



## Global Environment Facility

**MOHAMED T. EL-ASHRY**  
CHIEF EXECUTIVE OFFICER  
AND CHAIRMAN

July 25, 2000

Dear Council Member:

I am writing to notify you that UNEP, the co-Implementing Agency for the project entitled, *Regional (Mauritania, Senegal): Biological Diversity Conservation through Participatory Rehabilitation of Degraded Lands of the Arid and Semi-arid Transboundary Areas of Mauritania and Senegal*, has submitted the proposed project document for CEO endorsement prior to final approval of the project in accordance with UNEP procedures.

Over the next four weeks, the Secretariat will be reviewing the project document to ascertain that it is consistent with the proposal included in the work program approved by the Council in March 1998, and with GEF policies and procedures. The Secretariat will also ascertain whether the proposed level of GEF financing is appropriate in light of the project's objectives.

If by August 22, 2000, I have not received requests from at least four Council Members to have the proposed project reviewed at a Council meeting because in the Member's view the project is not consistent with the Instrument or GEF policies and procedures, I will complete the Secretariat's assessment with a view to endorsing the proposed project document.

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

Sincerely,

Cc: Alternates, Implementing Agencies, STAP



# United Nations Environment Programme

برنامج الأمم المتحدة للبيئة • 联合国环境规划署  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE  
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

## STAP SECRETARIAT

- P.O. Box 30552, Nairobi, Kenya • Tel:[254 2] 623424; 623250; 623429; • Fax [254 2] 623140 •
- E-mail: • mark.griffith@unep.org, anne-marie.verbeken@unep.org, julie.murema@unep.org
- susan.mbau@unep.org
- Http: www.unep.org/unep/gef/ • http://stapgef.unep.org/stapweb

## TELEFAX TRANSMISSION

To :	Herbert Acquay Team Leader Land and Water Resources (LWR)	Date :	21 July, 2000
Telefax:	1 202 522 3240	Room:	P206
From:	Mark Griffith STAP Secretary STAP Secretariat	Extension :	3429
		Ref:	GEF/STAP
<b>Subject: Biodiversity Project: Senegal/Mauritania</b>			

Attached is a letter from the Hon. Dr. C. Mamadou Lamine, Minister of Environment, Republic of Senegal confirming co-financing by The Netherlands government. With this letter the project should be submitted for final CEO endorsement.

It is important that we move on this project quickly, as the Executive Director of UNEP will be paying an official visit to both Mauritania and Senegal in the coming weeks.

A speedy response is necessary.

FROM: CAB/MEPN

00/1686

PHONE NO. : 00 221 822 03 24

P01

République du Sénégal  
Un Peuple - Un But - Une Foi

MINISTÈRE DE L'ENVIRONNEMENT

N° 01868

**FAX MESSAGE**

073

Day  
No AcDocteur Mamadou Lamine BA  
Ministre de l'Environnement du Sénégal  
Fax N° (221) 822 21 80Mr Klaus Töpfer  
Directeur Exécutif GEF/PNUF  
PO.BOX : 30552 NAIROBI  
Fax N° 254 2 22 68 86U. MENV/CEO-CV  
GEF COORD. OFFICE  
Dakar, le 10 JUL 2000ADVIS  
NO ☐

YES

10 JUL 2000

WHAT

WHO

WHEN COMPLETED

CIRCULATE

FILE IN

Dowling / Jne

NE  
Can we  
discuss  
this  
urgently  
Mon  
14.07.00**Subject :** Projet biodiversité Sénégal-Mauritanie, Mobilsation/cofinancement  
Pays-Bas et GEF/ Français en vue démarrage du projet.

Monsieur le Directeur,

Je vous transmets copies requête de financement et réponse Ambassade Pays-Bas indiquant la possibilité d'inscrire à partir de 2001 un cofinancement en faveur du projet biodiversité dans le cadre de l'approche programme mise en oeuvre avec la Direction des Eaux et Forêts du Sénégal.

Cette possibilité peut être exploitée compte tenu du fait que les activités prévues au Sénégal dans le cadre du projet biodiversité seront essentiellement réalisées dans les régions de Saint-Louis et Louga couvertes par l'approche programme financé par les Pays-Bas.

Je vous suggère de prendre contact avec les autorités des Pays-Bas en vue d'appuyer la concrétisation de cette offre.

La même action devra être menée par vos services auprès du FEM-Français pour concrétiser son engagement à cofinancer le projet.

Enfin, je vous informe que le Sénégal et la Mauritanie ont déjà donné leur accord pour la mise en place de leur contrepartie en nature et en espèce.

Nous estimons dès lors, que les conditions sont présentement réunies pour le démarrage effectif du projet et à ce titre, j'organise une dernière réunion de finalisation de toutes ces procédures et de lancement du projet à Saint-Louis (Sénégal) les 24 et 25 juillet 2000 regroupant les principaux partenaires à savoir :

- le GEF/PNUB ;
- le GEF/PNUD ;
- l'OPS ;
- l'Ambassade des Pays-Bas ;
- le GEF/Français ;
- Les Gouvernements du Sénégal et de la Mauritanie.

La dite rencontre sera suivie d'une visite de quelques sites du projet.

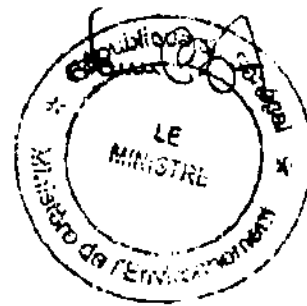
Je vous prie de croire, Monsieur le Directeur, à l'assurance de ma très haute considération.

**Pièces jointes :**

- Requête Ministère Environnement Sénégal
- Réponse Ambassade des Pays-Bas.

**Appellations :**

- M. Mohamed T. El Aachri Directeur Général et Président GEF.
- OPS.
- Ambassade des Pays-Bas
- GEF/Français.
- PNUD/Dakar
- Ministère Développement Rural et de l'Environnement, République Islamique de Mauritanie.



Dr. Mamadou Lamine BA

FROM : CRB/MEPN

PHONE NO. : 00 221 522 03 24

P02

REPUBLIQUE DU SENEGAL

MINISTRE DE L'ENVIRONNEMENT

N° 01267

ME/CEO-CV

F111

Dakar, le 29 MAI 2000

*Le Ministre de l'Environnement*

A

Son Excellence Monsieur  
l'Ambassadeur des Pays-Bas au SénégalDAKAR

**Objet :** Demande de cofinancement des Pays-Bas  
Pour le projet biodiversité Sénégal/Mauritanie.

**Monsieur L'Ambassadeur,**

Des contacts ont été déjà établis, avec votre Ambassade par la mission d'arrangement institutionnel organisée à Dakar et Nouakchott, par le PNUE et le PNUD en 1998 dans le cadre de la formulation du projet cité en objet.

A cet effet, mon prédécesseur avait officiellement saisi votre institution pour l'octroi d'un cofinancement nécessaire au bouclage du budget dudit Projet.

En conséquence le Gouvernement du Sénégal sollicite votre contribution à ce cofinancement d'un coût global de 2.190.000 dollars us.

Monsieur l'Ambassadeur, votre engagement est déterminant pour la finalisation de la procédure d'approbation et de démarrage du projet.

Je vous prie d'agréer, Excellence, l'assurance de ma très haute considération.



FROM : CAB/MEPN

PHONE NO. : 00 221 822 03 24

P03

République du Sénégal  
Le Peuple - Un But - Une Foi  
MINISTÈRE DE L'ENVIRONNEMENT

N° 01869

MENV/CEO-CV

Dakar, le

06 JUIL 2000

**FAX MESSAGE**

**De :** Docteur Mamadou Lamine BA  
Ministre de l'Environnement du Sénégal  
Fax N° (221) 822 21 80

**A :** Mr Rafael Asenjo  
Directeur Exécutif GEF/PNUD  
304 East 45th Street New York NY, 10017 USA  
Fax N° 1- 212 - 9066 998

**Subject :** Projet biodiversité Sénégal-Mauritanie, Mobilisation/cofinancement  
Pays-Bas et GEF/ Français en vue démarrage du projet.

Monsieur le Directeur,

Je vous transmets copies requête de financement et réponse Ambassade Pays-Bas indiquant la possibilité d'inscrire à partir de 2001 un cofinancement en faveur du projet biodiversité dans le cadre de l'approche programme mise en oeuvre avec la Direction des Eaux et Forêts du Sénégal.

Cette possibilité peut être exploitée compte tenu du fait que les activités prévues au Sénégal dans le cadre du projet biodiversité seront essentiellement réalisées dans les régions de Saint-Louis et Louga couvertes par l'approche programme financé par les Pays-Bas.

Je vous suggère de prendre contact avec les autorités des Pays-Bas en vue d'appuyer la concrétisation de cette offre.

La même action devra être menée par vos services auprès du FEM-Français pour concrétiser son engagement à cofinancer le projet.

Enfin, je vous informe que le Sénégal et la Mauritanie ont déjà donné leur accord pour la mise en place de leur contrepartie en nature et en espèce.

Nous estimons dès lors, que les conditions sont présentement réunies pour le démarrage effectif du projet et à ce titre, j'organise une dernière réunion de finalisation de toutes ces procédures et de lancement du projet à Saint-Louis (Sénégal) les 24 et 25 juillet 2000 regroupant les principaux partenaires à savoir :

- le GEF/PNUB ;
- le GEF/PNUD ;
- l'OPS ;
- l'Ambassade des Pays-Bas ;
- le GEF/Français ;
- Les Gouvernements du Sénégal et de la Mauritanie.

La dite rencontre sera suivie d'une visite de quelques sites du projet.

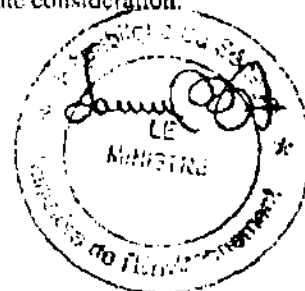
Je vous prie de croire, Monsieur le Directeur, à l'assurance de ma très haute considération.

**Pièces jointes :**

- Requête Ministère Environnement Sénégal.
- Réponse Ambassade des Pays-Bas.

**Amplifications :**

- M. Mohamed T. Ri Aahri Directeur Général et Président GEF.
- OPS.
- Ambassade des Pays-Bas.
- GEF/Français.
- PNUD/Dakar
- Ministère Développement Rural et de l'Environnement, République Islamique de Mauritanie.



FROM : CAB/MEPN

PHONE NO. : 00 221 822 03 24

PG4

## AMBASSADE ROYALE DES PAYS-BAS

AMBASSADE VAN NEDERLANDSE SAMENWERKING  
MINISTERIE VAN NEDERLANDSE SAMENWERKING

BUREAU DE L'AMBIEN

Tél: 21/223 94 83

Fax: 21/221 70 84

Dakar, le 16 juin 2000

Réf: No. 01267/ME/CEO-CV en date du 29 mai 2000

Objet: Projet Biodiversité Sénégal/Mauritanie

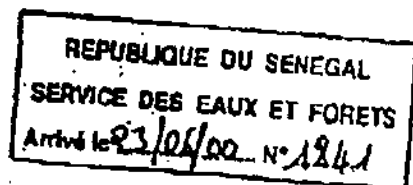
Monsieur le Ministre,

J'accuse réception de votre lettre sus-référée par laquelle vous soumettiez à l'Ambassade une requête de co-financement pour un montant de 2.190.000 \$US dans le cadre du projet cité en objet.

Comme nous l'avons déjà fait savoir à votre prédécesseur en décembre 1999 et comme nous vous le signalions lors de notre rencontre du 19 mai, il nous est impossible, présentement, de satisfaire une telle demande étant donné que l'activité en question n'avait pas été prise en compte dans le montage de notre budget pour l'année en cours.

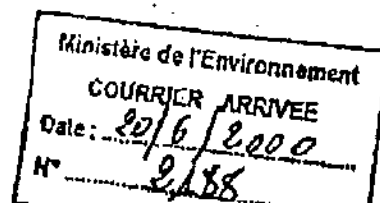
Toutefois, nous pourrions prochainement considérer, d'un commun accord, la possibilité de participer au financement dudit projet à travers l'approche programme que nous sommes en train d'initier avec votre département et dont le démarrage de la prochaine étape est prévu pour le mois de janvier 2001. D'ici là, mes collaborateurs se tiendront à votre disposition pour discuter du montant ainsi que des modalités pratiques de cette contribution.

Je vous prie d'agréer, Monsieur le Ministre, l'expression de ma très haute considération.



Jos van AGGELEN  
Ambassadeur

//-)  
S. E. M. Mamadou Lamine DA  
Ministre de l'Environnement et  
de la Protection de la Nature  
DAKAR





## United Nations Environment Programme

برنامج الأمم المتحدة للبيئة • 联合国环境规划署

PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE  
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

Your Ref:

Our Ref: LD

Date: 21 March 2000

Dear Herbert,

**RE: BIOLOGICAL DIVERSITY CONSERVATION THROUGH PARTICIPATORY  
REHABILITATION OF DEGRADED LANDS OF THE ARID AND SEMI-ARID  
TRANSBOUNDARY AREAS OF MAURITANIA AND SENEGAL**

The main issues raised by the two submissions from the Council deal with (a) clarification of the institutional responsibilities of the Implementing Agencies as well as the further clarification of the institutional structure which would facilitate achievement of project goals and (b) building upon the experiences of similar projects that are either in the process of being implemented and/or implemented in the participating countries. The institutional issues have been addressed in Section: Stakeholder Participation and Implementation Arrangements paragraph 59 through to 81. More specifically the responsibilities of the Implementing Agencies are outlined in paragraph 73.

The second issue relating to the relationship between this project and other donor activities are outlined in Paragraphs 5 and 6.

All the issues referred to by the GEF (b) (d) and (e) identified in your memo of May 11, 1999 have been addressed. In addition, the issue of the discrepancy between the proposed GEF of US\$7.9m at Work Programme inclusion and US\$8.4 in the final project document. The figure in the final project document includes the resources invested by both Implementing Agencies in the project preparation phase. The two donors which indicated interest in co-financing the project are the Governments of France and the Netherlands. France has already committed US\$2.19M. We are however still awaiting a final response from the Government of Netherlands. At the margins of the Third Meeting of the COP of the CCD held in Recife in November, 1999, it was agreed that the implementation of the project should commence pending the confirmation of the co-financing to be provided by the Netherlands Government.

Sincerely,

Ahmed Djoghlaif  
Executive Coordinator  
UNEP/GEF Coordination Office

Mr. Herbert Acquay  
Program Manager  
GEF Secretariat  
Washington D.C.  
Fax: (1 202) 522 3240/45

GEF COORDINATION OFFICE

P.O. Box 30552, Nairobi, Kenya • Tel: [254 2] 624165/6 Fax: [254 2] 634140/623162  
E-mail: ahmed.djoghlaif@unep.org



# United Nations Environment Programme

برنامج الأمم المتحدة للبيئة • 联合国环境规划署

PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE

ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

Your Reference:

11 February, 2000

Our Reference: GEF/AD/yk

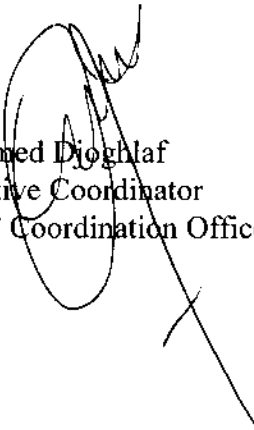
Dear Ken,

In accordance with the established GEF policies and procedures, I am pleased to attach herewith, for CEO final approval, the project entitled *“Biological Diversity Conservation through Participatory Rehabilitation of Degraded Lands of the Arid and Semi-Arid Transboundary Areas of Mauritania and Senegal.”*

The project document addresses the Council comments related to the clarification of the institutional responsibilities of UNEP and UNDP, the institutional structure as well as the need to build upon the experience of similar projects.

On the issue of co-financing and in the absence of the confirmation by one donor of its contribution of US \$2 million, and in accordance with the agreement reached by all parties concerned, the project will be reviewed after one year of implementation.

Yours sincerely,

  
Ahmed Diouf  
Executive Coordinator  
UNEP/GEF Coordination Office

Mr. Kenneth King  
Assistant Chief Executive Officer  
GEF Secretariat  
1818 H Street, N.W.  
Washington, D.C. 20433  
U.S.A.



**UNITED NATIONS DEVELOPMENT PROGRAMME  
AND  
UNITED NATIONS ENVIRONMENT PROGRAMME  
PROJECT DOCUMENT**

**Project Title:** Biological Diversity Conservation through Participatory Rehabilitation of the Degraded Lands of the Arid and Semi-Arid Transboundary Areas of Mauritania and Senegal

**Countries:** Mauritania, Senegal

**Project Number:** RAF/98/

**GEF Focal Area:** Biodiversity

**Executing Agency:** UNOPS

***Project Financing:***

<b>UNDP GEF</b>	<b>\$6,111,856</b>
<b>UNEP GEF</b>	<b>\$2,278,504</b>
<b>Govt. of Mauritania</b>	<b>\$1,090,000</b>
<b>Govt. of Senegal</b>	<b>\$1,090,000</b>
<b>Other Donors:</b>	<b><u>\$2,190,000</u></b>
<b>Total</b>	<b>\$12,261,000</b>

**Implementing Agency:** Ministry of Environment and Natural Protection, Senegal.  
Ministry of Environment and Rural Development, Mauritania

**Estimated Start Date:** 1 June 1999

**Estimated End Date:** 31 May 2004

**Project Summary:**

The project will address the root causes of biodiversity loss from land degradation in the five critical, upland and floodplain ecosystems of a 60,000 km<sup>2</sup> portion of the trans-border Senegal River Valley in Senegal and Mauritania. The project will improve on techniques for rehabilitating the natural ecosystems of these degraded lands. It will develop and apply participatory resource management systems, especially those that generate resource-based income and consequent economic incentives for sustainable management. Fire prevention and suppression of fire-sensitive ecosystems will be strengthened. Measures to decrease pressures on the forest and range resources will be undertaken. Ecosystem restoration and improved fire control will have the double benefit of enhancing carbon sinks. Institutional capacity will be strengthened at all levels from the village to the cross-national.

Approved on behalf of:	Signature:	Date:	Name/Title
Government of Mauritania:	_____	_____	_____
Government of Senegal:	_____	_____	_____
UNOPS:	_____	_____	_____
UNEP:	_____	_____	_____
UNDP:	_____	_____	_____

## Contents

Background and Context .....	3
Rationale and Objectives (Alternative) .....	6
Project Activities/Components and Expected Results .....	9
Risks and Sustainability .....	11
Stakeholder Participation and Implementation Arrangements.....	12
Incremental Costs and Project Financing .....	16
Monitoring, Evaluation and Dissemination.....	17

## Annexes

1. Incremental Cost Annex .....	19
2. Project Logical Framework Matrix .....	31
3. STAP Technical Review .....	36
4. Root Cause Annex (Problem Tree) .....	37
5. Public Involvement Plan Summary .....	39
6. Map of Project Area .....	46
7. Portfolio Categorization Annexes .....	46
8. Ecosystems and Biodiversity .....	46
9. Project Organisational Structure .....	51
10. Government Support Letters .....	53
11. Project Budget .....	54
12. Project Workplan.....	55
13. Terms of Reference of Project Committees .....	72
14. Terms of Reference of Project Units .....	75
15. Terms of Reference of Core Staff.....	77
16. Roles and Responsibilities of Partner Institutions .....	83
17. Project Management Arrangements.....	85
18. Standard Basic Agreements between UNDP and Government of: .....	87
(i) Mauritania	
(ii) Senegal	

## **BACKGROUND AND CONTEXT**

### **Justification for GEF financing**

1. The proposed project targets the conservation of globally significant biodiversity of five critical ecosystems (see Annex 8) in a highly sensitive semi-arid area traversed by an international water body. The GEF entry point is biodiversity conservation. Human and natural forces in the region have significantly impacted the area. Considerable resources have been devoted to the development of the area but much less to its environmental management. This project attempts to begin to redress the balance. It focuses on the conservation of globally significant biodiversity by addressing the causes of land degradation that are responsible for declining ecosystem health and loss of biodiversity. The project also generates limited global environmental benefits in the GEF focal areas of climate change and international waters. It is in conformity with the GEF Operational Strategy and Operational Programmes as well as the Council paper of May 1997 and the 1997 guidelines for GEF land degradation activities.

### **GEF programming context**

2. The findings of the GEF Scientific and Technical Advisory Panel (STAP) workshop held in Dakar-Senegal, Sept. 1996, formed the initial basis for this proposal. The convened group of experts highlighted the close interrelation between land degradation, biodiversity, sequestration of carbon and the protection of international waters.

3. Later, in May 1997, the GEF Council adopted a document titled *"Follow-up to the STAP Workshop on Land Degradation"*, which emphasised the importance of these linkages and set priorities for GEF activities in Land Degradation as it interacted with the GEF focal areas.

4. Following the 1996 workshop the Government of Senegal submitted a request to GEF for assistance in the formulation of a programme to combat land degradation and enhance GEF objectives to conserve biodiversity, improve carbon sequestration and the protection of international waters. Because the focus of attention is the transboundary area of the Senegal River Valley, the Government of Mauritania in turn has requested to be a partner in the project and to participate in an international approach to the problems of this critical nature.

### **Linkages of the project with Facility activities**

5. This project will complement several activities already supported by GEF, as well as other donors, and will use the experience of these programmes to enhance project success. Among these projects are the Transnational Green Belt Project in North Africa, the Combustible Energy Utilisation Project in Senegal, and the "Community-based Rangeland rehabilitation for Carbon Sequestration and Biodiversity" projects in Benin and Sudan.

### **Linkages of the project with country priorities**

6. Because of the importance of land degradation, in particular as manifested by deforestation and desertification, Senegal and Mauritania have undertaken several activities to address this situation. Combating land degradation is a major concern of the Governments of Senegal and Mauritania as stated explicitly in a number of programmes and

initiatives. In Senegal these concerns are expressed in the Agricultural Adjustment (PASA) Programme, The National Plan of Action to Combat Drought and Desertification and the Revised Forestry Plan of Action of 1993. In Mauritania these concerns are expressed *inter alia* in the Integrated Development of Irrigated Agriculture Programme in Mauritania (PDIAIM), the Multisectoral Desertification Control Plan (PMLCD), the National Nature Conservation Strategy, and the National Gazetted Forests Management Strategy.

7. The initiatives undertaken by both countries emphasise priority objectives such as: food security; the battle against poverty; land and environmental degradation; the protection of crops against soil degradation; the reduction of pressures on the forestry resource; the empowerment and participation of local people; the enhancement of the conservation of natural resources for sustainable economic and social development; the conservation and sustainable utilisation of fuelwood resources by sound management. These initiatives generated a policy based on the involvement and empowerment of local people in the management of natural resources. This approach is supported by the ongoing decentralisation process in both countries which essentially places the management of natural resources, including measures to combat land degradation, in the hands of local communities. This project, by focussing on the transboundary approach, is opening a new frontier in joint problem-solving opportunities for both countries which were until now making separate efforts to address the problem. It will also allow them to harmonize their natural resources management devices as well as those of combating land degradation, and restoring biodiversity conservation.

8. In addition, this project will build on the following regional activities in the countries concerned namely:

- The Programme for Environmental Training and Information in Desertification Control;
- Policy and overall strategies for rural development in Mauritania toward year 2010
- National action plans for environment, infrastructure and biodiversity conservation strategies elaborated in Mauritania and Senegal (9<sup>th</sup> economic social and development plan in Senegal for example, NEAPs, etc.);
- Project on Management of Walo Village lands and Forest Development (PROWALO) with Netherlands assistance 1984-1995 \$7.164 million; Extended 1995-1999 \$3.385 million;
- Natural Resources Management Project (PROGRENA) 1988-1998 EU funding \$4 million;
- SylvoPastoral Reforestation & Development project. Government of Germany \$18.4 million 1975-1994;
- Greenbelt Programme (French Co-operation);
- Sustainable Management of Forestry Resources. European Union 313,000 ECU over two years.
- Government natural resources expenditure in the project area \$150,000/yr.

### **System Boundaries -- Project Area**

9. The focus of the project is on the critical dryland ecosystems running approximately 600 km. along the length of the Senegal River Valley from the head of the river delta to the border between Mauritania and Mali. The project area is shown in Annex 6. It includes the floodplain of the Senegal River plus a band of uplands of approximately 50-km width on each side. The population of the area is 1,320,000 inhabitants.

10. The target region has a semi-arid sahelian climate with a post-1970 rainfall ranging from 300 mm/yr. in the south to about 150 mm in the north. The uplands and the river's floodplain include five critical and threatened ecosystems and habitats. The upland

ecosystems are the Ferlo/Djeri Shrub Steppe Sandplains and the Ferlo Shrub Savannah Lateritic Ecosystem. Floodplain ecosystems are the *Acacia nilotica* Bottomlands and the Raised Floodplain Ecosystem. The Lake and Pond Ecosystem is small in area but critical for biodiversity. It occurs within both the uplands and floodplain. Although based on only partial survey data, Annex 8 includes details on species of global significance for these ecosystems.

### **The Baseline situation and causes of land degradation**

11. The critical ecosystems of the project area have been modified by human and natural forces over a long period of time, but with growing intensity since the late 1960s. The current baseline situation is one of widespread, ongoing, land and ecosystem degradation and consequent loss of biodiversity. Nearly all of the project area is already characterised by moderate to severe land degradation.

12. Forces impacting the ecosystems include:

- a continuing 30-year drought with especially severe droughts in the early 1970s and 1980s;
- unsustainable use of the range and forest resources resulting from inappropriate land and resource tenure, traditional values and land use systems no longer suited to the present situation, and from urban charcoal supply;
- frequent wildfires in the ecologically sensitive shrub savannahs;
- major changes to the hydrological balance of the valley from the construction of the Manantali dam upstream and the Diama saltwater intrusion dam downstream;
- recent, on-going development of large-scale irrigated agriculture programmes in the valley;
- land clearing for marginal, rainfed agriculture; and
- rapid population growth, about 3 percent a year.

13. Land degradation of the ecosystems in the project area is characterised by: loss of herbaceous and woody vegetative cover; wind erosion dominating on sandy upland soils with the development of live sand dunes and the deposit of sand on fields and other surfaces; water erosion on heavier upland and floodplain soils; decreases in soil organic matter, in soil fertility, and in soil water holding capacity; and in serious declines in soil structure with heavier soils forming a partially impermeable soil crust that greatly decreases infiltration rates.

14. The combination of natural and anthropogenic changes have caused a significant, though not well quantified, reduction in biodiversity, loss of wildlife habitats, deterioration in soil productivity over wide areas and great pressure on the remaining natural resources.

15. While isolated numerous gazetted forests and a large faunal reserve have been designated in the region, none of them have effective management plans. No overall programme for integrated natural resource management is in place. The reversal of the current negative trends is of prime importance to both countries. Previous responses have been primarily sectoral in approach and of limited scope. However, in co-operation with CILSS, The Permanent Interstate Committee for Drought Control in the Sahel, the two Governments initiated a project for the Djoudj-Birette transboundary villages on the river delta with the goal of restoring natural ecosystems and conserving biodiversity in conformity with GEF operational strategies. This effort provided some good local experience and yielded positive results but did not lead to a broader initiative. In 1995, an

organisation for the Development of the Senegal River (OMVS) workshop on the protection of natural environment in the delta recommended the establishment of a monitoring observatory for ecosystem change in the area. At the same time the GOS and GOM decided to establish subregional co-operation for the management of natural resources and to undertake this present project.

16. This project will bring an integrated approach and the participation of the local communities to the task of developing broad-based natural resource management. The goal will be to improve livelihoods while restoring biodiversity, enhancing soil productivity and assisting in carbon sequestration on a regional scale.

#### **Existing baseline activities.**

17. The PROWALO project in Senegal and the PROGrena project in Mauritania have both demonstrated that *Acacia nilotica* stands can easily be restored on sites where the seasonal flooding still occurs, but neither project has developed participatory management systems for these forests. Also, attempts by these projects to rehabilitate associated raised floodplain sites have not made use of innovative techniques developed elsewhere in the Sahel (such as the Zaye Technique and the Guesselbodi branch/termite technique) and have had little success.

18. The Greenbelt Programme and recently completed PLEMVASP projects in Mauritania have developed successful techniques for sand dune fixation, but neither have developed sustainable management systems for the rehabilitated sites.

19. In summary, techniques for land rehabilitation in the project areas are relatively well developed, but participatory management systems for range, forest and wildlife resources have yet to be developed.

### **RATIONALE AND OBJECTIVES**

#### **Global environment and development objectives**

20. The global, long term objectives that the project seeks to address are the conservation of biodiversity through the rehabilitation and the sustainable management of the degraded lands and ecosystems of the Senegal River valley and the increased fixation of carbon that will result from ecosystem recovery.

21. The restoration of degraded lands in the Senegal River transborder area requires the restoration of vegetative cover. Priority will be given to local species and natural regeneration, or assisted natural regeneration, will be strongly emphasised. Degraded land rehabilitation will produce global benefits for both biodiversity conservation and as carbon sinks as above-ground biomass and soil organic matter are increased.

22. The objective of the five-year project is to achieve the following:

*To develop and apply replicable, participatory systems to rehabilitate and sustainably manage degraded lands in the Senegal River transborder area for conservation of biological diversity and climate change benefits.*

23. The degraded lands targeted by the project fall within five critical ecosystems. The uplands include the Ferlo Shrub Savannah Lateritic Ecosystem (in Senegal) and the Ferlo/Djeri Shrub Steppe Sandplains in both countries. The Lake and Pond Ecosystem

occurs within both upland and floodplain zones. The two ecosystems of the Senegal River floodplains are the *Acacia nilotica* Bottomlands and the Raised Floodplain Ecosystem.

24. These ecosystems and their globally significant biodiversity are described in Annex 8. While there is an inadequate database on arid and semi-arid lands in general, the information available for the Senegal River Valley ecosystems shows a significant number of endangered species. The faunal diversity is high and includes, or recently included: *Kobus kob*, *Redunca redunca*, *Tragelaphus scriptus*, *Hippotragus equinus*, *Oryx dammah*, *Loxodonta africana*, *Panthera leo*, *Panthera pardus*, *Acinonyx jubatus*, *Lycaon pictus*. The Ferlo/Djeri Shrub Steppe Sandplains ecosystem also provides habitat for the 100 kg sand tortoise (*Geochelone sulcata*), *Orcyterope afer*, ostrich, giraffe, bustard and dwarf bustard. These ecosystems are also of known importance to migratory birds, in particular palaeartic migrant raptors. A full list of faunal diversity of global significance is provided in Annex 8. In addition, sub-surface and within species diversity, though not well documented, is known to be particularly diverse in arid ecosystems. This project seeks to restore and conserve the biodiversity of the five natural ecosystems through rehabilitation and management of the degraded lands within each type.

25. The GEF alternative will extend the baseline activities in ways that directly enhance the conservation of globally significant biodiversity through capacity building and through measures to alleviate identified constraints to the conservation and sustainable management of the biodiversity. These include the following:

- the rehabilitation and management of degraded ecosystems;
- the reduction of resource pressures;
- the reduction of wildfires; and
- the development of sustainable natural resource-based revenues.

#### **Linkage of GEF programming approach to problems**

26. The analysis of direct and indirect causes of land degradation/biodiversity loss resulted in the identification of significant constraints that must be overcome before biodiversity conservation can be sustained on rehabilitated lands (see Root Cause Analysis in Annex 4.) The identified constraints that the project will address are the following:

- land and resource tenure systems that do not adequately empower local populations to control and manage their lands and resources;
- lack of proven, sustainable management systems for range, forest and wildlife resources;
- lack of economic incentives that link income generation to the sustainable management and conservation of natural resources.
- prohibitively high cost of fencing materials;
- lack of identified alternatives to the urban charcoal supply presently based on the harvest of drought-killed trees;
- lack of effective fire prevention and suppression systems; and
- the lack of effective, cross-border collaboration in addressing common problems.

### Identified alternative to overcome problems

27. The GEF alternative seeks to overcome the constraints identified above to reverse land degradation, restore ecosystems and to conserve biodiversity (see the Project Logical Framework in Annex 2). None of the existing projects has developed sustainable management systems for the range, shrub and tree and wildlife resources of the restored lands. None has begun to generate significant benefits flows from the managed lands for local communities thereby creating the economic incentives needed to assure sustainable resource management and conservation.

28. This project will improve upon land rehabilitation techniques already developed by others. The search for cost-effective fencing techniques will include solar powered electric fencing trials and improvements of live fencing techniques to alleviate the constraint of high fencing costs. The project will go beyond rehabilitation to emphasise the development of participatory, sustainable management systems to overcome the barrier of the lack of proven management systems. Improvements in the cost-effectiveness of all interventions in each of the ecosystems will be sought with the objective of developing replicable systems that can be successfully extended by others throughout the project area after project completion.

29. Addressing another constraint, a particular emphasis will be placed on the generation of income and other benefits that can be derived directly and indirectly from the resources of the rehabilitated lands. Long-term sustainability will be strongly dependent on the development of economic incentives that are linked to resource management and conservation.

30. The constraint of land and tenure systems will be addressed within the evolving context of land and resource tenure policy reform that is moving towards empowerment of local communities for the management and sustainable use of the resources of their village lands or (*terroirs*). At present, many of the principal beneficiaries of the range and forest resources are not the local villagers and herders, but rather people who live in urban centres. This is particularly true for the owners of large herds and the principal consumers of charcoal.

31. This project will support land tenure policy reform. A key aspect of this will be the development of effective pilot approaches for community-based management of village lands, gazetted forests and faunal reserves. Successful pilot approaches will enrich the dialogue and debates on the evolving policies of both countries and will guide the reform of national policies.

32. On the supply and demand side, the project will undertake selected measures to alleviate pressures on the forest and range resources. To address the constraint of lack of alternatives to the present charcoal supply, the project will evaluate, demonstrate and promote alternative plant-based fuels, i.e., intensive silviculture of wood fuels in irrigated perimeters and the potential of densified fuel briquettes made from cattails (*Typha sp.*), an aquatic plant that is invading huge areas of flood plain above the Diama dam and is the cause of growing ecological and economic problems.

33. In addition to range management on village lands and gazetted forests, the project will seek to decrease pressures on the range resource through the promotion of supplemental feeding for the fattening of range-reared livestock prior to marketing. This effort is part of a strategy to promote livestock raising as an economic activity and to shift



herders' emphasis on quantity (herd size) towards one of quality. A shift to smaller numbers of quality livestock should contribute to destocking of overgrazed rangelands.

34. Wildfires cause considerable ecological damage to the less degraded upland ecosystems, but effective fire management systems are inadequate. The project will provide assistance to improve fire prevention, detection and suppression to address this constraint.

35. Finally, part of the project's capacity building assistance will address the last constraint by placing a particular emphasis on developing effective transborder collaboration in the search for effective solutions to common problems.

### **Indicators and milestones**

36. Indicators for outcomes, results and activities are all presented in the Logical Framework (Annex 2).

### **Additional domestic benefits generated over the baseline**

37. The sustainable management of rehabilitated lands will generate domestic benefits in addition to the global benefits already cited (See the table in Annex 1). In the short-term, as the partially degraded areas are being rehabilitated, the harvest of pasture and woody resources may decrease due to the necessity of protection and livestock exclusion. Their subsequent management will generate a sustainable supply of range and forest products for local people. The rehabilitation of completely degraded areas, such as sand dunes and impermeable "glacis", will bring the productivity of these areas up from near zero to a productive level.

38. Resource-based income generation for participating communities will have domestic benefits of poverty alleviation. Development of community-based resource management will strengthen local governance.

## **PROJECT ACTIVITIES AND EXPECTED RESULTS**

### **Relationship between components**

39. Components 1, 2 and 3 are concerned primarily with overcoming the technical barriers to biodiversity conservation and management. Component 1 focuses on participatory systems for ecosystem rehabilitation and management and is strongly linked to Component 4, which seeks to develop resource-based income generation for the participating communities from the rehabilitated lands. Component 2 seeks to promote alternatives to the present charcoal supply and addresses resource supply and demand constraints. Component 3 is specific to the problem of inadequate fire management systems. Component 5 addresses ecosystem management capacity constraints at all levels. Detailed explanation of the activities and anticipated results are presented in the logical framework in Annex 2.

### **Component 1. Rehabilitation and Sustainable Management of Degraded Lands**

40. This component is the heart of the project and is critical to the maintenance of globally significant biodiversity. It addresses all five ecosystems and is geared to the need to halt and reverse land degradation and restore the vitality of the ecosystems involved. The

restoration of ecosystem health and the sustainable management of these ecosystems will provide an environment conducive to the "at risk" species identified in Annex 8 as well as to other species, both surface and sub-surface. In addition, land and vegetation restoration will increase carbon sequestration and reduce albedo.

41. The activities include participatory rehabilitation and management of village lands (*terroir*), gazetted forests (*foret classees*), of live dunes and of wetlands. The dunes will generally be part of a village *terroir*. All work will be participatory efforts with resource user groups that request project assistance. A range of rehabilitation techniques have already been used in the area and their costs and effectiveness vary widely. Project staff will review these efforts at project start-up and will continually seek to test and improve upon these techniques during the life-of-project. Two of the technical areas that will receive special attention are dune stabilisation and fencing techniques. Trials of solar panel-powered single or double strand electric fencing and live fencing trials will be conducted as alternatives to the more conventional and expensive types of wire mesh fencing.

## **Component 2. Reduction of resource pressure**

42. This component seeks to reduce pressures on the range and forest resources through supply and demand alternatives. For the past 20 years, urban charcoal supply in Mauritania has come primarily from trees that died in the severe droughts of the early 70s and 80s. This resource is nearly gone and pressures for unsustainable harvests of live trees will almost certainly further threaten the already degraded ecosystems. The feasibility studies for densified fuels and tests/demonstrations of intensive management options for wood fuels production in irrigated perimeters will seek to develop options that could lessen demands on the existing forest resources. The promotion of supplemental feeding of range-reared livestock described earlier is also part of this component.

## **Component 3. Wildfire management for environmental protection**

43. Wildfire threatens the biodiversity and rangelands of the least degraded portions of the project areas. Livestock owners are increasingly willing to invest in fire prevention, but technical quality and cost effectiveness of prevention and suppression techniques vary widely. The project will fund a range of activities to improve fire management techniques, to improve the existing firebreak system, to train and equip technicians and villagers, to expand the use of an already functional satellite-based, detection system and to improve fire suppression. Emphasis will be put on continually seeking to improve cost-effectiveness and sustainability.

#### **Component 4. Community Natural Resource-Based Revenue Generation**

44. This component provides the resources and the infrastructure to develop replicable participatory management systems with the goal of generating alternative revenue streams for local populations, while preserving biological diversity and reversing land degradation trends. The products will be directly related to ecosystem management issues, for example sustainable use of secondary forest and woodland products. The process will begin with the identification of specific capacity-building needs and the selection of sites through an exploratory PRA. Efforts will be made to develop or strengthen community-level organisations for such activities. At the same time appropriate information, education and communication (IEC) programmes will be adapted and utilised. Selected production opportunities will be investigated and credit mechanisms established where needed. The final stage will be the implementation of production systems and marketing of the products.

#### **Component 5. Capacity Building**

45. This component is critical to the success of the whole project. The goal is to provide an enhanced co-ordinated ecosystem management capacity at all levels. The purpose is to enlist all stakeholders in an ongoing process of sustainable management after the project ends and thus provide the basis for project land and water management, and halt biodiversity loss. Each of the other components includes capacity building, especially at the local level. Component 5 enhances this work at the village level, and also addresses national and subregional capacity building and co-ordination issues.

46. The detailed activities include attention to the legal and regulatory issues concerning natural resource management, information, transfer between countries and groups within countries and the development of databases on technologies used successfully in the region and in similar regions elsewhere. The component provides some logistical and planning support at all levels and provides for feedback mechanisms at local, regional and subregional levels. Finally it provides for the co-ordination mechanisms, which will allow the sharing of complementary approaches and technologies for co-operative ecosystem management activities between the two countries.

47. This latter component includes the co-ordination of legislative and regulatory issues in the transborder area. This is very important to avoid differential degradation and resource loss that can easily result from cross-border differences.

## RISKS AND SUSTAINABILITY

### Risks

48. The project does not face any major risk, which might prevent the project from being carried out. In terms of successfully achieving its objectives, some risks do exist.

49. Some natural resource management activities would be at risk if a severe drought were to occur.

50. The major challenges facing the project are establishing viable mechanisms for local communities to effectively manage resources and derive benefits. The project design recognises that such efforts will be highly dependent upon having a conducive policy environment and legal framework, particularly with respect to decentralisation of decision-making authority and resource tenure rights.

51. As the project will be carried out through a highly participatory approach, involving relevant major stakeholders, the rural population has been involved in consultations and stakeholder workshops, and is very much interested in co-operating and participating in the project. Efforts will be taken to ensure that all major stakeholders have a role in the decision-making process. In working with local communities to better manage their resources, it will be vital to ensure that not only the settled farmers in a village have rights to resources and a voice in the decision-making process, but also outsiders, such as transhumant and sedentary herders, or migratory charcoal makers. Otherwise, there would be a risk that such groups could refuse to co-operate or try to undermine community management efforts. Similarly, there is a risk that traditional herd management strategies may conflict with new management systems, so consensus-building will be an integral aspect of the participatory land use management planning.

### Sustainability

52. The purpose of this project is to achieve sustainable improvements in natural resource management in the target region. The proposed strategies and activities will lead to changes in the current technical, social organisational and institutional arrangements, thus improving the ability of rural communities to manage their natural resources. Increased access to information, and greater financial incentives will ensure that the approaches introduced during the project can be continued afterwards by the local population and the development agents working with them.

53. The existing policy and legal frameworks will be reviewed and harmonised, to ensure that communities have the rights to benefit from the resources they manage, and the long-term incentives to invest in more ecologically sustainable management of those resources.

54. The project activities will be technically sustainable. The technical approaches to be used will be relatively simple ones, and easily mastered and replicated. Sand dune stabilisation techniques, for example, are already well developed in the region. These techniques will be adapted where necessary, so they can more easily be replicated by rural residents using locally available materials. Furthermore, the project will not only work on improving techniques for management of individual resources, but will promote an integrated, participatory approach to management of the village lands (*terroir*). In this way, the technical sustainability of different activities will be more easily assured.

55. By working with rural communities to develop or adapt social structures, such as village resource management committees, co-operatives, resource users associations, or resource-based economic interest groups, improved resource management activities will be socially sustainable. These groups will decide what activities they wish to undertake, in line with their own needs, values and priorities. Through participatory planning approaches, the needs of various stakeholders will be taken into account, thus ensuring that all relevant social groups can benefit from improved resource management. It will be vital, for example, to ensure that not only settled farmers, but also transhumant herders, can participate in resource management activities. Particular efforts will be taken to work with women and with socially-marginalised groups, especially with respect to their participation in the decision-making processes, access to land, and share in the economic benefits of improved resource management.

56. Improved access to information and training will build local skills in resource management. By establishing databases and developing participatory monitoring and evaluation systems, the project will seek to ensure that such systems can be sustained by local populations and institutions. The project will be executed through existing institutions, including both government and non-governmental organisations (NGOs). Training of technical staff will build institutional capacities, to enable both government and NGOs to better facilitate community-based resource management. Such training will include, for example, not only resource management techniques, but also extension methodologies, such as participatory rural appraisal (PRA) and planning techniques. As the project will be nationally executed by the two countries, it will build upon national and regional expertise, rather than relying upon international consultants.

57. As rural residents develop income-generating activities based upon natural resources, and begin to earn increased revenues, they will have the financial means and incentives to continue such activities. Provision of follow-up technical assistance and extension support will be part of normal government services, so should be sustainable in financial terms.

58. By closely linking improved natural resource management with local empowerment and improved rural incomes, rural residents willingly sustain changes in resource management practices. Such activities will be ecologically sustainable. The proposed activities will lead to rehabilitation and conservation of degraded ecosystems, ensuring more ecologically sustainable management in the future.

## **STAKEHOLDER PARTICIPATION AND IMPLEMENTATION ARRANGEMENTS**

### **Stakeholder Participation**

59. In the Senegal River valley zone, a wide variety of stakeholders have interests in land, natural resources biological diversity, and the global environmental impacts of resource use, including climate impacts. These stakeholders include: farmers, both sedentary livestock owners and transhumant pastoralists, fisherfolk, various resource users such as wood cutters and charcoal makers, private entrepreneurs and others in the private sector, non-governmental organisations (NGOs), government technical specialists and extension agents, and government administration at both central and decentralised levels. Global interests in biological diversity and climate change are held by international organizations, including the UN.

60. **Direct beneficiaries** of the project will include the rural women, men and youth living in the project area. Efforts will be made to ensure that the socially marginalised groups can participate in, and benefit from, project activities, as often they are the members of society most dependent upon natural resources for their survival.

61. More specifically, it is estimated that the project will directly reach approximately 80,000 people, through concerted efforts to be made in approximately 100 villages to work with groups on income-generating activities. These villages will primarily be those in the 18 target areas, where the project will work with the local communities on developing land use management plans, and related natural resource management activities. Farmers, herders, wood cutters, charcoal makers, and other resource users living in these communities will benefit from increased control of their own lands and resources as well as training, transfer of technology, and development of skills. These will lead to improved rural incomes, building of local organisational capacities, and improved natural resource management and conservation of biological diversity. The interests of these different stakeholder groups and the relationships of their activities with biological diversity and land degradation are discussed in greater detail in Annex 5.

62. **Secondary beneficiaries** include other rural residents, beyond the target communities. The overall population living in the Senegal River valley (floodplain and adjacent uplands) is estimated to be 1.3 million. The private sector involved in natural resource use and urban consumers in the region will also benefit, such as through improved access to charcoal supplies. The technical staff of relevant government agencies, NGOs and other development partners will benefit from training, equipment and logistical support, so that they can better assist the populations and facilitate community-based natural resource management (CBNRM) efforts. The two governments will benefit from increased collaboration, sharing of information, experiences and technology, and harmonisation of policy and legislative approaches.

63. The project is based upon a **participatory approach to improved natural resource management**, involving the active participation of different stakeholders in all aspects of the project design, implementation, monitoring and evaluation.

64. **Project preparation** has involved consultations and site visits with rural residents, NGOs, technical officers and local government officials, as well as stakeholder workshops that included representatives from a broader range of interests. The project document has been prepared by the two national governments, supported by national consultants, UNEP and UNDP. In Senegal the Greenbelt Programme Unit within the Ministry of Environment and Nature Protection has been responsible for programme development, whereas in Mauritania this responsibility has been assumed by the Directorate for Environment and Rural Infrastructure, within the Ministry of Rural Development and Environment.

65. Various stakeholders will be involved in the project implementation activities, as presented in the main project document and the logical framework. Essentially the **project implementation** will be carried out by the rural population and NGOs, with support of government technicians and officials. A **participatory monitoring and evaluation** system will be put in place, to ensure that the local population and NGOs are involved in self-monitoring and evaluation, and contribute to overall project decision-making.

66. At project start-up criteria will be developed for **contracting with NGOs, as well as local research and training institutions**, to provide support services to rural communities. More details on the planned involvement of various stakeholders in different project activities are provided in Annex 5.

## Implementation Arrangements

67. UNOPS, the government of Mauritania, and the government of Senegal will execute the project. Detailed arrangements have been worked out during a project appraisal phase which followed initial clearance by GEF. Annex 9 provides the project organisational chart.

68. The overall implementation of the project will be carried out under the general supervision of a Policy Steering Committee (PSC), composed of Ministers of the Ministry of Environment and Nature Protection of Senegal and the Ministry of Rural Development and Environment in Mauritania, High Commissioner of the Senegal River Authority (OMVS), resident representatives from UNDP, UNEP, CSE/CONSERE (Senegal), CTED (Mauritania), NGO and community representatives. In Senegal the project focal point will be the Greenbelt Co-ordination Unit, and in Mauritania, the Directorate of Environment and Rural Infrastructure (DEAR). The two project focal points will also serve as the secretariat to the PSC, along with the Regional Co-ordinating Unit (RCU).

69. The PSC will provide overall policy guidance. The Technical Advisory Committee (TAC), constituting of selected experts from the scientific, research or training communities, will provide advice to the PSC on particular issues.

70. The PSC will meet annually, to evaluate the results obtained, to examine and approve the programme of activities (annual work programme and annual budget) of RCU and the National Management Units (NMU), to provide guidance and take the decisions necessary for the proper operation of the project, in conformity with its objectives and approach. The PSC will be chaired in turn by Ministers from the two countries. The TAC meetings will take place annually and otherwise as often as necessary, in order to evaluate the project status and to make adjustments for the appropriate technical implementation of the project. The RCU will prepare the PSC meetings.

71. A small Regional Co-ordinating Unit (RCU) will be established in Saint Louis (Senegal), led by a Regional Co-ordinator and with an expert in planning and rural development as his or her assistant (or deputy). A second expert post will be made available to the RCU, the profile of which is likely to change during the project lifetime and will therefore be occupied by specialists of various backgrounds needed for the planned activities. For the first year, this second expert will be chosen as (1) Information/Education & Communication specialist or (2) a biodiversity/Land degradation specialist. The Regional Co-ordinator and the second expert will be chosen from Mauritania while the first expert and expert will be chosen from Senegal. The staff of the RCU will be based in St. Louis.

72. Each country will set up a National Management Unit (NMU) for the project, one in Saint-Louis (Senegal) and one in Rosso (Mauritania), each directed by a management unit head, recruited by (under UN local conditions) and funded by project resources. These national heads will work under the general supervision of the national operational focal points for the project.

73. Financial management of the project will be overseen by UNOPS and the PSC with the regional and national units each having responsibility for their own management. The UNDP missions in Senegal and Mauritania will facilitate the transfer of project funds to the respective National Management Unit. Each GEF focal point will be responsible for disbursement of the national government's cash contributions to the project. UNOPS will use the most efficient and transparent financial mechanism for the beneficiary population, and ensure accountability for the utilisation of project resources. In Senegal, for example, it may be more efficient for certain project expenditures, such as contracts with NGOs, to be paid directly by the UNDP mission upon authorisation from the Regional Co-ordinator or National Management Unit head.

74. Each NMU will comprise, besides the head of the project, three national civil servants, one of whom shall act as deputy to the head of project. These three will include a forestry expert having appropriate experience in planning the management of natural resources with a sound background in information technology; a specialist in information services/education/communication; and an administration and finance assistant. In addition, each NMU will have one secretary, one driver, one office cleaner/assistant, and one guardian.

75. Each NMU will be assisted by an advisory group for project implementation. Separate groups will be established for each country and for each region or administrative *Wilaya* (Regional Consultation Framework (CRC in Senegal) and the Regional Environmental Development Committee (CRED in Mauritania)) whose meetings will be held quarterly. Advisory committees will also be established at the local level for the Rural Communities (in Senegal) or Communes (in Mauritania).

76. Thus, the local population and the NGOs will be represented in the project's decision-making structure, through their participation in the overall project Technical Advisory Committee, as well as the national, regional, and local advisory committees.

77. The project is designed to be implemented by the local communities and NGOs, with support from government technical services. The project staff and Technical Advisory Committee will develop specific criteria for final selection of communities and NGOs to participate in the project. Once the target areas have been selected on ecological criteria, participatory project launch workshops will be held at the local level, i.e., Commune or Rural Community, where representatives of different stakeholders will select the participating villages or hamlets according to the selection criteria.

78. The project's activities with rural communities will consist of development of land use management plans for selected areas, which will consist of one or more villages. The communities will be assisted to develop these plans through an extension programme, which will include awareness-raising, participatory rural appraisal (PRA) and planning techniques, and development of participatory monitoring and evaluation (M&E) systems. Based upon the activities agreed upon with the local communities, the project will then support activities dealing with restoration and sustainable management of ecosystems, including sand dunes, village sylvo-pastoral areas, gazetted forests and wetlands, feedlot demonstration techniques, development of intensive silviculture, and wildfire management. The project will also support work with groups, associations, and co-operatives in the participating villages, to develop alternative income-generating activities to be based upon sustainable use of natural resources. These activities will be supported, as necessary, by credit mechanisms and market development studies.

79. NGOs will be contracted by the project to provide support services to the rural communities, in terms of undertaking PRAs, developing participatory land use management



plans, preparing action plans for development of income-generating activities based upon natural resources, and participatory monitoring and evaluation systems to assess project impacts and performance. National research and training institutes may also be eligible for such contracts. The Technical Advisory Committee shall prepare contracts and selection criteria, to be approved by the Policy Steering Committee. These contracts shall then be advertised and awarded on the basis of competitive tenders. Contracts will be awarded according to the activity work programme, for up to 2.5 years, and may be renewable based upon adequate performance. (Performance of the contractors will be assessed during the mid-term evaluation.)

80. At the local level and in grassroots communities, the project will be assisted by the Government technical services in conformity with the provisions of Agenda 21 for:

- implementation of a participatory approach adapted to local conditions; ie. the local people benefiting from the project should have the main say in it;
- project implementation in the field by the decentralised State structures, including regional inspections and regional delegations; and
- development and dissemination of appropriate techniques, capable of being mastered by the people benefiting from the project.

81. The project resources will be allocated to organise and consolidate community structures, including groups and co-operatives, with a view to developing their capacities, required for the sustainable management of natural resources, on the contractual basis of support contributed by the project and a technical framework supplied by the public services.

## **INCREMENTAL COSTS AND PROJECT FINANCING**

### **Incremental Costs**

82. The GEF alternative will build upon existing baseline actions, as well as adding cofinanced activities to achieve a sustainable baseline, that promote localised ecosystem management activities. The GEF increment will enable the expansion of these to more adequately deal with the regional and global issues of biodiversity loss, greenhouse gas emissions, ecosystem destruction and international waters silting up from erosion

83. The GEF alternative will involve building capacity to deal with critical issues of land degradation and biodiversity loss in this border region. It will also contribute to stabilising and restoring critical ecosystems. It will create an environment in which the two countries can work co-operatively on sustainable ecosystem management and in the development of alternative resource income streams. The full incremental cost analysis is presented in Annex 1.

### **Project Financing**

84. Project financing is projected to come from three main sources: co-financing to achieve a sustainable baseline, which is currently being solicited from a number of potential donors; host country support; and GEF incremental cost financing. The following table sets out the project costs by component.

**Table 1. Summary of Total Costs by Project Components (US\$ millions)**

Component	Government Contributions	Sustainable Baseline Co-Financing	GEF Increment	Total
1	1.040	0.126	3.500	4.660
2	0.250	0.120	0.350	0.720
3	0.450	0.120	0.650	1.220
4	0.250	0.120	1.450	1.820
5	0.200	1.700	1.000	2.900
M&E			0.110	0.110
Support Costs			0.766	0.766
<b>Total</b>	<b>2.190</b>	<b>2.180</b>	<b>7.891</b>	<b>12.196</b>

85. Government contributions include \$1,580,000 in kind and \$ 300,000 financial support from each country (Table 2).

**Table 2. Country In-Kind Contributions (estimated value, US\$ millions)**

In-Kind Contribution	Senegal	Mauritania	Total
Co-ordination	0.055	0.055	0.110
Supervisory Technicians	0.400	0.375	0.775
Extension Agents	0.300	0.300	0.600
Office Space	0.035	0.060	0.095
<b>Total</b>	<b>0.790</b>	<b>0.790</b>	<b>1,580</b>

## MONITORING, EVALUATION AND DISSEMINATION

### Monitoring and Evaluation

86. A Monitoring and Evaluation programme will be an important part of the project, in that it will allow regular and in some cases continuous feedback on each activity and allow adjustments to be made as needed. Two types of monitoring and evaluation will be used, formal and informal. An initial Participatory Rural Assessment to identify key stakeholders, a mid term formal evaluation, at the beginning of the third year of the project, and an end of project review will be key components of the formal review.

87. The ongoing process of monitoring and evaluation will feed into and inform the formal process. The informal process of stakeholder feedback will begin with the participation of villagers and technicians in the identification of appropriate sites for each component of the project. A Participatory Rural Assessment (PRA) will allow an identification both of the most likely locations and also the particular project components at those sites. The PRA tools will be used with the help of selected proven NGOs in each country. Throughout the project progress will be measured directly by project staff and indirectly by the NGOs and local communities concerned.

88. Feedback will be precise or less so according to the character of each component. The verifiable indicators of project achievement identified in the logical framework (Annex 2) will guide the type of reporting required.

89. Six-monthly reports will be prepared by each National Co-ordinator and transmitted to the Regional Co-ordinator for compilation into an overall project report. The reports will address progress and obstacles and identify necessary adjustments and timetables for the next six-month period.

90. In addition to the direct project monitoring, use will be made of the existing monitoring network already set up by UNSO-Dakar, Senegal as part of the Environment Monitoring Centre in the Sahel in Dakar, Senegal.

### **Dissemination**

91. An important part of the project is the impact it can have in the areas not directly affected by project activities. During the five year duration of the project, every opportunity will be taken to disseminate the lessons learned and to create a wide awareness of project activities. The use of school competitions, radio broadcasts and TV programmes will be used to disseminate this knowledge. By the end of the project videos of project activities will be made generally available publicly, through NGOs and through the extension services.

### **Lessons Learned**

92. During the past decade there have been successful examples within the region of most of the technologies needed for this project. However, in most cases these examples have not been replicated in a way that has maximum impact on the environment, because resources have not been available. For example, stabilisation methods and techniques for active dune fixation have been retried and successfully applied, procedures for intensive reforestation around irrigated holdings have also been tested.

93. Real progress has been made using participatory approaches and interventions. In most cases, the costs of the various environmental protection activities have gradually diminished as local people's participation has increased. Some of the main achievements have included development of techniques for sand dune stabilisation, promotion of irrigated silviculture around irrigated agricultural fields, and improved forest management.

94. Considerable experience in the stabilisation of active dunes has been developed in Mauritania over the past 15 years. Technicians and the local people have acquired a genuine mastery of mechanical and biological fixation techniques and considerable experience has been gained; knowledge of plant species and synthetic materials that are better adapted to local conditions and techniques for the propagation of species with rapid growth.. More recently, aerial seeding of woody species on live dunes has shown great promise.

95. Intensive irrigated silviculture has been developed by the private sector in Mali and it has been tested in research station trials on the Senegal River flood plain in Senegal. A major reason for success has been the choice of species: *Eucalyptus camaldulensis* and *Tamarix aphylla* and local species, such as *Acacia*, and *Cassia*, which are utilised for the provision of fuelwood and fodder.

96. In both Senegal and Mauritania, improvements have been achieved in the protection and management of gazetted forests and integrated approaches to community management of village woodlands. In addition, the implementation of environmental protection measures, which are linked to reforestation have resulted in local communities taking greater control of resource management production activities, has drawn attention to the great potential for growth in rural production. These integrated activities have given hope

to local communities, particularly women and young people, who see these achievements as an alternative to meet the needs of their families and halt the migration of men folk.

97. Two STAP Roster experts (Annex 3) reviewed the project document. The experts supported the project, concluding that it satisfies all the requirements of a potentially feasible and sustainable project in the field of rehabilitation of degraded lands, climate change and biodiversity, and in accordance with the objectives and priorities of the GEF. The project document has been revised to reflect some of the main concerns of the reviews whereas the others will be addressed during the project appraisal and implementation phases.

## ANNEX 1      INCREMENTAL COST ANNEX

### Country Situations

In both Senegal and Mauritania land and resource degradation has led to major losses in biodiversity, especially over the extended drought period of the last 30 years. The drought period has coincided with the national adjustments to independence and with a period of strong population growth. In Mauritania, all three have combined to concentrate the settlement of formerly nomadic people in the zone just north of the Senegal River. The hydrology of the river has been affected by the construction of the Manantali Dam upstream and Diama barrage downstream.

The ecosystems bordering the Senegal River, which play important roles in regulating the fragile ecological processes of the region, have been subject to intense anthropocentric pressures and have been steadily degraded. There is a need to conserve the grasslands, shrublands and wooded systems as a tool against further desertification. Sub-surface biodiversity plays a vital, although not fully understood, role in dryland ecosystem stability and regulation. Conservation is important so that the role can be further studied and the value of the sub-surface biodiversity better understood. The global significance of these ecosystems may lie in the role that the sub-surface diversity can play in arresting the onset of desertification. The Ferlo/Djeri Shrub Steppe Sandplain ecosystem is a typical Sahel ecosystem, but unlike most other parts of the Sahel it still provides habitat for the large sand tortoise. The Ferlo Shrub Savannah Lateritic ecosystem with higher rainfall has a different faunal mix with greater diversity while the lower valley ecosystems each support their own mix of flora and fauna, all under stress. Endangered species are tabulated in Annex 8.

Unlike many parts of the Sahel, the Senegal River valley location has allowed critical biodiversity to persist in this region although it is under severe threat. Because of the overall poverty of both countries and the severity of the degradation, neither country has the resources to forcefully halt these underlying trends and begin restoration efforts. This project seeks to demonstrate that this is possible, beginning with selected localities in both countries and will provide a basis for the replication of these activities in other localities.

### Baseline

The baseline condition is the current trend of continuing degradation in all five ecosystems, affecting over 1.3 million people. Human needs and ecosystem health require major changes in past approaches to natural resource management. Constraints to these changes include inappropriate land resource tenure systems; lack of proven, sustainable natural resources management systems; lack of economic incentives in the short run; and lack of effective cross-border collaboration in seeking common solutions to common problems. The result is continuing biodiversity loss, frequent wildfires contributing to greenhouse gas emissions and wetlands with diminished biodiversity and productivity.

Efforts to build a foundation for improved resource management in the project area, without considering global biodiversity interests, are considered to be moving the situation from an unsustainable baseline situation towards a sustainable baseline. These include dune stabilisation to protect habitat and agriculture, regeneration of village sylvo-pastoral areas and of gazetted forests and restoration of degraded wetlands. These efforts include a calculated \$1.13 million per year by Dutch, German and EU programmes addressing natural resource management activities in the project area and an expenditure of at least \$150,000 a year by the host governments. This expenditure, if continued at the same rate, will contribute \$6.4 million towards the establishment of a sustainable baseline situation

during the project period. However, additional support is needed in order to move to a truly sustainable baseline and the costs of this are calculated as the additional baseline financing needed for this project.

### **Global Environmental Objective**

The global environmental objective is to move from ecosystem and biodiversity loss from land degradation to sustainable ecosystem management and biodiversity conservation. It is also to reduce wildfires and to cut down GHG emissions in the region. These objectives will be addressed through a combination of capacity building and action on the ground. Capacity building will be at all levels from the village to the international co-ordination. Participatory resource management will develop alternative natural resource flows and a well-defined programme of woodland restoration will be implemented. Training and action programmes will reduce the level of greenhouse gas emissions. The final goal will be the protection of the ecosystems and biodiversity of the area and improved capacity of the region to continue sustained profitable ecosystem management. The global environmental benefit of this goal can be valued in terms of the globally significant biodiversity conserved and habitat restored. As has already been outlined, the biodiversity is valued at both the ecosystem and species level. Little is known of the genetic diversity, however given that biodiversity in the drylands is characterised by a high degree of within-species variation (representing adaptation to the variable and extreme conditions), there is the possibility of conserving significant genetic diversity. An additional benefit will be the cross national learning and technical exchanges that are integral to the project.

### **The GEF Alternative**

The GEF alternative extends the baseline activities in ways that directly enhance biodiversity and reduce GHG emissions while building capacity for sustainable management. The rationale for this approach and for the calculation is provided below. The growing capacity in the region will be applied in four ways:

- to the rehabilitation and management of degraded ecosystems;
- to the reduction of resource pressures;
- to the reduction of wildfires; and
- to the development of sustainable natural resource-based revenues.

#### **1. Rehabilitation and Sustainable Management of Degraded Lands**

This component is a direct action plan to rehabilitate critical ecosystems and improve the productivity of the natural resource base

**Activity 1.1.1** involves the regeneration of vegetation cover on dunes, which threaten to engulf critical ecosystem components and settled areas. The baseline is calculated to be that expenditure necessary to provide domestic benefits such as protection of productive natural resources. The GEF alternative provides for the stabilisation of dunes threatening critical ecosystem elements not currently part of the productive resource base.

**Activity 1.1.2** is the regeneration of village sylvo-pastoral areas. The baseline is estimated to be that part of woodland regeneration of direct benefit to the villages involved.

**Activity 1.1.3** is the regeneration of the gazetted forest lands. Some of these are important as a component of the rehabilitation of degraded lands but of less biodiversity importance.

Others are very important for enhanced biodiversity and these are costed in the GEF alternative.

**Activity 1.1.4** deals with the rehabilitation of degraded wetlands, which are vital to the biodiversity of the river valley ecosystems. The baseline component is that restoration of immediate benefit both to biodiversity and the local economy; the GEF alternate component funds the restoration of other adjacent wetlands important for biodiversity.

**Activities 1.2** provide resources for the development of land use management plans and biodiversity inventories, all considered part of the GEF alternative.

## **2. Reduction of Resource Pressure**

This component explores means of reducing the pressures on the natural resource base.

**Activities 2.1.1 and 2.2.1** examine alternative technologies and are considered part of the GEF alternative.

**Activity 2.2.2** involves the trials and demonstration of intensive silviculture in irrigated perimeters to create alternatives to the present charcoal supply, thus addressing one of the constraints identified earlier. While this will produce immediate benefits for local villagers it will also involve considerable experimental development. The baseline is directed to immediate production, whereas the GEF alternative consists of more experimental work.

## **3. Wildfire Management for Environmental Protection**

This component deals with the reduction of wildfires. It will contribute to the reduction of greenhouse gas emissions and the loss of biodiversity from numerous uncontrolled fires, which are very destructive to the ecologically fire-sensitive sahelian ecosystems. The various activities in this component improve the capacity of and technical services available to the local people to prevent and fight fires. These benefits are estimated to be of importance for the baseline project but the GEF alternative expands the programme beyond that justified for local needs only. This expansion makes up the GEF alternative.

## **4. Community Natural Resource-based Revenue Generation**

This component is a combination of capacity building, technical information exchange and applied field programmes. The prime purpose of the component is to develop economic incentives for the sustainable management of rehabilitated ecosystems by providing alternative resource revenue streams from the sound management of those systems. While there will be a potential revenue stream at the end of the project and there is thus the prospect of local benefits, most of this component is directed at broader issues of long-term biodiversity management.

## **5. Capacity Building**

This component addresses capacity building at all levels from the village to the subregional co-ordination structures. It will lay the groundwork for the sustainable ecosystem management process, which should effective now and on an ongoing basis. While this capacity will be used for enhanced productive resource use it will also be directed at the heart of the process of sustainable ecosystem management. Baseline components include supply of materials and support at the village level. The GEF alternative takes the initiative to a new level of legislative and regulatory change, technical transfers, workshops and

stakeholders involvement. At the subregional level it supports international co-ordination and cross national exchange of experience.

A summary incremental cost matrix follows.

**Table 1.1 Total Costs Per Output (GEF Increment Costs only) (US\$ millions)**

<b>Component</b>	<b>Total</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>
1. Rehabilitation and Sustainable Management of Degraded Lands	3.500	0.700	0.800	0.700	0.700	0.600
2. Reduction of Resource Pressure	0.350	0.060	0.080	0.080	0.070	0.060
3. Wildfire Management for Environmental Protection	0.650	0.110	0.150	0.150	0.130	0.110
4. Community Natural Resource-Based Revenue Generation	1.450	0.350	0.360	0.260	0.240	0.240
5. Capacity Building	1.000	0.180	0.210	0.210	0.210	0.190
<b>Sub-total</b>	<b>6.950</b>	<b>1.400</b>	<b>1.600</b>	<b>1.400</b>	<b>1.350</b>	<b>1.200</b>
Appraisal Mission	.035	0.035				
Monitoring & Evaluation	.140	0.010	.010	.055	.010	.055
Support Costs	0.766	0.153	0.153	0.153	0.153	0.153
<b>TOTAL</b>	<b>7.891</b>	<b>1.588</b>	<b>1.763</b>	<b>1.608</b>	<b>1.513</b>	<b>1.408</b>

**Table 1.2 Allocation per Country - by Component (US\$ millions)**

<b>Component</b>	<b>Mauritania</b>		<b>Senegal</b>		<b>Total</b>
	Increment	Base	Increment	Base	
<b>1</b>	1.750	0.520	1.750	0.520	4.540
<b>2</b>	0.180	0.125	0.170	0.125	0.600
<b>3</b>	0.350	0.225	0.300	0.225	1.100
<b>4</b>	0.725	0.100	0.725	0.125	1.700
<b>5</b>	0.500	0.100	0.500	0.100	1.200
<b>TOTAL</b>	<b>3.505</b>	<b>1.095</b>	<b>3.455</b>	<b>1.095</b>	<b>9.140</b>



**Table 1.3 Sustainable Baseline, Alternative, and Incremental Costs (US\$ millions)**

Benefit	Baseline	Alternative	Increment
<b>1. Rehabilitation and sustainable management of degraded lands</b>			
Global Environmental Benefits	Critical ecosystems and natural habitat continue to be lost. Biodiversity reduced and ability of ecosystems to fix carbon reduced	Ecosystems under sustainable management. Enhancement of dryland soils as carbon sinks	
Domestic Benefits	Loss of woody and herbaceous cover on range areas , severe degradation of productive areas and international waters silting up	Improved land resources Protection of international waters	
Costs	1.04	4.54	3.50
<b>2. Reduction of resource pressure</b>			
Global Environmental Benefits	Wood and pasture resources continue to deteriorate.	Globally significant biodiversity resources are sustainably managed, conserving valuable ecosystems	
Domestic Benefits	Resources exploited for short-term gain	Sustainable management of resources	
Costs	0.250	0.600	0.35
<b>3. Wildfire management for environmental protection</b>			
Global Environmental Benefits	Emission of GHG and loss of vegetation cover	Reduced emissions of GHG and conservation of natural ecosystems	
Domestic Benefits	Loss of woody resources	Improved management of resources	
Costs	0.450.	1.10	0.65
<b>4. Community natural resource-based revenue generation</b>			
Global Environmental Benefits	Land degradation continues	Ecosystems sustainably managed, leading to increased biodiversity	
Domestic Benefits	Little contribution to management of resources by local populations.	Greater ability to generate revenue from natural resource base, better understanding of management needs	
Costs	0.250	1.700	1.45
<b>5. Capacity building</b>			
Global Environmental Benefits	Land degradation continues leading to loss of biodiversity resources	Increased co-operation and awareness. Cross-national ecosystem management and higher level of biodiversity	
Domestic Benefits	Weak capacity to address continued land degradation and little subregional co-ordination	Greater ability to sustainably manage resources	
Costs	0,200	1.200	1.00
<b>Other baseline activities spread across all components</b>			
Costs	2.180	2.180	0
<b>Preparation, Monitoring &amp; Support</b>			
Costs	0	0.941.182	0.941
<b>Total</b>	<b>4.37</b>	<b>12.261</b>	<b>7.891</b>

**Table 1.4 Detailed Budget by Activity**

<b>Components/Outcomes</b>	<b>Outputs</b>	<b>Activities</b>	<b>Increment</b>	<b>Baseline</b>	<b>Total</b>
<b>COMPONENT 1. REHABILITATION AND SUSTAINABLE MANAGEMENT OF DEGRADED LANDS</b>  Outcome 1. In-situ biodiversity conservation and carbon sequestration reinforced through the rehabilitation of degraded lands and their sustainable management.	1.1 Sequestration and in-situ conservation	1.1.1 Regeneration of dune vegetation cover	0.330	0.138	0.468
		1.1.2 Regeneration of village sylvo-pastoral areas	0.540	0.337	0.877
		1.1.3 Regeneration of gazetted forests			
		1.1.4 Rehabilitation of wetlands	1.550	0.391	1.941
		1.2.1 Biodiversity inventory and analysis of management potential	0.670	0.174	0.844
			0.020	-	0.020
		1.2.2 Development of management techniques			
		1.2.3 Participatory development and implementation of land use management plans ( <i>gestion du terroir</i> )	0.030	-	0.030
			0.360	-	0.360
		<b>TOTAL</b>	<b>3.500</b>	<b>1.040</b>	<b>4.540</b>
<b>COMPONENT 2. REDUCTION OF RESOURCE PRESSURE</b>  Outcome 2. Pressures on woody and range resources reduced by the adoption of measures to increase supply and to reduce demand.	2.1. Reduced pressure on rangelands (destocking)	2.1.1 Demonstration and dissemination of feedlot techniques	0.050	0.030	0.080
		2.2.1 Feasibility study of biomass briquettes for household energy alternatives ( <i>Typha</i> )	0.080	-	0.080
	2.2. Increased supply of household energy	2.2.2 Development of intensive silviculture in irrigated perimeters of agricultural areas	0.220	0.220	0.440
		<b>TOTAL</b>	<b>0.350</b>	<b>0.250</b>	<b>0.600</b>

Components/Outcomes	Outputs	Activities	Increment	Baseline	Total
<b>COMPONENT 3. WILDFIRE MANAGEMENT FOR ENVIRONMENTAL PROTECTION</b>  Outcome 3. The emission of greenhouse gases and loss of biodiversity from wildfires is reduced.	3.1. Improved fire prevention	3.1.1 Training/awareness	0.082	-	0.082
		3.1.2 Increasing the efficiency of the firebreak network	0.372	0.316	0.688
	3.2. Improved fire suppression	3.2.1 Implement/improve use of a rapid alert system	0.048	0.036	0.084
		3.2.2 Apply fire suppression techniques	0.074	0.049	0.123
		3.2.3 Organise and equip village firefighting committees	0.074	0.049	0.123
		<b>TOTAL</b>	<b>0.650</b>	<b>0.450</b>	<b>1.100</b>

Components/Outcomes	Outputs	Activities	Increment	Baseline	Total
<b>COMPONENT 4. COMMUNITY NATURAL RESOURCE-BASED REVENUE GENERATION</b>  Outcome 4. Replicable, participatory management systems generate alternative revenues for local populations.	4.1. Local populations organised to undertake sustainable management	4.1.1 Create co-operatives or socio-professional groups based on preliminary surveys	0.100		0.100
		4.1.2 Identify needs for capacity-building through an exploratory PRA	0.050	0.014	0.064
		4.1.3 Provide operational equipment and institutional support	0.110	0.040	0.150
	4.2. Information, education and communication (IEC) programs elaborated and implemented	4.2.1 Undertake a thematic inventory of existing IEC programmes in the subregion, then elaborate and adopt programme	0.050	0.050	0.100
		4.2.2 Implement IEC programmes	0.320	0.026	0.346
		4.2.3 Disseminate lessons learned at national and subregional levels	0.050	0.010	0.060
	4.3. Field-action programmes elaborated and implemented	4.3.1 Participatory inventory and evaluation of alternative resources and possible markets	0.070	0.010	0.080
		4.3.2 Implement alternative credit mechanisms	0.200	0.050	0.250
		4.3.3 Elaborate and implement action programmes	0.500	0.050	0.550
		<b>TOTAL</b>	<b>1.450</b>	<b>0.250</b>	<b>1.700</b>

Components/Outcomes	Outputs	Activities	Increment	Baseline	Total
<b>COMPONENT 5. CAPACITY BUILDING</b>  Outcome 5. Reinforcement of local, national and subregional capacities for sustainable management of ecosystems that rehabilitate and conserve biodiversity of these ecosystems.	5.1. Harmonised policies and approaches for sustainable management of ecosystems	5.1.1 Inventory texts and programmes concerning ecosystem management	0.010		0.010
		5.1.2 Meetings with administrative authorities, subregional technical committees and national committees	0.092	0.010	0.102
		5.1.3 Adapt support elaboration of regulatory texts and legislation for natural resource management	0.010		0.010
	5.2. Consolidated knowledge at local, national and sub-regional levels and technology transfer undertaken				0.063
		5.2.1 Share experiences through workshops at village level, civic society & administration	0.048	0.015	0.010
		5.2.2 Develop a database on existing technologies used	0.010		0.030
			0.030	0.030	0.130
		5.2.3 Test & disseminate adopted technologies	0.100	0.070	0.010
	5.3. Reinforced operational capacities of facilitating institutions, including NGOs	5.3.1 Carry out logistical support: computing, mapping, photography, transportation	0.010		0.215
		5.3.2 Reproduce and translate documents into local languages	0.145	0.075	0.620
			0.545	<b>0.200</b>	<b>1.200</b>
		5.3.3 Support the monitoring & evaluation at the local, regional, national and subregional levels	<b>1.000</b>		
		5.3.4 Implement subregional and national project co-ordination units			
		<b>TOTAL</b>			
Other baseline activities spread across all components			0	2.180	2.180
Preparation, Monitoring & Support			0.941	0	0.941
<b>PROJECT TOTAL</b>			<b>7.891</b>	<b>4.37</b>	<b>12.261</b>



**ANNEX 2. PROJECT LOGICAL FRAMEWORK MATRIX**

	Summary	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
<b>Objective</b>	To develop and apply replicable participatory systems to rehabilitate and sustainably manage degraded lands in the Senegal River transborder area, for conservation of biological diversity and climate change benefits			
<b>Outcomes (project impact)</b>	1. In-situ biodiversity conservation and carbon sequestration reinforced through the rehabilitation of degraded lands and their sustainable management.	# of ha stabilised or forested # people trained for management	Detailed reports	Mobilisation of people Tenure problems
	2. Pressures on woody and range resources reduced by the adoption of measures to increase supply and to reduce demand.	Rate of diffusion of technology ha of plantations	Documentation	Acceptance by villagers
	3. The emission of greenhouse gases and loss of biodiversity from wildfires is reduced.	Reduction of wildfires (number and areas burned)	Monitoring reports	Support from the Ecological Monitoring Centre
	4. Replicable, participatory management systems generate alternative revenues for local populations.	# of co-operatives & management committee Revenue generated	Data and reports	Mobilisation successful
	5. Reinforcement of local, national and subregional capacities for sustainable management of ecosystems that rehabilitate and conserve biodiversity of these ecosystems.	Structures established Data base developed Workshops held, etc.	Reports and minutes	
<b>Results (project outputs)</b>	1.1. Sequestration and in-situ conservation	6 300 ha restored Management skills developed and used in specific plans & actions	Documentation, project reports, evaluation	Drought Land-tenure policy does not negatively effect implementation of activities
	2.1 Reduced pressure on rangelands (destocking)	Monitoring of 20 herds	Monitoring reports	Carrying capacities are known
	2.2. Increased supply of household energy	Survey of villages	Survey report	
	3.1. Improved fire prevention	Reduced frequency of fires	Monitoring	
	3.2. Improved fire suppression	Reduced areas burned by fire	Monitoring	
	4.1. Local populations organised to undertake sustainable management	Committees and structures established	Reports	
	4.2. Information, education and communication programs elaborated and implemented	# transmissions, training sessions, workshops, and diffusions of printed materials	Reports	
	4.3. Field-action programmes elaborated and implemented	Credit mechanisms established	Reports	
	5.1. Harmonised policies and approaches for sustainable management of ecosystems	Reports of harmonisation group	Minutes and changes in laws	Proposed changes not implemented
	5.2. Consolidated knowledge at local, national and subregional levels and technology transfer undertaken	Workshops held & study tours undertaken	Reports	
	5.3. Reinforced operational capacities of facilitating institutions, including NGOs	Output of institutions (reports, training, participatory M&E system, etc.)	Reports Documentation	

Component s/ Activities	Component 1. <b>Rehabilitation and Sustainable Management of Degraded Lands</b>			
	1.1.1. Regeneration of dune vegetation cover	2,500 ha. [S:1,000ha, M:1,500ha]	Monitoring reports, evaluations	Drought  Tenure laws do not limit the project activities
	1.1.2. Regeneration of village sylvo-pastoral areas	1,300 ha [S:800 ha, M:500 ha]	Monitoring reports, evaluations	
	1.1.3. Regeneration of gazetted forests	2,000 ha	Monitoring reports, evaluations	
	1.1.4. Rehabilitation of wetlands	500 ha [S:300 ha, M:200 ha]	Monitoring reports, evaluations	
	1.2.1. Biodiversity inventory and analysis of management potential	Sample in 2 sites covering 100,000 ha	Inventory reports	
	1.2.2. Development of management techniques	80% of the concerned populations master the techniques	Monitoring reports	Laws authorise the organisation of the local population in a local "terroir" (territory), and their use of the natural resources in their territory
	1.2.3. Participatory development and implementation of land use management plans	18 Management plans are available and applied (two per zone per country)	Existence of plans  Monitoring and evaluation reports	The population benefits directly from the resource products that they manage
	Component 2. <b>Reduction of Resource Pressure</b>			
	2.1.1. Demonstration and dissemination of feedlot techniques	10 pilot farms are created	Evaluation reports	
	2.2.1. Feasibility study of biomass briquettes for household energy alternatives ( <i>Typha</i> )	Studies undertaken	Study documents available	
	2.2.2. Development of intensive sylviculture in the irrigated perimeters of agricultural areas	Massive intensive sylviculture plantations, 1,000 ha  Linear intensive sylviculture plantations, 600 km	Monitoring reports	
	Component 3. <b>Wildfire Management for Environmental Protection.</b>			
	3.1.1. Training/awareness			
	3.1.2. Increasing the efficiency of the firebreak network	Establishment of a network of firebreaks, 700 km [S:500 km, M:200 km]	Monitoring reports  Site visits	
	3.2.1. Implement/improve use of a rapid alert system	Operational communication system	Monitoring reports	The Ecological Monitoring Centre accepts to collaborate, and it can communicate directly with the sites
	3.2.2. Apply fire suppression techniques	20 communication posts	Delivery receipts	
	3.2.3. Organise and equip village firefighting committees	Organisation and equipment of 100 committees	Membership lists, monitoring reports, internal regulations	



Component 4. <b>Community Natural Resource-Based Revenue Generation</b>				
	4.1.1. Create co-operatives or socio-professional groups based on preliminary surveys	At least 100 operational groups are constituted	Group recording forms  Documents for legal creation  Project reports, evaluations	The regulatory texts do not prohibit the constitution of village groups and associations for the management of their "terroirs."  Social conflicts do not block the process.
	4.1.2. Identify needs for capacity-building through an exploratory PRA	100 PRAs are undertaken in 100 villages or groups of villages	PRA reports and documentation	
	4.1.3. Provide operational equipment and institutional support	Amount of equipment distributed (for 100 villages)  "Arrete d attribution," protocol, or convention for 100 villages	Delivery receipts	
	4.2.1. Undertake a thematique inventory of existing IEC programmes in the sub-region; then elaborate and adopt programme	Inventory, collection of documentation and supporting extension materials	Documentation, project reports, evaluation	
	4.2.2. Implement IEC programmes	54 radio broadcasts per country, 26 television broadcasts per country, 1 annual school competition per country  Demonstration sites, 2 per zone per country (18 total)  300 village training sessions (3 per village)  Annual general training sessions per zone for groups of villages , beginning in the second year[S: 20; M:16]  Participation rates per training session	Technical handouts or brochures  Reports  Extension materials  Project reports and evaluations	The services responsible for information, education and communication (IEC), including the radio and television, are available and collaborate
	4.2.3. Disseminate lessons learned at national and subregional levels	Radio & television broadcasts  Competitions  Zonal training sessions  [see above]	[as above]	
	4.3.1. Participatory inventory and evaluation of alternative resources and possible markets ( <i>etude filiere</i> )	Inventory  Thematic studies	Reports	Markets for the sale of products exist

	4.3.2. Implement alternative credit mechanisms	<p>Mobilisation of financial support (contributions) in 100 villages</p> <p>Creation of 100 management committees</p> <p>Training sessions</p> <p>Opening of bank or savings accounts</p> <p>Creation or reinforcement of a revolving fund</p> <p>Repayment rate</p>	<p>Documentation</p> <p>Accounting and management records</p> <p>Audits</p> <p>Evaluation PRA</p> <p>Project reports and evaluation</p>	
	4.3.3. Elaborate and implement action programmes	<p>Action, work, and or management plans developed</p> <p>Equipment procured as needed for plan implementation</p> <p>Participation rates in specific activities</p>	<p>[as above]</p> <p>Benefits obtained (e.g., revenues, volume of activities achieved)</p>	
<b>Component 5. Capacity-Building.</b>				
	5.1.1. Inventory texts and programmes concerning ecosystem management	Number of texts inventoried	Reports	
	5.1.2. Hold meetings with administrative authorities, subregional technical committees and national committees	Number of meetings held for each committee	Meeting minutes, reports	
	5.1.3. Adapt /support elaboration of regulatory texts and legislation for natural resource management	30 consultations or meetings held to harmonise and adapt the texts	Meeting minutes, reports	
	5.2.1. Share experiences through workshops at the village level, civil society and administration	<p>10 meetings of project co-ordinator and staff responsible for national zones</p> <p>6 workshops for technical staff and 6 workshops for villagers</p> <p>12 study tours for technical staff</p> <p>14 inter-village visits for villagers</p>	Meeting reports	
	5.2.2. Develop a database on existing technologies utilised	<p>Establishment of a database</p> <p>Number of technologies inventoried</p>	Database contents or reports	
	5.2.3. Test and disseminate adopted technologies	<p>Inventory program and study of technologies</p> <p>Number of technologies adopted</p>	<p>Reports</p> <p>Evaluations</p>	<p>Reticence of the population to cooerage</p> <p>Possibilities of acceptance of the technologies by the population</p>
	5.3.1. Carry out logistical support: computing, mapping, photography	Amount of equipment in place, outputs from this equipment (e.g. maps, photos) and other supporting materials	Audits and accounting reports	Possibilities for equipment and material maintenance and conservation

	5.3.2. Reproduce and translate documents into local languages	Approximately 10 documents produced, simplified and translated	Documents available Delivery receipts	
	5.3.3. Support the monitoring and evaluation at the local, regional, national and subregional levels	The establishment of a participatory monitoring and evaluation system	Monitoring and evaluation forms and reports	
	5.3.4. Implement subregional and national co-ordination units for the project	Co-ordination unit established	Notes, reports, recruitment contract for assigning staff undertaken	Agreement by the two countries

**Annex 3. STAP Technical Review**

## **ANNEX 4. ROOT CAUSE ANNEX (PROBLEM TREE)**

### **Root Causes of Biodiversity Loss from Land Degradation**

The following two figures present two different problem trees analysing the underlying causes of biodiversity loss from land degradation. Figure 4.1 is a general schematic of the key problem, proximate and intermediate causes and their effects. The key problem is biodiversity loss resulting from land degradation. Other causes of biodiversity loss such as illegal hunting are not included in this analysis.

The three categories of causes identified are drought, inadequate natural resource management, and population growth. The continuing, 30 year drought is a very real direct cause, but it is not one whose root causes are understood, nor is it a factor that this project can deal with. Population growth as a factor in increasing pressure on resources is also recognised as a crosscutting root cause of biodiversity loss/land degradation, but is considered to be beyond the scope of this project.

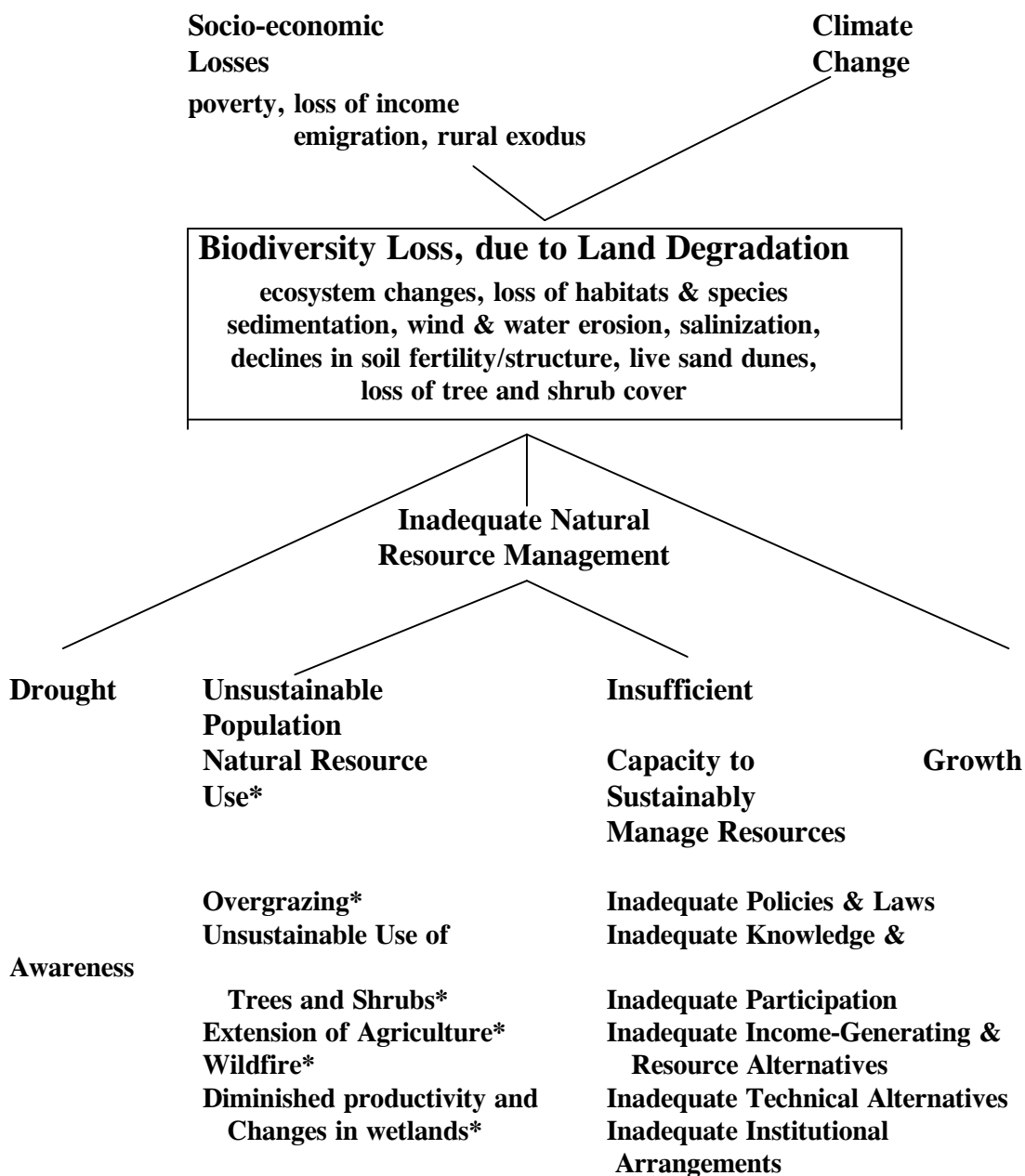
In Figure 4.1, inadequate natural resource management is divided into two categories. The first concerns the physical nature of unsustainable resource use and the second lists the crosscutting, socio-economic factors that result in insufficient capacity for natural resources management. These last two categories are developed in much greater detail and in a different formulation in the second problem tree in Figure 4.2. In this figure, the physical and socio-economic root causes of each of the direct physical causes are analysed in much greater detail.

This project will deal with most of the root causes of overgrazing, unsustainable use of tree and shrub cover, diminished productivity and changes to wetlands and wildfire. The relative importance of the different categories of unsustainable resource use varies between the two countries. In Mauritania, the declining order of importance for biodiversity loss/land degradation of upland ecosystems is considered to be overgrazing, unsustainable use of trees and shrubs, wildfire and extension of agriculture. In Senegal, the approximate order is wildfire, overgrazing, unsustainable use of trees and shrubs and extension of agriculture.

Overgrazing is the most pervasive factor in land degradation that affects virtually all sites in the project area, although its importance varies considerably from one area to another. In addition to its impact on the herbaceous cover, it is also often the most important factor determining the natural regeneration of trees and shrubs. Pods and fruit are eaten off the tree directly by livestock before they can mature. Fruit that does mature is eaten off the ground before seeds can germinate. Seedlings that manage to germinate are often browsed so intensely that they are killed or never have the chance to develop beyond the reach of browsing animals. It is very common to see stands of old trees in the project area with no regeneration in the understory.

**Figure 4.1 Analysis of Key Problem, Root Causes, and Effects (Problem Tree)**

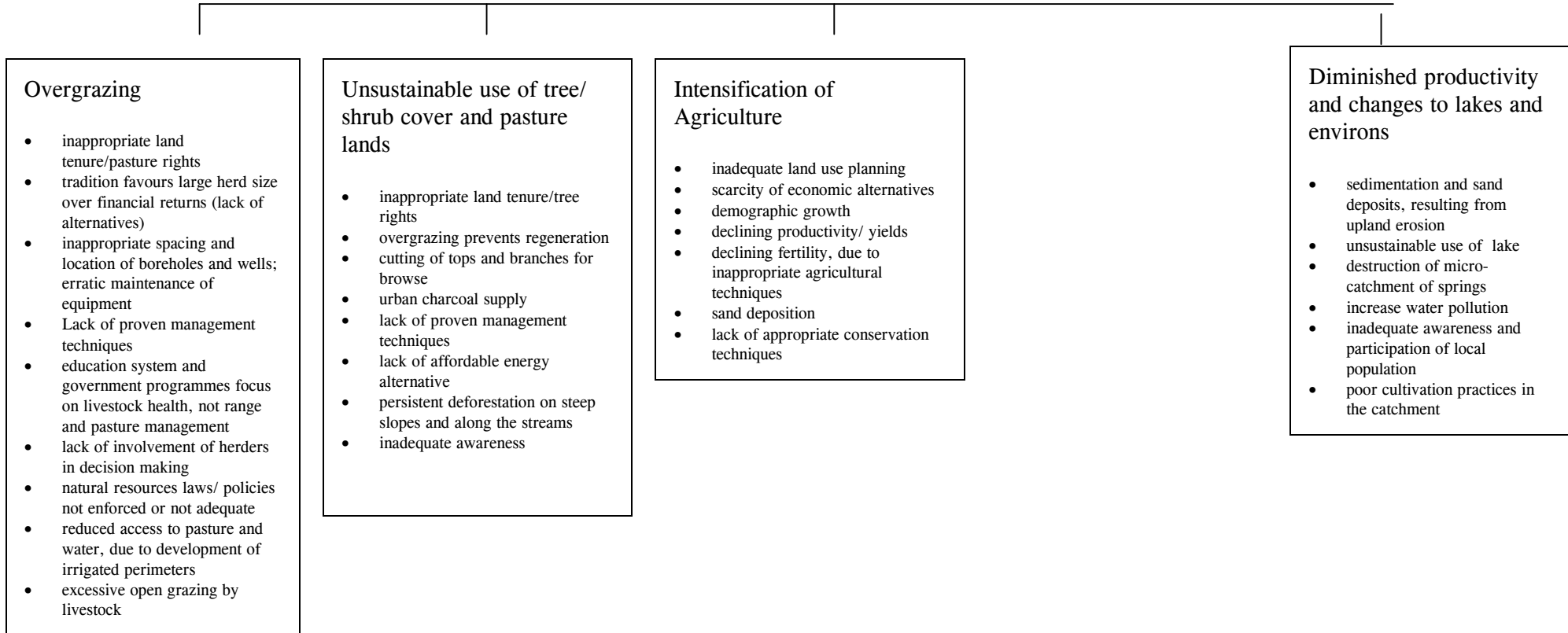
**Effects**



**Root Causes**

\* NOTE: See following page for greater detail on this section of the problem analysis.

## Biodiversity Loss, due to Land Degradation



## ANNEX 5. STAKEHOLDER INVOLVEMENT PLAN SUMMARY

### Overview of Stakeholder Participation (Matrix and Analysis)

In the Senegal River valley zone, a wide variety of stakeholders have interests in land, natural resources biological diversity, and the global environmental impacts of resource use, including climate impacts. These stakeholders include: farmers, both sedentary livestock owners and transhumant pastoralists, fisherfolk, various resource users such as wood cutters and charcoal makers, private entrepreneurs and others in the private sector, non-governmental organisations (NGOs), government technical specialists and extension agents, and government administration at both central and decentralised levels. Global stakeholders include international organisations and institutions, including the UN, with interests in biological diversity and climate change.

The project is based upon a participatory approach to improved natural resource management, involving the active participation of different stakeholders in all aspects of the project design, implementation, monitoring and evaluation. A matrix summarising the degree of interest and potential involvement of different stakeholder groups is shown in Table 5.1.

Various stakeholders will be involved in the project implementation activities, as presented in the main project document and the logical framework. Essentially the project implementation will be carried out by the rural population and NGOs, with support of government technicians and officials. A participatory monitoring and evaluation system will be put in place, to ensure that the local population and NGOs are involved in self-monitoring and evaluation, and contribute to overall project decision-making.

### Project Preparation

Consultations were held with the two governments and GEF/OFP to determine the broad scope of the project and modalities for co-operation between the two countries. To support this process, co-ordination meetings among various stakeholder groups were held at the national level. Then national consultants were selected to assist with the project preparation.

The project preparation process included:

- community consultations and site visits;
- stakeholder workshops;
- preparation of national reports reflecting the views of the communities; and
- preparation of a draft project document, based on inputs from the national reports.

In **Senegal**, the project was prepared under the auspices of the Co-ordination of the *Ceinture Verte* (Green Belt) Programme, with support from the Office of the President of the Republic. Steps in the process began in March 1997 and included: (1) selection of potential project sites on the basis of PRA results analysis and discussions held with technical services; (2) site visits, information and awareness-raising meetings conducted with stakeholders to get their ideas, priorities, and constraints for formulating and implementing the project, (3) preparation of a first draft country proposal, which was submitted to the *Comite National de Reformulation* (CNF) chaired by the Presidential Advisor on Environment; (4) conducting a stakeholder workshop, with representatives of the local population, decision-makers and technicians, to validate the project document; and



(5) finalisation of the project document, based upon the comments of the CNF and the stakeholder workshop.

In **Mauritania**, the process began with a joint field trip by the national consultant and Direction of Environment and Management of Rural Infrastructure (*Direction de l'Environnement et de l'Amenagement Rural*, DEAR) technical staff in the *Chemama* (Senegal River valley floodplain) to identify degraded lands and to visit sites of ongoing projects, such as *Poles Verts* and *Barrieres Vertes*. Meetings were conducted with representatives of the local population involved in these projects to obtain their feedback. Meetings were also conducted with villagers and other local people who have not had any experience with natural resource management projects, to present the objectives of the project and to discuss their concerns. The Mauritanian project document was prepared under the supervision of the GEF focal point, and consolidated with inputs from the DEAR technicians. A technical committee of DEAR, associated with OMVS, the Ministry of Planning, Land Tenure Revision (*Reviser Foncier*) section of the Ministry of the Interior, Regional Delegations of the Ministry of Environment and Rural Development, and the territorial administration, reviewed and validated the document. A workshop was held with representatives of other stakeholders, including members of the legislature, local populations, local institutions, and NGOs. Comments from the latter two were included in revising the document.

To elaborate elements of the project and to facilitate joint UNDP/UNEP implementation of the project, joint UNEP/UNDP missions were undertaken in December 1997 and January 1998. As part of the latter mission, an eight-day field trip was undertaken to visit representative sites and existing projects, and meet with local residents, other resource users, technical field staff, NGO representatives and local officials. Additional meetings have been held in Dakar and Nouakchott.

### **Stakeholder Profile**

Diverse stakeholders have been identified within the potential project areas (sites). Their differing roles and uses of natural resources have a variety of impacts on natural resource management, loss of biological diversity, land degradation, and possibilities for land and ecosystem rehabilitation and conservation.

Among the rural population, two important groups of resource users can be distinguished: animal herders (pastoralists) and farmers. The pastoralists are located primarily in the uplands (*Ferlo* or *Djeri Proche*). These people were originally nomads (transhumants), but in recent years many have become sedentarized. They practice subsistence agriculture on a very small scale. In Senegal, most of the men's livestock consists of cattle, whereas in Mauritania most of the men's livestock are camels. Women are also involved in the care of these animals, and the sale of their milk. In both countries, pastoralists also keep sheep and goats, which are often the property and responsibility of women.

The pastoralists face the following major constraints: pasture resource depletion, due to overgrazing and frequent wildfires, and decreasing access to watering points, as ponds have dried up due to the drought and the existing boreholes are inadequate, with frequent maintenance problems. Where such boreholes do exist, animal and human populations tend to be concentrated, resulting in severe loss of biological diversity, and land and resource degradation. In many areas, wildlife populations have declined. Where natural ponds are used, the water quality is deteriorated due to animal use, resulting in poor quality water for human consumption. The pastoralists also experience degradation of their pasturelands, due to increasing sand dunes. Ongoing projects have undertaken small-scale pilot activities with

herders for pasture management. Several projects have worked with herders on sand dune stabilisation efforts.

In contrast to the pastoralists, the farmers are more often located in the floodplain (*Walo* or *Chemama*) ecosystems, and make heavy use of the wetlands. Their agricultural activities focus on irrigated rice cultivation and vegetable gardening. Both men and women work in irrigated agriculture, but women do most of the gardening. Increasing expansion of areas under cultivation is a major cause of land degradation and loss of areas important for biological diversity. In some areas, land degradation has led to destabilisation of sand dunes, which are invading farmers' irrigated rice fields, gardens, water sources, and even villages. Traditionally, farmers would allow herders to bring their livestock into the fields after the harvest, so that the animals could eat the crop residues and the fields would be fertilised with animal manure. With increasing land degradation, changes in the river water flows due to the dams, and lower crop yields, the crop residues have declined. Consequently, the herders face a decrease in this feed source for their animals. Many projects and NGOs have worked with farmers on irrigated agriculture and gardening, and some have worked on sand dune stabilisation.

As forests along the river have been cleared for agriculture and to supply wood products (especially charcoal to urban consumers on the Mauritanian side), local residents have declining access to these resources. The regeneration of the *Acacia nilotica* forests has also been diminished due to less frequent flooding, resulting in declining forest resources. The local population values this tree species for building materials and firewood, and it is a preferred species for making charcoal. Projects have been started in both countries to work with local villagers, to develop systems for community-based forest management and rehabilitation.

The degradation of wetlands – including those found in the Senegal River as well as inland ponds and lowlands – has been caused by drainage for agriculture, upland erosion leading to sedimentation and declining water quality, and invasion of wetlands by cattails (*Typha* sp.). This wetland degradation has negatively affected the local fisheries, agriculture, and raising of livestock. Traditionally fishing is men's work, but women are involved in the processing and sale of fish. Fewer people now work in the fishing sector, which has suffered from the disappearance of certain fish species, declining fish catches and diminishing revenues. The local population has suffered from decreasing access to fish protein in their diets. Some projects and NGOs have worked on improved wetland management, primarily in the Delta region of the Senegal River, but also undertaking efforts to prevent pond sedimentation caused by erosion or invasion by sand dunes.

From an institutional and organisational point of view, diverse community-based groups and associations, such as co-operatives, women's groups, youth groups, and herders associations, have interests in ensuring more sustainable use and management of natural resources. Many NGOs work closely with these community-based organisations (CBOs). The NGOs have considerable experience in various domains related to natural resource management, awareness-raising and extension, training, participatory rural appraisal and planning, monitoring and evaluation, which will be very useful for the project. The NGO community is better developed in Senegal than in Mauritania.

### **Stakeholders and the Decision-Making Process**

The rural population and NGOs that work with them will be involved in the decision-making processes of the project at various levels. The project will have representatives of these stakeholders in the Technical Advisory Committee (two representatives of the local

communities and two NGO representatives, one each for each country). The Technical Advisory Committee will be responsible for consolidating project reports and preparing proposals, work plans and budgets, which will be submitted to the Policy Steering Committee for review and approbation. The Policy Steering Committee will be comprised of the Minister of Environment and Nature Protection in Senegal and the Minister of Environment and Rural Development in Mauritania, and the two GEF Focal Points. In the regional and local committees, representatives of NGOs and the local communities will participate. Local interests will be further reinforced in these committees by the participation of elected representatives to the National Assemblies and elected local leaders. The overall project implementation structure is designed to incorporate the grassroots priorities and constraints into the overall decision-making process, and to provide them with feedback on the overall project implementation.

### **Social Issues and Impacts on Beneficiaries**

The project will have a positive impact on different categories of beneficiaries, such as through building their technical and management capacities, generation of alternative sources of revenues, and improvement in the availability of natural resources. Nevertheless, project staff should pay attention to the potential negative impacts, such as conflict between different resource users, such as sedentary farmers vs. transhumant herders, or displacement of resource users through agreements to protect certain sites through an exclusion of use (*mise en defens*). Such potential conflicts can be minimised through the negotiation mechanisms to be put in place, to negotiate amongst stakeholders and find consensus on resource management.

Direct beneficiaries of the project will include the members of the rural populations in the project area. More specifically, it is estimated that the project will directly reach approximately 80,000 people, through concerted efforts to be made in approximately 100 villages to work with groups on income-generating activities. These villages will primarily be those in the 18 target areas, where the project will work with the local communities on developing land use management plans, and related natural resource management activities. Farmers, herders, wood cutters, charcoal makers, and other resource users living in these communities will benefit from project training, transfer of technology, and development of skills, which will lead to improved rural incomes, building of local organisational capacities, increased control over their lands and resources, and improved natural resource management and conservation of biological diversity. The participatory rural appraisals (PRAs) will undertake institutional analyses (e.g. Venn diagrams) and wealth ranking, as well as analyse gender issues, to ensure that all relevant stakeholder interests are represented. Particular efforts will be made to ensure that marginalised groups, such as the poor, have access to land, natural resources, and share in the revenues and other benefits.

Women will be beneficiaries of the project. Women's productive activities depend heavily upon natural resources. They play an increasing role in natural resource management activities and income-generating activities based on natural resources, such as commercialisation of forest fruits. They will benefit from the project through training and transfer of technology, and improved incomes. As women are responsible for household fuelwood provision, they will also benefit from project efforts to improve renewable energy resources.

Several groups of secondary beneficiaries can be identified. Beyond the target communities, other rural residents of the area will also benefit, as the project plans to diffuse information and lessons learned on a broader scale, through radio and television broadcasts, school competitions on environmental themes, and use of demonstration sites.

The overall population living in the Senegal River valley (floodplain and adjacent uplands) is estimated to be 1.3 million. The private sector involved in natural resource use and urban consumers in the region will also benefit, such as through enhanced access to charcoal supplies.

The technical staff of relevant government agencies, NGOs and other development partners will benefit from training, equipment and logistical support, so that they can better assist the populations and facilitate community-based natural resource management (CBNRM) efforts. The two governments will benefit from increased collaboration, sharing of information, experiences and technology, and harmonisation of policy and legislative approaches.

### **Social Criteria for Selecting Project Intervention Sites**

Although the villages should be selected through a participatory process, one should keep in mind that including villagers in this stage could raise expectations and create frustrations if their village is not chosen to participate in the project activities. Nonetheless, it is recommended that selection of specific villages within a target area be done through a participatory workshop to be held for groups of villages - at the Commune level in Mauritania or the Rural Community (*Communaute Rurale*) level in Senegal. These workshops would involve the participation of different stakeholder groups.

At these workshops the choice of participating villages will be based upon selection criteria. Such selection criteria need to be further developed by project staff, then agreed upon by workshop participants. The criteria should take into consideration:

- the resources to be conserved through land rehabilitation and improved management;
- the size of the village lands (*terroir*) to be managed by one or several villages;
- the existing experience of the villages in natural resource management,
- the impacts of previous projects, to see whether previous experience can be built upon, or whether project efforts will be the first such efforts in the village;
- local needs, priorities, problems, opportunities, and constraints.

**Table 5.1. Stakeholder Involvement in Different Phases of the Project**

Project Involvement	Local Population							Adminis- tration	NGO s	Decent- ralisati- on	Co-op/ EIG	Projects	Technica- l Services	Private Sector	Research & training institution s
	F	SP	T	FW	W	Y	FU								
PREPARATION	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
IMPLEMENTATION															
1. Rehab & Sustainable Mgt of Degraded Lands	+	++	+	++	+	+	++			++	+		++	+	
2. Reduction of Resource Pressure	+	+	+	++	+	+	+		++	++	+	+	++	+	
3. Wildfire Management		++	+	+	+	++	+		+	++	+	+	+++		++
4. Community NR-Based Revenue Gener.	+	+	+		++	++	++		++	++	+++	+	+	+	
5. Capacity Building		++	++	+	++	++	+	+	++	++	+	+	++		++
MONITORING	+	++	++	++	++	++	++		++	+++	++	+	++	+	
EVALUATION	+	++	++	++	++	++	++		++	++	++	+	++	+	+

**Legend:** F=Farmers, SP=Sedentary Pastoralists, T=Transhumants, FW=Forest Workers (e.g. wood cutters, charcoal makers), W=Women, Y=Youth, FU=Forest Users, Co-op= Cooperatives; EIG=Economic interest group

**Note:** The number of + indicated the intensity of the intervention by each stakeholder group.

**ANNEX 6. MAP OF PROJECT AREA**

## **ANNEX 7. PORTFOLIO CATEGORIZATION ANNEX**

**(For portfolio assessment purposes only, not to be submitted to Council).**

*Descriptive categories indicating project components, activities and participation types should be checked off by IA to assist the Secretariat in data tracking, and consistent portfolio assessment. The annex reflects questions related to the composition of our portfolios most frequently asked by Council Members, Conventions, and public stakeholders. It has been developed by the Secretariat to enable a more accurate reporting on these matters.*

*[Insert table here]*

## **ANNEX 8. ECOSYSTEMS AND BIODIVERSITY**

This annex presents a description of the five ecosystems of the project area and information on their biodiversity. The five natural ecosystems of the project area are the following:

- Ferlo/Djeri Shrub Steppe Sandplains (both countries.)
- Ferlo Shrub Savannah Lateritic Ecosystem (in Senegal)
- Lake and Pond Ecosystem
- Acacia Nilotica Bottomlands
- Raised Floodplain Ecosystem.

### **Ferlo/Djeri Shrub Steppe Sandplains (both countries.)**

This ecosystem covers by far the largest geographic area. It is the major ecosystem on the uplands on the Mauritanian side and covers all of the western Ferlo uplands on the Senegalese side. The soils are very sandy. The natural vegetation is a tree and shrub steppe characterised by *Acacia raddiana*, *Balanites aegyptiaca*, *Acacia senegal*, *Boscia senegalensis* and, in Mauritania, *Leptodinia pyrotechnica*. Sub-surface and within species diversity, though not well documented, is thought to be particularly diverse. The average annual rainfall over the past 30 years varies between about 150mm in the north to about 250mm in the south.

In addition, sub-surface and within species diversity, though not well documented, is known to be particularly diverse in arid ecosystems. Subterranean biodiversity plays a vital, although not fully understood, role in the ecosystem's function against desertification. Conservation of this ecosystem is important so that the role can be further studied and the subterranean biodiversity is conserved.

The ecosystem also provides habitat for the 100 kg sand tortoise (*Geochelone sulcata*), *Orcyterope afer*, ostrich, giraffe, bustard and dwarf bustard. The predominate land use is as rangelands for extensive livestock production. Land degradation is severe around water points and villages. The sandplains in Mauritania have some of the most severe land degradation in the entire project area with sizeable areas that have become, or are becoming, live dunes. Dune movement threatens not only villages, fields, roads and other infrastructure, but also the viability of the ecosystem itself as remaining tree and shrub cover is smothered under the moving sand.

By far the least degraded portion of this ecosystem is the roughly 70,000 km<sup>2</sup> area east of Kaedi known as the A'athf. Although used extensively late in the dry season by transhumant herders, the sedentary population is very low and the area is in exceptionally good condition. Little is known about the wildlife. This potential of this area for a faunal/pastoral reserve should be considered for separate funding outside of the present project.

### **Ferlo Shrub Savanna Lateritic Ecosystem**

This ecosystem is found in the southeastern portion of project area on the Senegalese side. It benefits from the highest rainfall and a relatively low population density. The crown cover of shrubs and small trees is greater as is their species diversity.

The faunal diversity of this area is correspondingly high and includes, or recently included: *Kobus kob*, *Redunca redunca*, *Tragelaphus scriptus*, *Hippotragus equinus*, *Oryx dammah*, *Loxodonta africana*, *Panthera leo*, *Panthera pardus*, *Acinonyx jubatus*, *Lycaon pictus*.

Land use is predominantly for extensive livestock production by both sedentary and transhumant pastoralists.

### **Lake and Pond Ecosystem**

Lakes and shallow ponds (mares) are found both on the floodplain of the Senegal River and at scattered points within the upland types. Although generally of small area, they are of generally very high importance for biodiversity conservation because of their use by migratory birds and as watering points for terrestrial fauna.

These areas have been impacted by the changed hydrology from dam construction, from degradation of the surrounding uplands resulting in sedimentation, from heavy use from livestock and from different forms of direct use of their biological resources.

### **Acacia Nilotica Bottomlands**

The Senegal River floodplain once included huge, lush, seasonally flooded stands dominated by *Acacia nilotica*. These stands have been very seriously reduced in size by drought, change in hydrology from dam construction, from conversion to irrigated agriculture and from overharvest, especially for charcoal production. The remaining natural stands are very important both for their biodiversity and for their economic value. Biological diversity is characterised by a high-degree of within-species variation representing adaptation to the variable and extreme conditions. Natural regeneration is generally absent or very limited due to overgrazing, but occurs easily and naturally when grazing is controlled on those sites that still benefit from seasonal flooding.

### **Raised Floodplain Ecosystem.**

Most of the rest of the floodplain that has not been developed for irrigated agriculture has been severely degraded, but some areas of relatively undisturbed dryland forest and savannah still remain. These areas rarely flood, but they have much higher species diversity than the upland types. The sandy clay soils types are very susceptible to severe degradation when the vegetative cover is lost, because they form a nearly impermeable crust that prevents most rainfall from infiltrating. This is a significant problem given the importance of the subterranean diversity in maintaining the ecological functions of the dryland ecosystem.

### **Faunal Diversity of Global Significance**



This table presents a list of the faunal biodiversity of the project area with the CITES ranking for each species and with an estimate of how rare or common each species was on the Senegal side of the river in 1990. The information is taken from the 1990 Master Plan for the Development of the Left Bank of the Senegal River.

The CITES ranking for each species corresponds to the following:

- Species listed on CITES Annex 1 are threatened with extinction at the global or planetary level.
- Annex 2 species are those that could be threatened by the trade in these species.
- Annex 3 species are species for which their trade is subject to certain controls.

Common names are given in French. The codes under the column titled Presence corresponds to the following legend:

E	Extremely rare	Extremite
TR	Very Rare	Tres rare
R	Rare	Rare
P	Reduced Population	Population reduite
A	Fairly common	Assez dommun
MM	Occasional in-migration du Mali	Migrateur occasionel from Mali

Scientific name	Common name	Presence	CITES Annex
<i>Kobus Kob</i>	Cobe de buffon	TR	2
<i>Redunca redunca</i>	Redunca	TR	
<i>Tragelaphus scriptus</i>	Guib harnaché	TR	2
<i>Hippopotamus amphibius</i>	Hippopotame	E	2
<i>Hippotragus equinus</i>	Hippotrague	MM	1
<i>Damaliscus korrigum</i>	Damalisque	E	2
<i>Giraffa camelopardalis</i>	Girafe	E	
<i>Phacochoerus aethiopicus</i>	Phacochère	P	
<i>Gazella rufifrons</i>	Gazelle à front roux	R	2
<i>Gazella dama</i>	Gazelle dama	MM	1
<i>Oryx dammah</i>	Oryx	E	1
<i>Loxodonta africana</i>	Eléphant	E/MM	1
<i>Panthera leo</i>	Lion	E/TR	2
<i>Panthera pardus</i>	Panthère	TR	1
<i>Acinonyx jubatus</i>	Guépard	E	1
<i>Lycaon pictus</i>	Lycaon	E	
<i>Crocuta crocuta</i>	Hyène tachetée	MM	2
<i>Canis aureus, adustus</i>	Chacal	A	3
<i>Cercopithecus aethiops</i>	Singe vert	P	2
<i>Erythrocebus patas</i>	Singe rouge	P	2
<i>Papio papio</i>	Cynocéphale	E	2
<i>Trichechus senegalensis</i>	Lamantin	TR	2
<i>Orycteropus afer</i>	Oryctérope	A	
<i>Crocodilus niloticus</i>	Crocodile du Nil	TR	1
<i>Struthio camelus</i>	Autruche	E	1

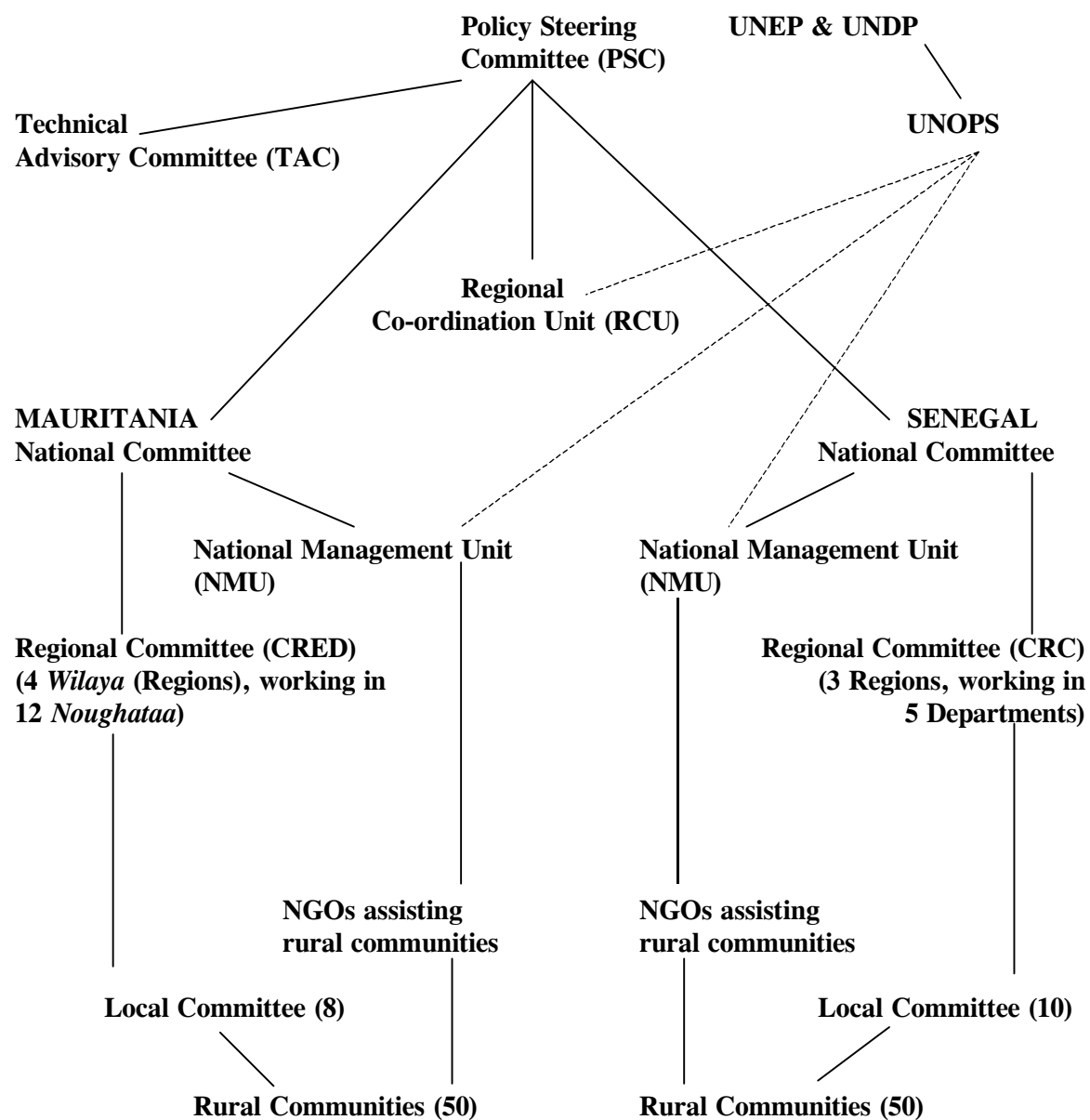
In addition to the above table, the following species are found:

#### In the Senegal River Valley

Haliaetus vocifer	Aigle pêcheur	2
Tybo alba	Effraies	2
<b>In the Sylvo-pastoral zone</b>		
	Grue couronnée	2
	Grande outarde	
Geochelone sulcata	Tortue terrestre	2
	Vautour	2
Sagittarius serpentarius	Messenger serpenteaire	2

## ANNEX 9. PROJECT ORGANISATIONAL STRUCTURE

Figure 9.1. Overall Project Structure



**Figure 9.2 Composition of Project Committees**

**Policy Steering Committee  
(MDRE & MEPN)**

Minister of Rural Development and Environment, Mauritania  
Minister of Environment and Nature Protection, Senegal  
2 GEF Focal Points, Senegal and Mauritania  
Regional Project Co-ordinator (Secretariat)  
2 representatives of local population  
2 NGO representatives  
1 representative each for UNDP & UNEP  
1 representative of World Bank  
2 representatives of Ministry of Planning

**Technical Advisory Committee**

Experts from scientific, research & training communities

**MAURITANIA**

**National Steering Committee**

GEF Focal Point (DEAR)  
National Project Co-ordinator  
1 representative of the local population  
1 representative of local collective  
1 NGO representative  
1 delegate to the National Assembly  
1 UNDP representative  
1 representative of World Bank

**Regional Environmental  
Delegation Committee (CRED)**

*Wali* (the Governor) [the Chair]  
1 representative of the local population  
1 representative of local collective  
1 NGO representative  
Regional Head, Environment  
Regional Head, Land Tenure System  
SONADER  
  
NPU Secretariat

**Departmental Committee for Development (CDD) Local Committee (CLOS)**

*Hakem* (Prefect)  
Inspectors  
Mayor  
1 representative of the local population  
1 representative of local commune  
1 NGO representative  
1 delegate to the National Assembly  
Representatives of NRM projects

**SENEGAL**

**National Steering Committee**

GEF Focal Point Representatives (CCV)  
National Project Co-ordinator  
1 representative of the local population  
1 representative of local collective  
1 NGO representative  
1 delegate to the National Assembly  
1 UNDP representative  
1 representative of World Bank

**Regional Committee (CROS)**

Governor  
President of the Regional Council (Chair)  
Regional Forestry Inspector  
1 representative of the local population  
1 representative of local collective  
1 NGO representative  
Regional Head, Agriculture  
Regional Head, Livestock Development  
Regional Head, Civil Engineering  
SAED  
NPU Secretariat

**ANNEX 10 - GOVERNMENT SUPPORT LETTERS**

**ANNEX 11   PROJECT BUDGET**

## ANNEX 12. PROJECT WORKPLAN

### Component 1: REHABILITATION AND SUSTAINABLE MANAGEMENT OF DEGRADED LANDS

1. This component is critical to the maintenance of globally significant biodiversity. It addresses all five ecosystems and is geared to the need to halt and reverse land degradation and restore the vitality of the ecosystems involved. The restoration of ecosystem health and the sustainable management of these ecosystems will provide an environment conducive to the at risk species identified in Annex 8 as well as to other species, both surface and sub-surface. In addition, land and vegetation restoration will increase carbon sequestration and reduce albedo.
2. The activities include participatory rehabilitation and management of village lands (*terroir*), gazetted forests (*foret classees*), of live dunes and of wetlands. The dunes will generally be part of a village *terroir*. All work will be participatory efforts with resource user groups that request project assistance. A range of rehabilitation techniques have already been used in the area and their costs and effectiveness vary widely. Project staff will review these efforts at project start-up and will continually seek to test and improve upon these techniques during the life-of-project. Two of the technical areas that will receive special attention are dune stabilisation and fencing techniques. Trials of solar panel-powered single or double strand electric fencing and live fencing trials will be conducted as alternatives to the more conventional and expensive types of wire mesh fencing.

**Table 1: Rehabilitation and Sustainable Management of Degraded Lands**  
**Matrix of Component Activities, Expected Outputs and Timing**

Activities	Expected Outputs	Timing of Expected Outputs (by end of)
1. Regeneration of dune vegetation cover	1. 2500 ha restored (1000 ha in Senegal and 1500 ha in Mauritania) .	1. August 2003
2. Regeneration of village sylvo-pastoral areas.	2. 1300 ha in village sylvo-pastoral areas restored.(800 ha in Senegal and 500 ha in Mauritania). Increase in fodder.	2. October 2003
3. Regeneration of gazetted forests.	3. 2000 ha of gazetted forest restored.	3. August 2003
4. Rehabilitation of wetlands.	4. 500 ha of wetlands rehabilitated (300 ha in Senegal and 200 ha in Mauritania).	4. May 2000
5. Biodiversity inventory and analysis of Management potential.	5. Inventory of sites covering 100000 ha.	5. May 2004
6. Development of management techniques.	6. Training of stakeholders to apply and master rehabilitation tools and techniques and review of existing techniques and continual testing for improvement including trials for specific techniques.	6. June 2003
7. Participatory development and implementation of landuse Management, technologies and plans (gestion du terroir).	7. Preparation and implementation of management plans for selected sites.	7. June 2003



**Table 1.2 Rehabilitation and Sustainable Management of Degraded Lands  
Institutional Responsibility for Component by Country**

<b>Components</b>	<b>Country</b>	<b>Responsible Organization</b>
1. Regeneration of dune vegetation cover.	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
2. Regeneration of village sylvo-pastoral areas.	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
3. Regeneration of gazetted forests.	Mauritania	Government Technical Services
	Senegal	Government Technical Services
4. Rehabilitation of wetlands.	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
5. Biodiversity inventory and Analysis of Management Potential	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
6. Development of management techniques.	Mauritania	Research Institutions
	Senegal	Research Institutions
7. Participatory development and implementation of landuse.	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
8. Management, technologies and plans (gestion du terroir)	Mauritania	Research Institutions
	Senegal	Research Institutions

- Non-Governmental Organisations
- ◆ Economic Benefit Groups and Cooperatives

## Component 2 REDUCTION OF RESOURCE PRESSURE

This component seeks to reduce pressures on the range and forest resources through supply and demand alternatives. For the past 20 years, urban charcoal supply in Mauritania has come primarily from trees that died in the severe droughts of the early 70s and 80s. This resource is nearly gone and pressures for unsustainable harvests of live trees will almost certainly further threaten the already degraded ecosystems. The feasibility studies for densified fuels and tests/demonstrations of intensive management options for wood fuels production in irrigated perimeters will seek to develop options that could lessen demands on the existing forest resources. The promotion of supplemental feeding of range-reared livestock described earlier is also part of this component.

**Table 2: Reduction of Resource Pressure: Matrix of Component Activities, Expected Outputs and Timing**

Activities	Expected Outputs	Timing of Expected Outputs (by end of)
1. Demonstration and dissemination of feedlot techniques.	1. Creation of 10 pilot farms are created.	1. January 2004
2. Feasibility study of biomass briquettes for household energy alternatives (typha).	2. Alternatives to the present charcoal provided.	2. June 2000
3. Development of intensive silviculture in irrigated perimeters of agricultural areas.	3. Creation of 1000 ha intensive silviculture and 600 km linear intensive silviculture plantations.	3. January 2004

**Table 2.1 Reduction of Resource Pressure: Institutional Responsibility for Component by Country**

Components	Country	Responsible Organization
1. Demonstration and dissemination of feedlot techniques	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
2. Feasibility study of biomass briquettes for household energy alternatives (typha)	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
3. Development of intensive silviculture in irrigated perimeters of agricultural areas	Mauritania	Research Institutions
	Senegal	Research Institutions

### Component 3: WILDFIRE MANAGEMENT FOR ENVIRONMENTAL PROTECTION

3. Wildfire threatens the biodiversity and rangelands of the least degraded portions of the project areas. Livestock owners are increasingly willing to invest in fire prevention, but technical quality and cost effectiveness of prevention and suppression techniques vary widely. The project will fund a range of activities to improve fire management techniques, to improve the existing firebreak system, to train and equip technicians and villagers, to expand the use of an already functional satellite-based, detection system and to improve fire suppression. Emphasis will be put on continually seeking to improve cost-effectiveness and sustainability.

**Table 3: Management of Wildfire for Environmental Protection**  
**Matrix of Component Activities, Expected Outputs and Timing**

Activities	Expected Outputs	Timing of Expected Outputs (By end of:)
1. Training/Awareness	1. Improvement of the capacity	1. January 2004
2. Increasing the efficiency of the firebreak network	2. Establishment of 700 km of firebreaks, (Senegal: 500 km; Mauritania.	2. May 2004
3. Implement/improve use of rapid alert system	3. Operational Communication system established	3. September 2003
4. Practice/apply fire suppression techniques	4. Community posts technical service available to the local people to prevent and fight fires	4. March 2000 March 2001 March 2002 March 2003
5. Organize and equip village fire fighting committees	5. 100 committees mobilised and provided with equipment	5. September 2000 March 2002 March 2003

**Table 3.1. Management of Wildfire for Environmental Protection**  
**Institutional Responsibility for Component by Country**

<b>Components</b>	<b>Country</b>	<b>Responsible Organization</b>
1. Training/Awareness	Mauritania	Government Technical Services
	Senegal	Government Technical Services
2. Increasing the efficiency of the firebreak network	Mauritania	Government Technical Services
	Senegal	Government Technical Services
3. Implement/improve use of rapid alert/system	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
4. Practice/apply fire Suppression techniques	Mauritania	NGO s, GIE
	Senegal	NGO s, GIE
5. Organize and equip village fire fighting committees	Mauritania	NGO s, GIE
	Senegal	NGO s, GIE

- Non-Governmental Organisations
- ♦ Economic Benefit Groups and Cooperatives

#### Component 4. COMMUNITY NATURAL RESOURCE-BASED REVENUE GENERATION

4. This component provides the resources and the infrastructure to develop replicable participatory management systems with the goal of generating alternative revenue streams for local populations, while preserving biological diversity and reversing land degradation trends. The products will be directly related to ecosystem management issues, for example sustainable use of secondary forest and woodland products. The process will begin with the identification of specific capacity-building needs and the selection of sites through an exploratory PRA. Efforts will be made to develop or strengthen community-level organisations for such activities. At the same time appropriate information, education and communication (IEC) programmes will be adapted and utilised. Selected production opportunities will be investigated and credit mechanisms established where needed. The final stage will be the implementation of production systems and marketing of the products.

**Table 4: Community-Based Natural Resource Revenue Generation  
Matrix of Component Activities, Expected Outputs and Timing**

Activities	Expected Outputs	Timing of Expected Outputs (by end of )
1. Create co-operatives or socio-professional groups based on preliminary surveys.	1. 100 Operational groups constituted.	1. December 2000
2. Identify needs for capacity building through an exploratory.	2. 100 PRAS undertaken in villages.	2. September 1999
3. Provide operational equipment and institutional support.	3. Provision of operational equipment to villages.	3. September 2001
4. Undertake a thematic inventory of existing IEC programmes in the subregion, elaborate, adopt and implement an IEC programme.	4. Elaboration and implementation of information, education and communication (IEC) programs including use of radio and television Convene 300 village training session.	4. December 2003
5. Dissemination of lessons learned at national and sub-regional level.	5. Competitions. Zonal training sessions.	5. December 2003
6. Implement alternative credit mechanisms.	6. Creation of 100 management committees . Establishment of revolving funds to facilitate investment in alternative livelihoods.	6. September 2003

**Table 4.2: Community Based Natural Resource Revenue Generation  
Institutional Responsibility for Component by Country**

Components	Country	Responsible Organization
1. Create co-operatives or socio-professional groups based on preliminary surveys.	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
2. Identify needs for capacity building through an exploratory.	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
3. Provide operational equipment and institutional support.	Mauritania	UNOPS
	Senegal	UNOPS
4. Dissemination of lessons learned at national and sub-regional level.	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
5. Implement alternative credit mechanisms.	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE

- Non-Governmental Organisations
- ◆ Economic Benefit Groups and Cooperatives

## **Component 5 CAPACITY BUILDING**

This component is critical to the success of the whole project. The goal is to provide an enhanced co-ordinated ecosystem management capacity at all levels. The purpose is to enlist all stakeholders in an ongoing process of sustainable management after the project ends and thus provide the basis for project land and water management, and halt biodiversity loss. Each of the other components includes capacity building, especially at the local level. Component 5 enhances this work at the village level, and also addresses national and subregional capacity building and co-ordination issues.

The detailed activities include attention to the legal and regulatory issues concerning natural resource management, information, transfer between countries and groups within countries and the development of databases on technologies used successfully in the region and in similar regions elsewhere. The component provides some logistical and planning support at all levels and provides for feedback mechanisms at local, regional and subregional levels. Finally it provides for the co-ordination mechanisms, which will allow the sharing of complementary approaches and technologies for co-operative ecosystem management activities between the two countries.

This latter component includes the co-ordination of legislative and regulatory issues in the transborder area. This is very important to avoid differential degradation and resource loss that can easily result from cross-border differences.

Table 5: Capacity Building: Matrix Component Activity, Expected Outputs and Timing

Activities	Expected Outputs	Timing of Expected Outputs (by end of)
1 Adapt/support elaboration of regulatory texts and legislation for natural resource management.	1 30 consultations or meetings held to harmonise and adopt the texts	1. December 2000
2 Share experiences through workshops at the village level, civil society and administration	2 10 meetings of project co-ordinator and staff responsible for national zones  6 workshops for technical staff and 6 workshops for villagers  12 study tours for technical staff  14 inter-village visits for villagers	
3 Develop a database on existing technologies; test and disseminate adopted technologies	3 Establishment of a database Number of technologies inventoried	3. December 2001
4 Provision of logistical support; computing, mapping, photography	4 Production of maps, photos and other supporting materials	
5 Reproduce and translate documents into local languages	5 Approximately 10 documents produced, simplified and translated	
6 Support the monitoring and evaluation at the local, regional, national and subregional levels	6 The establishment of a participatory monitoring and evaluation system	6. June 2003














**Table 5.1: Capacity Building: Institutional Responsibility for Component by Country**







<b>Components</b>	<b>Country</b>	<b>Responsible Organization</b>
1. Adapt/support elaboration of regulatory texts and legislation for natural resource management	Mauritania	Private Enterprises and Operators
	Senegal	Private Enterprises and Operators
2. Share experiences through workshops at the village level, civil society and administration	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
3. Develop a database on existing technologies; test and disseminate adopted technologies	Mauritania	NGOs, GIE
	Senegal	NGOs, GIE
4. Provision of logistical support; computing, mapping, photography	Mauritania	Research Institutions
	Senegal	Research Institutions
5. Reproduce and translate documents into local languages	Mauritania	
	Senegal	
6. Support the monitoring and evaluation at the local, regional, national and subregional levels	Mauritania	Government Technical Services
	Senegal	Government Technical Services

- Non-Governmental Organisations
- ♦ Economic Benefit Groups and Cooperatives



ACTIVITIES		YEAR I				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5.	Biodiversity inventory analysis of management potential																				
6.	Development of management techniques																				
7.	Participatory development and implementation of land use management plans																				
C	Component 2																				
1.	Demonstration and dissemination of feedlot techniques																				
2.	Feasibility study of biomass briquettes for household energy alternative ( <i>typha</i> )																				
3.	Development of intensive silviculture in irrigated perimeters of agricultural areas																				
D	Component 3																				
1.	Training awareness																				

ACTIVITIES	YEAR I				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	4
2. Increasing the efficiency of firebreak network			←																	→
3. Implement/improve use of a rapid alert system		←																		→
4. Apply intervention techniques			—				—				—				—					
5. Organise and equip village fighting committees			↔								↔				↔					
<b>E. Component 4</b>																				
1. Create cooperatives or socio-professional groups based on preliminary surveys			←				→													
2. Identify needs for capacity-building through an exploratory PRA	↔																			
3. Provide operational equipment and institutional support			←									→								

ACTIVITIES	YEAR I				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4. Undertake a thematic inventory of existing IEC programmes in the sub-region; elaborate, and adopt and programme Implement IEC programmes																				
5. Disseminate lessons learned at national and sub-regional levels																				
6. Implement alternative credit mechanisms																				
<b>F. Component 5</b>																				
1. Adapt/support elaboration of regulatory texts and legislation for natural resource management																				

ACTIVITIES	YEAR I				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2. Share experiences through workshops at the village level, civil society and administration																				
3. Develop a database on existing technologies utilised Test and disseminate adopted technologies Carry out logistical support computing, mapping, photography etc																				
4. Provision of logistical support computing, mapping, photography, etc.																				
5. Reproduce and translate documents into local languages																				

6.	Support the monitoring and evaluation at the local, regional, national and subregional levels					
----	-----------------------------------------------------------------------------------------------	--	--	--	--	--

## Annex 13. Terms of Reference for Project Committees

### Project Steering Committee

The Project Steering Committee is the regional policy, guidance and programming committee that brings together representatives of the two countries and their development partners. It meets on a yearly basis, alternately in each of the two countries, and is chaired alternately by the two countries. Extraordinary meetings can be requested by any one of the countries or implementing agencies.

#### Composition

##### *Mauritania*

The Minister of Rural Development and Environment  
Representatives of Local Communities and Local Elected Officials  
Representatives of local NGO's, village associations and other local groups.

##### *Senegal*

The Minister of Environment and Nature Protection  
Representatives of Local Communities and Local Elected Officials  
Representatives of local NGO's, village associations and other local groups.

##### *OMVS*

The High Commissioner of OMVS

##### *Donors and Implementing Agencies*

UNDP  
UNEP  
UNOPS

*Secretariat* – provided by the Regional Coordinating Unit

#### **Roles and Responsibilities**

Provide overall policy guidance to the project.

Review the annual work programme and annual budget.

Ensure effective communication and consultation between all parties at regional level.

Ensure favourable conditions for project implementation between the two countries including: ensuring free passage of project persons and their equipment: appropriate administrative arrangements for bi-national agreements, protocols, conventions, procurement, etc.

Facilitate the easy and speedy disbursement of government contributions to the project including financial, personnel and material contributions.

Facilitate the execution of project activities.



## **Project Technical Committee**

The Technical Advisory Committee will provide expert technical guidance directly to all project units, the project steering committee and the national project units. It will be established and managed by the Regional Project Unit in consultation with the National Project Units.

### **Composition**

Six scientists, technical experts and practitioners of international repute drawn from the participating countries in fields directly related to project activities. Members should be selected on the basis of their expertise alone with no reference to their country of origin. Additional specialists, both national and international, may be drawn in or consulted on an ad-hoc basis in order to add specific expertise for particular meetings or to address specific problems.

### **Roles and Responsibilities**

- Provide scientific and technical advice on project related activities
- Review technical documents, activities, etc. that are being produced or carried out by the project
- Advise on adjustments to the project strategy
- Facilitate access to scientific and technical information and expertise relevant to the projects activities.
- Advise on opportunities for technical learning and lessons.

## **Project National Committees**

The national committee in each country is a consultative body in each country that harmonizes national activities related to the project. It meets on a yearly basis prior to the project steering committee and is chaired in each of the respective countries by the Ministry responsible for the Environment (Ministry of Rural Development and Environment – Mauritania, Ministry of Environment and Nature Protection - Senegal). Extraordinary meetings can be requested by any one of the members of the committee.

### Composition

Minister responsible for the Environment

Representatives of all government agencies and institutions participating in the project

The governors (and wali) of all regions involved in the project

Representatives of Local Communities and Local Elected Officials

Representatives of local NGO's, village associations and other local groups

UNDP Country office

UNEP

Secretariat - The National Coordinating Unit

### Roles and Responsibilities

Adapt and advise on the project policy and strategy at national level.

Review the annual work programme and annual budget of the National Coordinating Unit

Ensure effective communication and consultation between all parties at regional level.

Ensure favourable conditions for project implementation at national levels including: ensuring free passage of project persons and their equipment: appropriate administrative arrangements for bi-national agreements, protocols, conventions, procurement, etc.

Ensure the easy and speedy disbursement of government contributions to the project including financial, personnel and material contributions.

Ensure the execution of all project activities at the national level.

## **Regional Advisory Committees**

Advisory committees based on existing consultative structures in each local administrative region or Wilaya ( CRC or Regional Consultation Framework in Senegal, and CRED or Regional Environmental Development Committee in Mauritania) will advise, guide and harmonize activities at local regional levels. Regional Advisory Committees will be chaired by the Governor or Wali, and include representatives of all relevant agencies and institutions, NGO's, local elected officials, village associations and communities. They should meet quarterly and be serviced by the national coordinating units of the project.

## **Local Advisory Committees**

Local advisory committees will serve as local consultative mechanisms and advise, guide and harmonize activities at local levels. Local Advisory Committees will be chaired by the local Prefet, sous-Prefet or Hakem. They will include representatives of all relevant agencies and institutions, NGO's, local elected officials, village associations and communities. They should meet quarterly and be serviced by the national coordinating units of the project.

## **Annex 14. Terms of Reference for Project Units**

### **The Regional Coordinating Unit (RCU)**

The Regional Coordinating Unit is responsible for overall project coordination, provision of technical support to the national project management units, day to day management and coordination of all regional activities, technical management and execution of specific project components, and financial administration of project funds assigned to the RCU special account. The RCU works directly under the supervision of, and is responsible to, the project steering committee.

It will be staffed by:

- 1 Regional Coordinator and Natural Resources Management Specialist
- 1 Rural Development Specialist / Assistant Regional Coordinator
- 1 Technical Expert (the profile of this expert may change during life of project; the first two years it will be a biodiversity specialist)
- Supporting Personnel (Financial Assistant, Secretary, clerk, driver).

### **Role and responsibilities**

- Ensure project coordination and the achievement of project activities in the two countries
- Coordinate the preparation of both long term and annual project work plans and budgets.
- Coordinate with and provide technical support to the NPU in respect to the implementation of project activities
- Ensure technical coordination and harmonization of implementing approaches of the NPU.
- Prepare terms of reference and contracts for international consultants and assist the NPU in elaborating contracts for services delivery
- Assist in the identification and selection of international and local consultants to carry out specific tasks of the project
- Ensure technical and administrative support to project international consultants working in the field, and make necessary institutional arrangements as required to facilitate a good accomplishment of their work
- Develop technical and pedagogical guidelines and training materials for the NPU
- Coordinate the execution of technical workshops, seminars and training sessions intended to advance understanding and ensure synergies between project activities in the two countries.
- Establish guidelines on procedures, performance and reporting of project activities
- Maintain databases on project-generated data on land degradation and biodiversity which interface with NPU databases as well as other existing national and regional databases.
- Keep PSC regularly informed about the implementation of project activities
- Serve as secretariat of the PSC
- Prepare periodic reports for Governments, the donors and the PSC
- Oversee the production of technical reports and publications
- Coordinate the preparation of monitoring and evaluation missions, and the mid-term and final evaluations
- Manage project equipment and material assigned to the RCU
- Establish and maintain financial accounts for the regional portions of the project
- Coordinate the preparation of quarterly disbursement plans and expenditure reports, annual financial reports, and other financial plans and reports as necessary.

## **The National Project Unit (NPU)**

The National Project Unit (NPU) is responsible for all project implementation at the national level including: day to day management and coordination of all activities; technical management and execution of all national project components; and financial administration of all national project funds. The NPU works directly under the supervision of the National Coordinating Committee.

It will be staffed by:

- 1 Project Manager and Expert in natural resources management
- 1 Rural sociologist / communications expert\*
- 1 Expert in land degradation / range management / arid land social forestry\*
- 1 Expert in pastoral systems\*
- Support personnel including a Financial Assistant, Secretary, clerk, driver.

### **Roles and Responsibilities**

- Ensure the achievement of project activities at the national level
- Prepare both long term and annual national work plans and budgets.
- Prepare terms of reference, MOU and contracts and identify, select, contract and oversee the work of project partners (NGO, Villages associations, private sector, government technical services, etc)
- Reinforce the technical capacities of government technical services, NGO's, local communities and other project partners by means of equipment, technical assistance, workshops, seminars and training sessions
- Identify needs of technical and pedagogical tools to be used by field technicians and local populations
- Assist the RCU in the identification and selection of international consultants
- Facilitate and provide support services and institutional contacts for consultants, project partners and contractors
- Organize workshops, seminars and training sessions
- Maintain databases on project-generated data on land degradation and biodiversity which interface with the PCU databases
- Ensure information flow between all participating institutions at national, regional and local levels
- Keep NCC and the PCU regularly informed about the implementation of project activities
- Serve as secretariat of the NCC
- Prepare periodic reports as necessary
- Produce technical reports and publications as necessary
- Participate in and provide logistical support to monitoring and evaluation missions, and the mid-term and final evaluations
- Manage project personnel, equipment and material assigned to the NPU
- Establish and maintain financial accounts for the national portions of the project
- Prepare quarterly disbursement plans and expenditure reports, annual financial reports, and other financial plans and reports as necessary.

---

\* 1 of these posts will be funded by the project and 2 will be seconded from government

## **Annex 15. Terms of Reference for Core Staff**

### **The Regional Coordinator**

The regional Coordinator will be recruited from Mauritania. He / she will be directly responsible to the Project Steering Committee and the Project Executing Agency for providing technical coordination and support to project activities in the two countries, for ensuring the highest possible levels of technical excellence and achievement in all project activities, and for drawing lessons for other biodiversity and land degradation projects.

### **Responsibilities**

- Coordination of project activities in the two countries
- Liaison with national governments to ensure the smooth functioning of project activities
- Liaison with international organizations and institutions to ensure complementarity and synergy and facilitate the exchange of technical skills and learning
- Provision of technical support to the two national project units
- Providing managerial support to the NPU's through assistance in project planning and management
- Identifying needs and opportunities for specialist technical inputs
- In collaboration with the NPU preparing TOR, identifying, selecting, recruiting and overseeing international experts
- Assisting the NPU's in preparing TOR, identifying, selecting, recruiting and supervizing national and local consultants
- In collaboration with the NPU's identifying special training and capacity development needs and developing specialist technical training materials, seminars and workshops
- Establishing procedural guidelines and standards for technical activities and reporting
- In collaboration with the NPU's establishing and maintaining a database of project generated data on land degradation and biodiversity which interfaces with both NPU and other national and regional databases
- Developing and producing technical reports, guidelines, case studies and the like for broader dissemination outside the project area
- Financial control of regional project inputs
- Management and oversight of personnel, equipment and materials assigned to the regional unit
- Coordinating international procurement
- Coordinating the development of project quarterly, annual and other periodic workplans and technical and financial reports
- Serving as secretary to the regional coordinating unit
- Convening the Technical Advisory Committee
- Preparing, coordinating and participating in annual project monitoring and mid-term and final project evaluation exercises

### **Qualifications and Profile**

A technical background at a PhD or equivalent level in natural resources management, in particular forestry, rangeland management, land use planning, environmental management, land degradation, rehabilitation of degraded drylands, or agronomy.

At least 10 years of professional experience at a senior technical level, of which at least 5 should have been as the overall manager of a rural development or forestry project.

Fluent in French and have an excellent comprehension of, and ability to use, English

Have excellent human and computer skills

## **Participatory Rural Development Specialist / Assistant Regional Coordinator**

The rural development specialist / assistant regional coordinator will be recruited from Senegal. His / her function will be to provide specialist technical inputs in participatory rural development methodologies in support of the activities of the NPU's. The specialist will also serve as assistant regional coordinator.

### **Responsibilities**

- Provision of technical support in the area of participatory rural development and communication to the two national project units
- Assisting the NPU's in the planning, implementation and assessment of participatory activities and communications
- Identifying needs and opportunities for specialist technical inputs in the area of participatory planning, management and communications
- Assisting the NPU's in preparing TOR and contracts, and identifying, selecting, recruiting and supervising experts and other institutions to perform participatory and communication activities
- In collaboration with the NPU's identifying special training and capacity development needs and developing specialist technical training materials, seminars and workshops in participation and communication
- Establishing standards and guidelines for participatory and communication activities
- In collaboration with the NPU's establishing and maintaining a database of relevant sociological data in the project area
- Developing and producing technical reports, guidelines, case studies and the like in participation and communication for broader dissemination outside the project area
- Assisting the Project Coordinator in all matters including, but not limited to: financial control of regional project inputs: management and oversight of personnel, equipment and materials assigned to the regional unit; coordinating international procurement; coordinating the development of project quarterly, annual and other periodic workplans and technical and financial reports; servicing the Project Steering committee and Technical Advisory Committee; preparing, coordinating and participating in annual project monitoring and mid-term and final project evaluation exercises

### **Qualifications and Profile**

A technical background at a PhD or equivalent level in participatory rural development, rural sociology, agricultural extension or communication.

At least 10 years of professional experience, of which at least 5 should have been at a senior technical level in a rural development, rangeland management or forestry project.

Fluent in French and have an excellent comprehension of, and ability to use, English

Have excellent human and computer skills

### **Project Technical Specialist**

The regional technical specialist will provide specialist technical inputs to the project in support of the activities of the NPU's. The expert will be recruited on an annual basis and it is anticipated that the profile of the specialist will change over the life of the project as the project technical needs evolve. Initially the specialist will be an expert in land degradation and rehabilitation of agro-sylvo-pastoral ecosystems. It is anticipated that later an agricultural

or natural resource economist will be required instead.

### **Responsibilities**

- Provision of technical support in the area of the specialists technical field to the two national project units
- Assisting the NPU's in the planning, implementation and assessment of activities the specialists technical field
- Identifying needs and opportunities for additional specialist technical inputs in the area of the specialists technical field
- Assisting the NPU's in preparing TOR and contracts, and identifying, selecting, recruiting and supervizing experts and other institutions to perform activities in the specialists technical field
- In collaboration with the NPU's identifying special training and capacity development needs and developing specialist technical training materials, seminars and workshops
- Establishing standards and guidelines
- In collaboration with the NPU's establishing and maintaining a database of relevant data in the project area
- Developing and producing technical reports, guidelines, case studies and the like for broader dissemination outside the project area

### **Qualifications and Profile**

A technical background at a PhD or equivalent level in the particular specialist field required.

At least 10 years of professional experience, of which at least 5 should have been at a senior technical level in sustainable rural development

Fluent in French and have and excellent comprehension of, and ability to use, English

Have excellent human and computer skills

## **The National Project Unit Manager**

The National Project Unit Manager will be directly responsible to the Project Steering Committee and the Project Executing Agency for the implementation of all national project activities.

### **Responsibilities**

- Supervision and management of all project activities in the country
- Liaison with national and local government and other institutions to ensure the smooth functioning of project activities
- Planning and reporting on all project activities including quarterly, annual, and longer term plans and reports.
- Identifying, recruiting and supervizing all national project staff and consultants
- Identifying, contracting and supervizing all contractees
- Identifying, negotiating and developing MOU and other agreements with all national and local project cooperating agencies, institutions, NGO's, village groups, etc.
- In collaboration with the PCU, identifying, selecting, recruiting and supervizing national and local consultants
- In collaboration with the PCU identifying special training and capacity development needs
- Organize and coordinate workshops, meetings and training sessions.
- Ensuring information flow and distribution of all relevant project reports and documents within both the project and other national bodies
- Financial control of all national project inputs
- Management and oversight of personnel, equipment and materials assigned to the national unit
- Undertaking national procurement
- Preparing quarterly, annual and other periodic workplans and technical and financial reports
- Serving as secretary to the Project National Committee
- Establishing and supporting the Local Advisory Committees
- Supporting and participating in annual project monitoring and mid-term and final project evaluation exercises

### **Qualifications and Profile**

A technical background at a PhD or equivalent level in natural resources management, participatory rural development, or similar field.

At least 10 years of professional experience at a senior technical level, of which at least 5 should have been as the overall manager of a rural development or forestry project.

Fluent in French and have and excellent comprehension of, and ability to use, English

Have excellent human and computer skills



## **National Project Specialists**

Each national project unit will have 3 experts of which 2 will be seconded by government and 1 will be paid by the project. The expert paid by the project will also serve as Assistant to the National Project Manager.

### **Rural Sociologist / socio-economist / communications expert**

#### **Responsibilities**

Coordinate activities relating to participatory rural appraisals, consultations, communications, etc.

Provide technical monitoring of all communications activities

Identify capacity building and training needs

Identify technical expert support needs

Produce technical and other reports on activities

#### **Qualifications and Profile**

PhD, MSC or DEA in the appropriate field

At least 5 years of field technical experience at the project level

### **Expert in Land Degradation / range management / arid land social forestry**

#### **Responsibilities**

Coordinate activities relating to rehabilitation of degraded lands through improved land use allocation, grazing land management, tree planting, and the like

Provide technical monitoring of all activities

Identify capacity building and training needs

Identify technical expert support needs

Produce technical and other reports on activities

#### **Qualifications and Profile**

PhD, MSC or DEA in the appropriate field

At least 5 years of field technical experience at the project level

### **Expert in pastoral systems**

#### **Responsibilities**

Coordinate activities relating to pastoral systems management

Provide technical monitoring of all activities

Identify capacity building and training needs

Identify technical expert support needs

Produce technical and other reports on activities

#### **Qualifications and Profile**

PhD, MSC or DEA in the appropriate field

At least 5 years of field technical experience at the project level

### **Support Staff**

Project Units at regional and national levels will include the following support staff to be recruited locally:

Accountant  
Secretary  
Driver  
Clerck  
Gardian

## **Annex 16. Roles and Responsibilities of Partner Organizations**

### **Regional Services of Forestry and Environment**

The decentralized structures of the regional offices of MRDE and MEPN are the main project interlocutors within the territorial limits of the Wilaya or the Region. In Mauritania, the Environment Officer will assume this function under the supervision of the regional delegate of the MDRE, whereas, in Senegal, it is the IREF who will act so. The two heads of these two structures will ensure the role of focal point of the project at the regional level. For this purpose, they will perform the following functions :

- Follow-up and implementation of the project.
- Implementation of Local Advisory Committee decisions .
- Liaison between the project and the LFC
- Facilitate project implementation and field activities execution in collaboration with the inspections/departemental sectors and the project field workers (antenna)

### **Departmental and Local Forestry Administrative Units**

The role of these structures at the Moughataas and Departements and Arrondissements levels will be mainly technical, ie.:

- Oversee the synergy between the different intervening parties at the project site
- Provide information and carry out awareness raising within the beneficiary populations
- Provide institutional support to the project field workers
- Provide regular information to the supervisory office, to the local authority, and the project manager on the implementation and any other constraint related to the project
- Provide to the project manager reports on field visits and monthly reports on activities

### **The Territorial Administrative Authorities**

Their roles are to:

- Facilitate project functioning through provision of a mechanism for consultation and coordination;
- Facilitate administrative procedures ;
- Prevent and arbitrate conflicts in natural resources management between the different beneficiaries ;
- Legalize, as necessary, the creation of certain project units. In this respect, the administrative authorities will serve as facilitators to the project implementation activities and should be considered as part of project implementers whom the Project staff ought to work with.

### **Local elected officials**

Being elected by local communities, the local elected officials play a vital role of facilitators and resource persons in the implementation of project activities whom the project can benefit from.

### **The Private Sector**

The private institutions and operators are also project beneficiaries in implementing punctual tasks (surveys, various works, etc.) on the basis of contracts related to their field of competence. They can also be direct beneficiaries for certain project activities.

**NGO's and Socio-professional organizations**

These play a key role as intermediary structures in project implementation. They are contracted to implement particular project activities to benefit local populations. They can also be direct beneficiaries. Furthermore, they participate at all levels of consultation (villagers committees, Local Advisory Committees, National Committees and the Project Steering Committee) regarding the definition of approaches, programming and guidance to the project activities.

**Villagers Associations**

They are the main beneficiaries and actors responsible for implementation at the ground level. Various groups exist with various forms of organization but include: GIE, cooperatives, men and women's groups etc.) They participate in the guidance and coordination of the project activities through their local elected representatives in the different consultative committees (Local Advisory Committee, National Committee, Project Steering Committee).

## ANNEX 17: PROJECT MANAGEMENT ARRANGEMENTS

### *Overall Institutional Framework*

1. The project will be executed by UNOPS, under the supervision of the United Nations Environment Programme (UNEP) and the United Nations Development Programme (UNDP) as GEF Implementing Agencies; and the guidance of the Policy Steering Committee (PSC) which includes the two lead government agencies: the Directorate of Environment and Rural Infrastructure, Government of Mauritania, and the Greenbelt Co-ordination Unit, Ministry of Environment and Natural Protection, Government of Senegal.
2. While the project will be jointly supervised by the two implementing agencies, UNDP will take primary responsibility for supervision of the national components while UNEP will take primary responsibility for supervision of the regional component. Execution will be undertaken by UNOPS.
3. The PSC will provide overall policy guidance, review implementation progress, and evaluate results. The PSC will be comprised of the Ministers of the Ministry of Environment and Nature Protection of Senegal and the Ministry of Rural, Development and Environment in Mauritania; representatives of the communities Elected Officials, one from each of the participating countries; representatives of SPO, one from each of the participating countries and a representative from the UNOPS, UNDP and UNEP. The technical Advisory Committee (TAC) will support the work of the PSC. Its meetings will take place annually or as often as necessary, in order to evaluate the project status and to make adjustments for the appropriate technical implementation of the project.
4. Responsible institutions in the field will be the Regional Co-ordinating Unit (RCU) to be established in Saint Louis, Senegal and the National Management Units (NMU's) designated by each participating country. The RCU will be responsible for overall coordination of project activities and the provision of technical support to the NMU's. The NMU will be responsible for project execution at the national level, working in close cooperation with the RCU.

### *United Nations Office for Project Services (UNOPS)*

5. UNOPS, will execute the project under the supervision of UNEP and UNDP as GEF Implementing Agencies for the project. It will be responsible for overall project management and for the funding of the RCU and NPU's, with the grant from the GEF Trust Fund, and any other funds, provided by the Implementing Agencies for the project.
6. UNOPS will be responsible for performing the following functions:

#### **A. Managerial**

- i) Oversee the development and implementation of Annual Operating Plans and long-term workplans for the project.
- ii) Develop and maintain overall project management procedures.
- iii) Establish guidelines for the RCU and NPU quarterly activity, technical, and financial reports.
- iv) Prepare semi-annual progress reports incorporating inputs prepared by the RCU and NPU's and conduct annual evaluations of their work performance.

- v) In consultation with the RCU, the NPU's, the Implementing Agencies and the PSC, undertake management or institutional changes when needed. Major changes would have to be cleared by the Implementing Agencies.
- vi) Approve terms for procurement of equipment and contracts for services of consultant to be executed by the RCU and the NMUs.

## **B. Technical**

- i) Review and approve terms of reference and selection for consultancies and other services under the responsibility of the RCU and NMUs.
- ii) Review and approve all project documents and publications, including technical reports.
- iii) Review consultant reports, training workshop plans and public education materials.

## **C. Financial**

The UNOPS will be responsible for the funding, received from the GEF contribution, and will undertake the following: (a) the costs of operating the RCU and the NMUs. (b) the costs of all consultants, procurement, and travel for international activities; (c) training and capacity building activities; and (d) project implementation activities. To this end, the UNOPS will:

- i) Establish and maintain a system for overall financial accountability for project funds.
- ii) Review and approve quarterly disbursement plans prepared by the RCU and NMU's.
- iii) Review all project expenditures on a quarterly basis as a condition for approving new disbursements.
- iv) Prepare annual financial reports incorporating inputs prepared by the RCU and NMU's and submit them to the Implementing Agencies.
- v) Contract an independent auditor acceptable to UNEP and UNDP to carry out annual external audits of RCU's and NMU's account and activities in accordance with generally accepted accounting principles, and correct any irregularities that may be identified in the process.

**Annex 18. Standard Basic Agreements between UNDP and Government of:****(i) Mauritania**

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Mauritania and the United Nations Development Programme, signed by the parties on 19 July 1979. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government cooperating agency described in that agreement.

**(ii) Senegal**

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government of Senegal and the United Nations Development Programme, signed by the parties on 4 July 1987. The host country implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the government cooperating agency described in that agreement.

The following types of revisions may be made to this project document with the signature of the UNDP principal project resident representative only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

- (a) Revisions in, or addition of, any of the annexes of the project document;
- (b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of a project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation; and
- (c) Mandatory annual revisions which rephrase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility.