator of the dam. Electricity from Manantali is now flowing on a continuous basis to Bamako (20–25 MW). The Mauritania and Senegal HVTNs are not yet connected. Contractors have strengthened their teams on the ground to accelerate the works, the completion of which is scheduled for July/August 2002.

14. **Component C***:* **Institutional Strengthening and PASIE.** The institutional strengthening of OMVS and SOGEM is being carried out satisfactorily as certain activities are already complete. The record is mixed regarding the implementation of the PASIE with some activities lagging behind schedule, because financing was not secured on time or constrained by limited implementation capacity at OMVS.

E. PASIE

15. ***Component 1: Monitoring, Coordination, and Communication Program.*** The PASIE CPFS (regional OMVS level) and the sub-committees for water management and environmental health studies (assisted by an international panel of experts) are increasingly functioning better as the committee members have become more familiar with one another and the issues at stake.

- Public participation through national and Local Coordination Committees (CLCs). The Bank Mid-term Review (March 2000) found an intense interest among the affected population in matters concerning water management in addition to a keen desire to participate in water management decisions. The Bank responded to this by financing the recruitment of socio-anthropologists to work in the three countries to help users structure their needs and coordinate their participation. This outreach resulted in a marked increase in public participation. However, improvements are still needed, especially in setting up effective water user committees.
- Public information through the construction of an OMVS web site (http://www.omvs-hc.org/) and regular information campaigns.
- Setting up of an Environmental Observatory (monitoring system), coupled with environmental databases. The Observatory was officially launched in May 2001.

16. ***Component 2: Construction Impact Mitigation and Monitoring Program***. Comprehensive environmental management procedures are included in the contracts for civil works. This includes appropriate location of construction camps, prohibition of firewood collection and hunting, adequate sanitary facilities and proper disposal of toxic chemicals, such as engine oils, and so on. Adequate health facilities for screening and treatment of contractor staff have been established and AIDS prevention mechanisms, such as free provision of condoms and a health education program, are in place.

17. ***Component 3: Appropriations and Right of Way Program***. Component 3 includes:

- *Right of way*. The transmission line program has sought to avoid already developed land. Expropriations have avoided privately owned agricultural land except a few kilometers within the town of Bamako. In general, power lines go across uncultivated land.
- *Compensation.* Compensation of privately occupied land was fixed on tariffs based on market values. These tariffs were established by international firms and were higher than the official tariffs in the three member countries. Mali has so far disbursed 193 millions CFAFof the 380 million CFAF agreed upon. In Mauritania, the government has already transferred 50% of the compensation budget to the National Coordination Committee (CNC) and the administrative approval process is under way. In Senegal, budgetary provisions have been regularly made for the last two years and the administrative approval process is now moving toward the disbursement/payment phase. The process is running smoothly with the involvement of CLCs assisted by the socio-anthropologists.
- *Reforestation*. Compensation of affected public forests will be done by OMVS under the form of reforestation of an equivalent area, with IDA concurrence. Although the program has not yet started, the government of Mali has already allocated 500 million CFAF for reforestation projects in 2002.

18. ***Component 4: Optimal Reservoir Management Program***. This component has supported studies assessing the implications of specific water uses in the sub-basin. Important factors include the artificial flood from Manantali dam and the optimization of the management of Manantali and Diama dams. The studies, which have been undertaken, supported the preparation of the Mauatali Reservoir Management Program and the Water Charter.

19. ***Component 5: Environmental Sanitation Program***. Environmental health and environmental concerns have arisen, not as a consequence of the present IDA project, but as a consequence of the dams, which were built in the 1980s. The situation has continued to decline during implementation of the Project. The area has witnessed an explosion of water-related diseases, especially intestinal and urinary bilharzia and malaria. Activities in environmental health planned by the PASIE were limited to three domains:

- Pilot projects aimed at limiting contact between humans and infected water, preceded by a feasibility study;
- Study of reservoirs fluctuations, which are supposed to decrease the number of snails that transmit bilharzia; and
- Preparation and monitoring of a regional environmental health plan.

20. ***Component 6: Associated Measures.*** The measures inscribed in this category are diverse:

- Assistance to the Manantali limnology unit;
- Promotion of rural electrification; and
- Poverty alleviation and income generating activities projects.

21. The Manantali limnology unit aims to monitor the water quality of the reservoir, the traditional fishing

system in the reservoir and the health status of people in the area. It also provides expertise in freshwater fishing to Senegal and Mauritania as well as to other parts of Mali. Within the context of the PASIE, Canada has supported the unit. The Bank financed the repair of a boat for the unit.

22. ***Rural electricity***. PASIE has financed a global study on the promotion of electricity in the rural areas. A draft final report was presented to the CPFS meeting in September 2001. The three countries have provided a list of six to seven localities that could be considered for financing under the emergency electrification program and further detailed studies are planned with IDA financing to design adequate supply solutions. Poverty alleviation and income generation projects are financed by an AfDB grant. This grant was only approved in September 2001 and activities are therefore only now getting under way. In view of the delays, the Bank financed preparation of the implementation of this subcomponent through workshops and exchange visits.

Additional Annex 16: Water Charter Summary
AFRICA: Senegal River Basin Water and Environmental Management Project

1. ***Overview of Charter.*** The Water Charter, signed in May 2002 by the Heads of State of Mali, Mauritania, and Senegal, consists of a main legal text with three annexes. Annex 1 summarizes the findings of hydraulic simulation and the cost-benefit analysis (including the economic analysis and the multi-criteria analysis) presenting the strategy for the optimal utilization of the water resource. Annexes 2 and 3 consist of the Operational Manuals for Manantali and Diama dams, respectively.

2. ***A New Legal Instrument.*** The Charter is an important step forward for the members of the OMVS. It is the latest instrument in a series of agreements dating to 1972 concerning the legal status of the Senegal River. It is worth noting that the Charter, by its terms, places itself in a regional and international context. In particular, with regard to dispute settlement, it refers to the Treaty of July 11, 2000, establishing the African Union, and in relation to international water law, it refers to the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses.

3. ***Established Process for Approval of New Projects.*** Aside from addressing the issue of water use and allocation between sectors, the Water Charter also establishes a process for the approval of new projects based on the provision of information to all riparians. In this connection, the Charter provides for information to and consultation with the OMVS member states and other riparian countries with regard to any new project that may have significant effects.

4. ***Guinea's Interests.*** Reflecting a new spirit of inclusivity, as well as a basin approach, the Charter expressly takes into account the fact that Guinea forms an important part of the basin.

5. ***Progressive Elements.*** The Charter contains a number of progressive elements. First of all, it promotes integrated water resources management, a feature that is not particularly common among international agreements concerning water resources. In addition, the Charter reflects a strong recognition of modern values in the fields of international water resources and the environment. The Charter takes into account all stakeholders, be they users of water, representatives of territorial collectivities, or NGOs. It also provides for public access to information as well as education of the riparian populations. In this way, the Charter effectively implements Principle 10 of the 1992 Rio Declaration on Environment and Development, another feature that is seldom seen elsewhere. Further, the Charter supports a human rights approach, referring to a fundamental human right to potable water. Finally, the Charter recognizes the importance of economic instruments, incorporating a form of the polluter pays principle as well as fiscal incentives for environmental management purposes.

6. ***Guaranteeing the Annual Artificial Flood and Environmental Flows.*** Finally, the Charter provides expressly for two of the issues of concern to the Bank, namely, the artificial flood, which is guaranteed annually, absent extraordinary circumstances, and minimal environmental flows.

Additional Annex 17: Letters of Endorsement
AFRICA: Senegal River Basin Water and Environmental Management Project

JUL 15 2003

REPUBLIQUE DE GUINEE
Travail - Justice - Solidarité

Conakry, le 11 JUIL. 2003

MINISTERE DE L'ECONOMIE ET DES FINANCES

N° 1408 /MEF/CAB/

Le Ministre

N/Réf:
V/Réf:
Objet: **Projet du FEM de Gestion des ressources en eau et de l'environnement du bassin du Fleuve Sénégal**

Monsieur le Président,

Je, soussigné, **Monsieur Cheick Ahmadou CAMARA**, Ministre de l'Economie et des Finances de la République de Guinée, agissant au nom et pour le compte du Gouvernement de la République de Guinée, confirme l'engagement de celui-ci dans le projet du Fonds pour l'Environnement Mondial (FEM) « Gestion des ressources en eau et de l'environnement du bassin du fleuve Sénégal », déclare accepter l'organisation pour la mise en valeur du fleuve Sénégal(OMVS) comme récipiendaire des aides versées par le FEM au titre de ce projet et garantit à l'OMVS de sa totale assistance dans la mise en œuvre du projet sur le territoire de la République de Guinée en accord avec l'esprit et la lettre des documents de projet.

Veuillez agréer, Monsieur le Président, les assurances de ma haute considération.

Cheick Ahmadou CAMARA

A MONSIEUR LE PRESIDENT DU CONSEIL
D'ADMINISTRATION DU FONDS
POUR L'ENVIRONNEMENT MONDIAL
BANQUE MONDIALE
WASHINGTON USA

REPUBLIQUE DE GUINEE
Travail - Justice - Solidarité

JUL 15 2003

Conakry, le 11 JUL 2003

MINISTERE DE L'ECONOMIE ET DES FINANCES

N° 8407 /MEF/CAB/

Le Ministre

N/Réf:

V/Réf:

Objet: **Projet du FEM de Gestion des ressources en eau et de l'environnement du bassin du Fleuve Sénégal**

Monsieur le Haut Commissaire,

Je, soussigné, **Monsieur Cheick Ahmadou CAMARA**, Ministre de l'Economie et des Finances de la République de Guinée, agissant au nom et pour le compte du Gouvernement de la République de Guinée,

Considérant le protocole d'accord du 25 août 1992 signé entre la République de Guinée et l'Organisation pour la Mise en Valeur du fleuve Sénégal.

Considérant la lettre d'engagement relative au projet de gestion des ressources en eau et de l'environnement du bassin du fleuve Sénégal reconnaissant l'organisation pour la mise en valeur du fleuve Sénégal(OMVS) comme récipiendaire de l'aide accordée par le Fonds pour l'Environnement Mondial et adressée à la Banque Mondiale.

1. Demande à l'OMVS, en vue de la mise en œuvre du projet et pour la durée du projet, l'application à la République de Guinée d'un statut équivalent à celui des membres de l'OMVS;
2. Engage formellement la République de Guinée à honorer toutes les dispositions liées à ce statut, dans le cadre de la mise en œuvre du projet,
3. Propose que les dispositions applicables à la République de Guinée pour la mise en œuvre du projet en matière de gestion de flux d'argent, suivi des dépenses, appel d'offres locaux, soient identiques à celles applicables aux Etats membres de l'OMVS,telles que définies dans le document du projet.

4. Déclare exemptée de taxes et impôts toute action relative au projet et mise en œuvre sur le territoire de la République de Guinée. Cette mesure concerne en particulier l'achat de tout service, bien ou matériel réalisé en Guinée pour le compte du projet.

Veuillez agréer, Monsieur le Haut-Commissaire, les assurances de ma haute considération.

Cheick Aboubacar CAMARA

A MONSIEUR LE HAUT COMMISSAIRE
DE L'ORGANISATION POUR LA MISE EN
VALEUR DU FLEUVE SENEGAL(OMVS)
DAKAR(REPUBLIQUE DU SENEGAL)

بسم الله الرحمن الرحيم

République Islamique de Mauritanie
Honneur - Fraternité - Justice

الجمهورية الإسلامية الموريتانية

Ministère des Affaires Economiques et du Développement

وزارة الشـؤون الاقتـصاديـة والتـنـمـيـة

N° 000690 /M.A.E.D/ M

Nouakchott, le 15 JUIN 2003 نواكشوط في

Le Ministre الوزير

A Monsieur Président de la Banque Mondiale

<u>Objet</u> : Projet FEM « Gestion des Ressources en Eau et de l'Environnement du Bassin Fleuve Sénégal»

-<u>Lettre d'engagement</u>

Je soussigné Monsieur **Abdallah Ould Souleymane Ould Cheikh-Sidia**, Ministre des Affaires Economiques et du Développement de la République Islamique de Mauritanie, agissant au nom et pour le compte du gouvernement de la République Islamique de Mauritanie, confirme par la présente l'engagement de celui-ci dans le projet du Fonds pour l'environnement Mondial (FEM) intitulé « Gestion des Ressources en Eau et de l'Environnement du Bassin du Fleuve Sénégal » et déclare accepter le Haut – Commissariat de l'Organisation pour la Mise en valeur du Fleuve Sénégal comme récipiendaire des aides versées par le FEM au titre de ce projet et garantie au Haut-commissariat de l'OMVS ma totale assistance dans la mise en œuvre du projet sur le territoire de la République Islamique de Mauritanie en accord avec l'esprit et la lettre des documents dudit projet.

Je vous prie de recevoir, Monsieur le Directeur, l'expression de ma considération distinguée.

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Abdallah Ould Souleymane Ould Cheikh-Sidia

<u>Ampliations</u> :
-MHE

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LPBM-SND 03/02/001

REPUBLIQUE DU SENEGAL
UN PEUPLE - UN BUT - UNE FOI

MINISTERE DE L'ECONOMIE ET DES FINANCES

DIRECTION GENERALE DES FINANCES

DIRECTION DE LA DETTE ET DE L'INVESTISSEMENT

N° 01223 MEF/DGF/DDI

Dakar, le 06 FEV. 2003

LE MINISTRE

A Monsieur le Président de la Banque Mondiale

OBJET: Projet FEM « Gestion des Ressources en Eau et de l'Environnement du Bassin du Fleuve Sénégal ».

Monsieur le Président,

Je soussigné Monsieur Abdoulaye DIOP, Ministre de l'Economie et des Finances de la République du Sénégal, agissant au nom et pour le compte du gouvernement de mon pays, confirme l'engagement de celui-ci dans le projet du Fonds pour l'Environnement Mondial (FEM) « Gestion des Ressources en Eau et de l'Environnement du Bassin du Fleuve Sénégal » et déclare accepter le Haut Commissariat de l'Organisation pour la Mise en Valeur du Fleuve Sénégal », comme récipiendaire des aides versées par le FEM au titre de ce projet et garantit au Haut-Commissariat de l'OMVS ma totale assistance dans la mise en oeuvre du projet sur le territoire du Sénégal en accord avec l'esprit et la lettre des documents du projet.

Je vous prie de croire, Monsieur le Président, à l'assurance de ma haute considération.

Le Ministre Délégué auprès du Ministre de l'Economie et des Finances, Chargé du Budget

Cheikh Hadjibou SOUMARE

MINISTERE DE L'ECONOMIE
ET DES FINANCES

Secrétariat Général

N° 0710 /MEF-SG

CONFIDENTIEL

REPUBLIQUE DU MALI
Un Peuple - Un But - Une Foi

Bamako, le 17 JUN 2003

Le Ministre de l'Economie et des Finances

A Monsieur le Président de la Banque Mondiale

Objet : Projet FEM « Gestion des Ressources en Eau et de l'Environnement du Bassin du fleuve Sénégal »

Je soussigné Monsieur Bassary TOURE, Ministre de l'Economie et des Finances de la République du Mali, agissant au nom et pour le compte du gouvernement de mon pays, confirme l'engagement de celui-ci dans le projet du Fonds pour l'Environnement Mondial (FEM) « Gestion des Ressources en Eau et de l'Environnement du Bassin du Fleuve Sénégal », déclare accepter le Haut Commissariat de l'Organisation pour la Mise en Valeur du Fleuve Sénégal comme récipiendaire des aides versées par le FEM au titre de ce projet et garantit au Haut Commissariat de l'OMVS ma totale assistance dans la mise en œuvre du projet sur le territoire du Mali en accord avec l'esprit et la lettre des documents du projet.

Je vous prie de croire, Monsieur le Président, à l'assurance de ma haute considération.

le Ministre de l'Economie
et des Finances

Bassary TOURE
Commandeur de l'Ordre National

Ampliation :
OMVS

BP 250 - Tél. : 22 57 26 / 22 58 58 - 22 54 06 / 22 77 98 - Fax 22 88 54 - Bamako - Quartier du Fleuve
E-mail : mef@afribone.net.ml

Additional Annex 18: STAP Roster Technical Review
AFRICA: Senegal River Basin Water and Environmental Management Project

Dr Gunilla Björklund
Member of STAP Roster of Experts

1. Overall impression

The Senegal River is a shared water system and basin where the riparians are Guinea, Mali, Mauritania and Senegal. A sub-basin organization, OMVS, exists and shall create a framework for cooperation in actions of mutual interest concerning the Senegal River and its basin. Mali, Mauritania, and Senegal are members and active partners to the OMVS, and Guinea, the upstream riparian, has official status as an observer.

Several manageable as well as environmental threats, which hinder sustainable development of the shared waters of the Senegal River, have been identified. The fully involvement of Guinea is seen as a key issue. This is crucial, from an Integrated Water Management perspective as well as from the perspective of different sub-issues within such management for which the collection and dissemination of compatible data is an important prerequisite. It would not be possible to take proper actions against several of the identified environmental threats unless the issue of full involvement of Guinea is solved.

The environmental threats are land degradation and its related impacts, water pollution and a water resources management (including groundwater use, water for energy, water for food security, water and health etc.) which is not integrated and not properly balanced, and threats to biodiversity and its sustainable use. To take proper actions toward those threats, at national as well as transboundary level there is a need to strengthen institutional as well as human capacity and to support the involvement of civil society in transboundary basin-wide activities.

The GEF Senegal River Basin Project is concentrating around five activities: Environmental and water management capacity building in national institutions and in OMVS; Supporting improvement of data and knowledge management; Completing the basin-wide Transboundary Environmental Analysis and a Strategic Action Program; Carry out on-the-ground Priority Actions as identified in the TDA; and Establish a Public participation and Awareness program.

The overall impression of the project idea is very good. There is a clear emphasis on including all riparians in the Senegal River Basin water and environment management program, which is a pre-requisite for a successful outcome. The project provides a framework for including Guinea as a full participant in the work of OMVS. The need for a project as outlined in the project brief is very clear and many of the perceived national or local problems would also have to be solved in this transboundary context. A clear benefit is that the project complements and builds on on-going activities. The program would, thus, result in improved coordination of water and environmental management in the whole Senegal River Basin.

2. Relevance and priority

The project will operate together with other GEF projects in the region, as described in the project brief. This includes both projects linked to the Senegal River Valley such as the proposed Fouta Djallon highlands project and the dry-lands project in the Senegal River Valley, and other GEF International Waters projects in the region. The project, being an "Integrated Land and Water Multiple Focal Area

Operational Program" with a strong transboundary interest would be a very important project in the context of the whole region, not just for the Senegal River Basin.

3. Approach

As the success of the project is depending on full participation of all riparian countries and all stakeholders, the approach needs to be directed toward achieving full involvement of Guinea as well as providing for public participation. This is clearly prioritized in the project approach. Only by a full involvement of Guinea and a public participation would it be possible to set up networks for and undertake data collection and dissemination. Compatible data are needed, not only for improved knowledge but also for a sustainable management of the water and land resources of the basin, a management that should include ecological and social aspects. Such approach to river basin management is emphasized in the project approach.

The capacity building component of the project is defined as capacity for "environmental and water resources management". However, such improved capacity that would facilitate cooperation between water ministries and environment ministries is not sufficient. The project brief does also define food security and agriculture as key issues. Energy production is another water dependent sector in the river basin. There is a need to clearly express that the capacity building component should ensure provisions for applying a fully integrated approach to water -, environment-, land-, energy- management, in which all related sectors and ministries need to be involved. This is not clearly stated in the project brief. Although the different sectors are discussed and thus implicitly the integrated aspect can be found, it is its importance should be ensured.

4. Objectives

The GEF International Waters' objective to achieve global environmental benefits is for this project specified as the "broad basin-wide participation in the development and implementation of measures that lead to sustainable management of the Senegal river basin's land and water resources." The project will provide a participatory strategic framework and launch a basin-wide cooperative program for transboundary land-water management. These objectives are clear and focused and should be able to achieve given the activities outlined.

5. Background and Justification

Sufficient background information and justification for the project has been provided. The background documentation clearly identifies both where there is available information and where adequate information is lacking, thus identifying gaps that need to be filled. The background information describes national priorities and commitments, which should be met when the project is implemented. The presentation of the existing institutions, in particularly the OMVS, and how it should be strengthened to set in place an agreed environmental management framework to address the transboundary issues is an important aspect justifying the project. The outcome of the project, a sustainable (integrated) water and environmental management, would target the root causes through the different components to reach that outcome.

6. Government Commitment and Sustainability

All four governments have endorsed the project. National committees have been established in each riparian country and these committees have been responsible for co-coordinating reports including such by national consultants. A regional project preparation committee lead by the High Commissioner of OMVS is a guarantee that the project will be not only country owned but owned by a coordinated effort in the region, in particular as the involvement of Guinea is to be ensured.

Public stakeholder participation has also been addressed through an IUCN-coordinated process, including national meetings in each country a process, which aims at ensure sustainability at grass-root level, through out the project implementation and beyond.

7. Activities

The different activities as defined in the project brief should not all be seen as a step-by-step process but should, at least for some of them be undertaken simultaneously. It is important to get the full involvement of Guinea to get a full data acquisition programme in place, including network for collection, equipment and capacity for analyzing and dissemination of data. All this is a part of the process toward an integrated approach to water and environmental management but such management may, of course, not await the result of the capacity building and data management process. Priority actions should neither await the conclusion of the Transboundary Environmental Analysis and Action Program but should, as is stated in the project brief, start based on the preliminary analysis. Public participation is a key activity that needs to be ensured during the whole project process.

8. Project funding

As a result of the attacks on the World Trade Center, data for the UNDP funding has not been possible to obtain. However, the estimated level of costs, the World Bank financing and the co-financing, including from the participating countries should for the non-UNDP parts be adequate. The UNDP-supported parts a clearly defined and they should therefore be carefully costed as well.

9. Replicability

The countries concerned by the project are all poor countries, the economic effort of which are to a large extent directed toward short-term goals such as short-term food security for the people of their own country. The project would result in increased regional cooperation aiming at long-term food-security as well as transboundary water and environmental sustainability. This would, coupled with an increased political stability in the region imply a distinct benefit for the global environment.

10. Time frame

The clear commitments by the governments included as well as the ensured public participation should guarantee an impetus toward a swift implementation of the project. Given that and the institutional framework already in place, the OMVS, the objectives should be possible to reach within the given time frame. The Monitoring and Evaluation system as described in the project brief would ensure such time strategy.

11. Global environmental benefits and Goals of the GEF

As already noted, the project is clearly addressing issues resulting in global environmental benefits in terms of International Waters as it is addressing issues of integrated transboundary water resources management and activities. Within the floodplain and delta areas there are also wetlands, which are habitats for ecosystems including several rare or endangered species. Protection is needed for these as well as for areas around Manatali reservoir in the upper basin in Mali. A successful project outcome will result in a sustainable use of those areas, thus contribute to biodiversity conservation of the global environment.

A careful integrated approach taken within the project would ensure avoidance of negative environmental effects, which might otherwise be the case of an emphasis on increased hydropower installations or on production of water intensive commercial crops. Causes of tension among landholders in border areas would, thus, be reduced, which will increase the benefits of the project.

12. Rationale for GEF Support

The project will serve to support "better use of land and water resource management practices on an area-wide basin", which is the objective of the GEF OP 9. The activities are having an area wide focus and are supporting measures for prevention of threatened waters. Thus, the project fit well into the overall strategic thrust of the GEF-funded International Waters project. The project is assisting the countries of the region to better understand the environmental concerns of the shared Senegal River system and is to assist the countries to work collaborative to address these concerns. It will contribute to the building of capacity in existing institutions and implement measures that address transboundary environmental concerns.

13. Linkages to other focal areas, other beneficial/damaging effects, degree of stakeholder involvement, capacity building aspects, innovativeness of the project

The project will, as described under item 11, have global benefits from a Biodiversity aspect as well as from an International Waters perspective, in particularly through a conservation of wetland areas and a sustainable use of their resources. Mali, Mauritania and Senegal being parties to the UN Convention to Combat Desertification are all having Action Plans in place. Activities within this project will be closely linked to parts of those action plans and would, thus, contribute to the objectives of the UN/CCD as well.

The improved integrated land and water management system resulting from the project should include less pesticide dependent agricultural systems, which together with reduction in discharges of wastewater would result in increased water quality. Better land-use practices would also result in decreased land degradation. Increased information and knowledge of groundwater resources would result in a decreased pressure on surface water. All these different activities, undertaken within the framework of or linked to the project would have beneficial environmental effects.

The project has a clear component of stakeholder involvement, the priority actions will be carried out at community level and will directly involve stakeholders and communities. Stakeholders will also be able to be part of the decision making process through the IUCN-led component of public participation and awareness raising. This component also includes capacity building aspects.

The main capacity building component of the project is including building of a core group of transboundary environmental management expertise in each institution linked to a core group of OMVS. It is important to build capacity to address institutional reforms, pricing and water legislation, not the least to make the national legislation compatible, which is addressed in a study that will be linked to the project.

14. Conclusions

The project complements and builds on activities and projects, which are already under implementation at the national and sub-basin level. It is innovative as it has strong components of cooperation and coordination at regional, basin, national and sub-basin level that would result in increased sustainable development at all levels not only from an International Waters perspective but also from an environmental, economic, and social perspective and would also contribute to a more stable political balance in the region. It is therefore recommended that the project be approved.

Additional Annex 19: Response to STAP Review
AFRICA: Senegal River Basin Water and Environmental Management Project

The project preparation team is pleased with the STAP reviewer's strong endorsement of the project. It is anticipated that the reviewer will remain involved in an advisory capacity during the implementation phase of the project through the Quality Assurance process.

In **section 3** of the review, the reviewer correctly observes that the required capacity building must reach well beyond the respective ministries of water and environment. In supporting the countries in establishing integrated water resource management, it is indeed key to ensure that all relevant sectors, as well as all relevant layers in the countries are reached. The text of the project brief has been further strengthened to better reflect the inclusive requirements and dimensions of integrated water resource management.

In **section 8** of the review, the reviewer mentions that the incremental cost analysis was incomplete in her review copy, in view of the fact that UNDP's communication facilities were linked through the World Trade Center. The UNDP figures have since been obtained from the country offices in the meantime and the incremental cost analysis is now complete.