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**STATE OF ERITREA
MINISTRY OF LAND, WATER AND ENVIRONMENT
DEPARTMENT OF ENVIRONMENT**

**CHALLENGES AND CAPACITY NEEDS TO ADDRESS
GLOBAL ENVIRONMENTAL CHANGE IN ERITREA**

FINAL NCSA REPORT

**NATIONAL CAPACITY NEEDS SELF-ASSESSMENT (NCSA) FOR
GLOBAL ENVIRONMENTAL MANAGEMENT IN ERITREA**

In partnership with



GLOBAL ENVIRONMENT FACILITY

PREFACE

Eritrea is a Developing Country situated in an arid and semi-arid region of Sahelian Africa, which has faced recurrent drought and environmental degradation, which has undermined its goals of achieving food security, reduction of poverty and sustainable development, which are the main preoccupation of the people and Government of Eritrea.

In order to mitigate the effects of drought, prevent / minimize loss of biodiversity, as well as reduce the adverse effects of Climate Change, Eritrea has signed and ratified a number of Conventions and protocols on environment, including UNCBD, UNCCD, and UNFCCC, which were the focus of the National Capacity Needs Self Assessment (NCSA) project.

The Department of Environment, Ministry of Land, Water and Environment (MLW&E) is pleased to present the NCSA report. The Project was a result of the Global Environment Facility (GEF) Capacity Development Initiative (CDI), which aimed at making broad assessments of capacity building needs of developing countries and countries with economies in transition to address global environment issues. Eritrea was eligible for this funding and I would like to extend my sincere thanks to GEF and UNEP for financial and technical support, and to the GEF Steering Committee, the Sub-Committee, the expert National Steering Committee and all stakeholders in their various capacities, who participated and provided input in the preparation of this report.

The project, through a highly consultative process, has identified gaps and priority needs for capacity building in the country at various levels, to help implement global environmental conventions, mainly focusing on UNCBD, UNCCD and UNFCCC. The project has also identified the cross cutting issues and overlaps between these conventions and proposals for synergistic capacity building.

As the Biodiversity and Climate Change Focal Point in Eritrea, I believe the priority capacity development schemes identified through the NCSA consultative process possesses the potential to contribute to institutional, technical, managerial and financial capacity of the country and conservation of global environmental management.

The implementation of the recommendations contained in this report requires strong donor support coupled with effective local project implementation, monitoring and evaluation programmes. It also provides an opportunity to enhance implementation of the MEAs in Eritrea for the benefit of the present and future generations. I take great pride in the work accomplished thus far and eagerly look forward to seeing priority capacity development projects successfully implemented in Eritrea.

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ACRONYMS

CBO	Community Based Organization
CBF	Capacity Building Framework
CFC	Chlorofluorocarbon
CC	Climate change
CDI	Global Capacity Development Initiative
CMI	Coastal, Marine and Island biodiversity
CO ₂	Carbon Dioxide
COP	Conference of the Parties of UNFCCC / UNCBD / UNCCD
CZM	Coastal Zone Management
DKB	Debubawi Keih Bahri
DoE	Department of Environment
ECMIB	Eritrean Coastal Marine and Islands Biodiversity Project
EIA	Environmental Impact Assessment
EIS	Environmental Information System
EINCCC	Eritrea's National Communication on Climate Change
EMP	Environmental Management Plan
EMS	Environmental Management System
ENR	Environmental Natural Resource
FAO	Food and Agriculture Organization of the United Nations
FAS	Farmers Advisory Services
GEF	Global Environment Facility
GHG	Greenhouse Gases
GoE	Government of Eritrea
HFC	Hydro fluorocarbons
ICT	Information Communication Technology
ICZM	Integrated Coastal Zone Management Plan
IDPs	Internally Displaced People
IGAD	Intergovernmental Authority on Development
INC	Initial National Communication
IPCC	International Panel on Climate Change
LDC	Least Developed Countries
LDCF	Least Developed Countries Fund
LEG	Least Developed Countries Experts Group
I-PRSP	Interim Poverty Reduction Strategy Process
LSMS	Household Living Standard Measurement Survey
LWF	Lutheran World Federation
MA	Millennium Ecosystem Assessment
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreements
MoA	Ministry of Agriculture
MoE	Ministry of Education
M&E	Monitoring and Evaluation
MoEM	Ministry of Energy and Mines

MoF	Ministry of Finance
MoFish	Ministry of Fishery
MoH	Ministry of Health
MoLWE	Ministry of Land, Water and Environment
MoLSA	Ministry of Labour and Social Affaires
MoPW	Ministry of Public Works
MoT	Ministry of Tourism
MoTC	Ministry of Transport and Communication
MoTI	Ministry of Trade and Industry
MPA	Marine Protected Area
NAP	National Action Program
NAPA	National Adaptation Program of Action
NBSAP	National Biodiversity Strategy and Action Plan
NCCB	National Convention Coordination Office
NCCC	National Climate Change Committee
NCSA	National Capacity Needs Self-Assessment
NEAPG	National Environmental Impact Assessment Guidelines and Procedures
NEMP-E	National Environmental Management Plan
NFP	National Focal Point
NGO	Non Governmental Organizations
NSEO	National Statistics and Evaluation Office
NUEW	National Union of Eritrean Women
PA	Protected Area
PPA	Participatory Poverty Assessment
RAP	Regional Action Programme
RET	Renewable Energy Technologies
RSOTT	Research Systematic Observation and Technology Transfer
SAP	Strategy and Action Plan
SEA	Strategic Environmental Assessment
SKB	Semienawi Keih Bahri
SNC	Second National Communication
SoE-R	Draft State of Environment Report of Eritrea
SREAP	Sub Regional Environmental Action Plan-Eastern Africa,
SWC	Soil and Water Conservation
SWOT	Strength Weakness Opportunity and Threats
TWG	Thematic Working Group
Zoba	Regional Administration
Sub-Zoba	Sub-Regional or District Level Administration
UNCBD	United Nations Convention on Biodiversity Conservation
UNCCD	United Nations Convention to Combat Desertification
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
V & A	Vulnerability and Adaptation

WHO	World Health Organization.
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EXECUTIVE SUMMARY

Introduction

Natural Resources play a critical role in the socioeconomic development the world over. Since the economies of developing countries are natural resource based, sustainable management of these resources is paramount if sustainable development is to be achieved. Furthermore, the objectives of the Multilateral Environmental Agreements (MEAs) are consistent with sustainable development and hence contribute to national development objectives of the least developed countries. It is against this background that GEF supported the NCSA project to identify capacity needs for implementation of the Multilateral Environmental Agreements (MEAs), namely, the United Nations Convention on Biological Diversity (UNCBD), United Nations Convention to Combat Desertification (UNCCD) and United Nations Framework Convention on Climate Change (UNFCCC).

As a signatory to the Rio conventions, Eritrea has certain obligations to protect its biodiversity, respond to climate change and minimise land degradation. However, it has limited human and institutional capacities to implement the commitments of these agreements. The MEAs provide an opportunity to achieve national development objectives through promotion of partnerships, technology transfer and capacity building for sustainable natural resource management.

Eritrea has actively carried out the National Capacity Needs Self-Assessment for Global Environmental Management (NCSA) Project with support of the United Nations Environmental Programme (UNEP) and with funds from the Global Environment Facility (GEF). The final NCSA report contains summary reports on all expected NCSA outcomes.

The objectives of the project were to identify capacity constraints and opportunities for synergistic capacity building among MEAs including UNCBD, UNCCD and UNFCCC and other MEAs ratified by Eritrea.

The NCSA process in Eritrea produced a lengthy list of capacity constraints, making the development of a meaningful strategy difficult. The focal points for GEF and the three conventions prioritised several strategic areas in need of immediate funding. If and when an opportunity for funding arises, these needs will be developed into fundable projects. This NCSA document has the full endorsement of the Government of Eritrea and will be used to guide future national capacity building efforts as well as requests from the international community for capacity building support.

Methodology

The NCSA project was implemented in four phases, namely: (i) Stakeholder analysis and developing linkages, (ii) thematic situation analysis and capacity needs identification, (iii) identification of synergies among the MEAs, and (iv) the NCSA action plan process.

Various approaches and tools were used to carry out the stocktaking and stakeholder consultations. These included establishing institutional framework for NCSA process, reviewing existing literatures, surveying of ongoing and planned projects, identified key issues affecting the state of the environment in Eritrea were as well as studied the relationship between issues affecting management of the environment with national policy frameworks, and strategic development action plans.

These were followed by interviewing of relevant experts in Ministries, Governmental Departments, UN Agencies, NGOs, the Private sector and Research Institutions at national level as well as local administrations and local communities at zoba (local/regional) level institutions. The local level consultations for the self-assessment took place in three selected regions with differing ecological and cultural settings, thus representing a wide range of environmental issues.

National workshops were conducted to solicit inputs and lessons learned and good practices were acquired from regional and local processes related to the Rio Conventions and NCSA process.

Comprehensive analysis was conducted with the help of tools such as Logical Framework Approach (LFA), Problem and Objective Trees Analysis tool, and SWOT analysis aiming at identifying priorities, capacity constraints and needs as well as the identification of any existing information gaps.

Stakeholder analysis and developing linkages

Based on the stakeholder analysis and stakeholder consultations the capacity constraints have been categorized into three namely individual, institutional and systemic levels, which demonstrated that there is serious deficiency of institutional, technical, human resources, managerial and financial capacity at the national, regional and local level, which hinders Eritrea from fully complying with its commitments under the Rio Conventions. Nonetheless, since the ratification of the Rio Conventions, significant strides have been made in the implementation of UNCBD, UNCCD and UNFCCC with the existing limited capacity in Eritrea.

Thematic Assessment and Capacity Needs Identification

The major synergistic constraints and opportunities for capacity building have been identified during the NCSA process. Overall the capacities for environmental management at local and regional levels were found to be weaker than at national level, although environmental awareness is relatively high. Hence the regional governance structures in particular need institutional and individual capacity building to better address environmental concerns. The need to retain a local and regional implementation focus was highlighted throughout all assessments; this need has been translated into a key objective in the NCSA Action Plan.

The constraints were found to be entirely cross-cutting for the three thematic areas and, therefore, merit a synergistic intervention approach. They include:

- Weak inter-institutional coordination and communication,
- Weak policy and legal framework,
- Low awareness by the public of MEAs issues,

- ◆ Lack of baseline data and information exchange,
- ◆ Unsustainable land use practices,
- ◆ Inadequate technical capacity to implement the MEAs,
- ◆ Weak institutional capacity,
- ◆ Inadequate funding and lack of budget,
- ◆ Inadequate Monitoring and Evaluation mechanisms,
- ◆ Inadequate research and training.

Cross-cutting opportunities for capacity building include:

- ◆ Existing institutional support,
- ◆ Few supportive legal and policy frameworks,
- ◆ Existence of structures to support community level initiatives,
- ◆ Potential institutions to provide technical and managerial skills,
- ◆ Conducive environment for awareness and education,
- ◆ Available policies, institutions and networks supporting data and information exchange,
- ◆ Potential for mainstreaming and tapping global resources,
- ◆ Mainstreaming MEA issues into Sector-Wide Action Plans and District Development Plans.

Cross-cutting Capacity Needs Assessment

There are strong linkages among and between the Rio Conventions. The Rio Conventions to which Eritrea signed are linked in many ways, creating numerous opportunities for building synergies.

An initial assessment across the thematic areas of biodiversity, climate change and land degradation and analysis of the constraints and opportunities for capacity building for the synergistic implementation of MEAs has determined the following eight areas, where capacity needs are cross-cutting:

- ◆ Environmental education, awareness and advocacy,
- ◆ Environmental policy, institutional and legal frameworks,
- ◆ Environmental Impact Assessment,
- ◆ Environmental management system,
- ◆ Biodiversity, conservation and management,
- ◆ Human resources development and institutional capacity building,
- ◆ Global-national-provincial linkages,
- ◆ Gender.

Based on the stocktaking assessment, stakeholder consultations and the above analysis, the proposed capacity development initiatives are the following:

1. Enhance the institutional capacities and coordination of institutions responsible for the implementation of Rio Conventions at the national and regional levels.
2. Enhance the technical and managerial capacity of the National Conventions Coordination Body, National Project Coordinator, Thematic Working Groups (TWGs) and Personnel of the Regional Conventions Coordinating Committee.

3. Enhance the human resources in the area of Biodiversity, Land Degradation and Climate Change both at the national and regional level.
4. Identify partnerships both multilateral and bilateral sources of funding of synergy Projects to be integrated in national / sectoral development agenda.

Action Plan

The NCSA action plan was developed based on eight intervention areas derived from the interventions identified during the synergies-cross-cutting study.

The Action Plan is designed in such a way that the key capacity needs identified through a series of self-assessments are addressed in a systematic manner. Syntheses of the assessments are included in Annex 3 and 4 of this report. The key recommendations (“possible actions”) made by the stakeholders of each of the assessments have been integrated in the development of the NCSA Action Plan.

Action Plan addresses three key objectives and emphasizes the need for decentralized actions in support of environmental management in Eritrea.

Monitoring and Evaluation

Monitoring and Evaluation (M&E) of the NCSA Action Plan will involve a wide range of stakeholders and will be conducted at all levels (national, regional and community levels). At the national level the DOE will spearhead M&E of the action plan, in collaboration with the other stakeholders. At the regional level, the Zoba or Regional Administrations will be responsible for the M&E, while the various Local Environment Committees will take over the day-to-day monitoring activities.

It is hoped that the recommendations will be incorporated into the Ministry of National Development Planning process, which includes Poverty Reduction Strategy as well as Food Security.

I. BACKGROUND

1.1 Introduction and NCSA Context

1.1.1 Introduction

Eritrea is located in an arid and semi-arid regions of Sahelian Africa and the great majority of its rural population depend entirely on precipitation and groundwater for crop and livestock production. Consequently, even small changes in rainfall patterns can have major implications for food security and human health. Hence efforts are being made to ensure improved sustainability of natural resources, but increasing pressure from population growth and poverty has introduced major challenges. Hence the overriding objectives of the Government of Eritrea (GoE) are to ensure food security for the whole population and the alleviation or eradication of poverty.

The Eritrean Government also recognises that environmental protection is necessary to achieve poverty reduction and therefore sustainable human development, as environmental degradation disproportionately impacts on the poor. As part of its commitment to sustainable development Eritrea has acceded to the three most important United Nations Rio Conventions on the environment, thereby confirming its strong commitment to environmental issues.

1.1.2 NCSA Context

The Department of Environment, of the Ministry of Land, Water and Environment is responsible for implementation of the national environmental policies and programmes as set out in the Macro-policy and Constitution of Eritrea, in collaboration with other relevant institutions. The main objective of Eritrea's draft environmental law is to harmonize sustainable economic growth and development with proper environmental protection and use. Although Eritrea is party to the three Rio Conventions effective implementation of the Conventions by a developing country like Eritrea is constrained by lack of financial resources, inadequate trained manpower, weak institutions and infrastructure and poor Governance.

Lack of capacity, particularly in developing countries has therefore been recognised and capacity building has thus been a regular agenda item of both the Conference of the Parties (COP) of the Rio Conventions and the subsidiary bodies of the Convention. The COP therefore recognises capacity building as an important and critical element for developing countries if they are to effectively implement their commitments under the UNCBD, UNCCD and UNFCCC. In this regard the COP has made several decisions, the most outstanding one being Decision 2/CP.7 on the comprehensive Capacity Building Framework (CBF). The main objective of the CBF is to assist developing countries to build, develop, strengthen, enhance and improve their capabilities to achieve the objectives of the Convention through the implementation of the provisions of the Convention and the preparation for their effective participation in the Kyoto Protocol.

The implementation of MEAs in Eritrea has global benefits. Eritrea has a significant diversity both in terrestrial and marine ecosystems, which is a plus to the global diversity. Eritrea is working hard in implementing the UNCCD and this would help to achieve the MDGs. Complying with the provisions of UNFCCC will ensure environmental sustainability by integrating the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

In 2001/2 UNDP implemented the Global Capacity Development Initiative (CDI) project, which was funded by the Global Environment Facility (GEF). The main objective of this project was to assess capacity needs in developing countries. However since capacity needs are country specific, the global approach turned out to be inappropriate. This led to the formulation of the National Capacity Needs Self Assessment (NCSA) project. The NCSA process is intended to respond to the three Rio conventions as well as to take into account further environmental COPs and other evolving issues such as Biosafety.

The key principles for a successful NCSA process are 1) ensuring participation of relevant stakeholders, 2) systematic analysis of issues related to environmental management in general and to capacity building in particular so as to establish the root causes and devise appropriate actions that will address such causes, and 3) conducting the assessment within the context of the country's commitments to the three Rio Conventions (UNCBD, UNCCD and UNFCCC) and the overall national development priorities.

1.1.3 Objectives of the Study

The project objectives as stated by The Department of Environment, Ministry of Land, Water and Environment is incorporated in this paragraph:

- The National Capacity Needs Self-Assessment (NCSA) will review relevant literature on environmental capacity needs in Eritrea;
- Identify potential stakeholders within each thematic area of UNCBD, UNCCD and UNFCCC;
- Identify on-going related activities of all stakeholders within the respective thematic areas;
- Define stakeholders roles in the NCSA process;
- Develop a thorough understanding of the interest and potential contributions of different stakeholders so as to provide insight into who can be involved, what roles they might play in the process and how they might become involved;
- Review and inventorize capacity needs already identified in the documentation of the conventions, NBSAP (National Biodiversity Strategy Action Plan), NAP (National Action Program to Combat Desertification) and UNFCCC (First Communication Report);
- Select stakeholder involvement approaches. Stakeholder involvement may comprise any or a combination of a range of activities and relationships such as, two-way communication, advisory boards, stakeholder consultation, partnership, joint decision making;

- Establish linkages between stakeholders;
- Design the methodology of ensuring effective stakeholder participation;
- Carry out a stakeholder analysis in order to determine stakeholder involvement.

It is hoped that this study will lead to the development of a programme that would demonstrate and mainstream the incorporation of environmental capacity building policy at all levels of economic development efforts.

1.1.4 Methodology

The method of data collection adopted for the baseline survey was essentially a participatory approach of field investigation and observation. Major emphasis was made to listen and analyse the views of respective stakeholders, who consisted of organizations at the national, regional, sub-regional and local community level including area administrators, who are in one way or another connected with environmental issues.

Literature review was done from national, regional and international documents related to the Rio Conventions. The prioritized set included the Eritrean Initial National Communication on Climate Change (EINCCC; DoE, 2005), NBSAP (DoE, 1999), NAP (MoA, 2002), National Biosafety Framework, national and sectoral policies, Interim Poverty Reduction Strategy Paper (IPRSP; GoE, 2004), NAPA, various sustainable development strategy documents, UNDP-Eritrea's United Nations Development Assistance framework (UNDAF), Common Country Assessment (2003-2007), and Agenda 21 and Millennium Development Goals (MDGs) under the United Nations. Nonetheless, the main focuses were, NBSAP of UNCBD and NAP of UNCCD and EINCCC.

Key issues affecting the state of the environment in Eritrea were identified. The relationship between issues affecting management of the environment with national policy frameworks, and strategic development action plans were also established. Focus was made on collecting relevant statistical information/data from the Ministry of Land, Water and Environment, Ministry of Agriculture and Energy and Mines, UN agencies and few NGO's. Reviews of secondary data in the environs of the Zoba (Regional) project sites were also undertaken.

Data collection was undertaken by three teams of experts with the help of semi-structured questionnaires, such as 'discussion guides' for key informants in institutions, key informants from rural communities and another discussion guide for focus group discussion in the rural communities. The survey was carried out in the form of either individual interviews or focus group discussions with a group/panel of between two and up to 14 members of a community or institution. No written response was encouraged as it was felt that it would bias the results.

Fieldwork was carried out in the six main capitals of the respective Zobas (Regional centres) such as Barentu, Keren, Asmara, Mendefera, Massawa and Assab and more focussed, specifically in the areas identified as important for capacity building project

at community level, which represented different eco-systems namely at Ingerne and Molki (Zoba Gash-Barka) and Shieb (Zoba Northern Red Sea).

Over 78 potential stakeholders were identified, which consisted of relevant Ministries, Departments, UN Agencies, NGOs, the Private Sector organisations and Research Institutions as well as Zoba level administration and regional branch offices and local communities.

The main focus of the team during the project assessment have been the project's ownership, institutional set-up and the existing linkages, staffing and capacity building, operations and its physical progress and achievements, sustainability and implications to socio-economic impact to the environment in general and in relation to the climatic changes and combating desertification and preservation of biodiversity in particular as well as assessing the capacity constraints of stakeholders and suggested solutions.

The thematic analysis identified and established priorities, capacity constraints and needs, as well as the identification of any existing information gaps, by using the following tools:

- Logical Framework Approach (LFA),
- Problem and Objective Trees Analysis tool, and
- SWOT analysis.

The approach adopted for identifying capacity constraints and opportunities for synergistic capacity building among MEAs were carried out by :-

- Evaluating the opportunities for harmonised implementation of the conventions and identification of synergies using the revised thematic profiles,
- Elaborating working versions of the National Assessments,
- Highlighting those issues that need strengthening their cost-effective implementation of the conventions, by looking at the commonalities,
- Refining the assessments through further interviews, inclusion of new issues, regional/local level consultations,
- Presenting an integrated draft report in a multi-stakeholder consultation process, for technical review, improvement and endorsement in a national workshop by seeking their inputs and finalize the plan accordingly.

The Action plan for capacity development process involved:

- Proposing of a series of programmes or/and actions that respond to the national capacity needs identified, prioritized and agreed in the above process.
- Proposed criteria for prioritization of the actions including time horizon of the action plan (i.e. short, medium or long term actions)
- For each action, proposed implementation mechanism, estimates of required funding, idea on source of fund and other necessary details
- Presented findings to the DoE, Steering Committee and national workshop, to seek further inputs and finalize the plan accordingly.

The Action Plan therefore, focuses on strategy for capacity building and sustaining the capacity developed, both within and across the thematic areas. It includes the

approach adopted, overall goals, specific objectives, elements of action plan and proposed budget.

Phasing of the NCSA project

The NCSA study was implemented in four phases, namely:

- Phase I: Stakeholders Analysis and Developing Linkages
- Phase II: Thematic Assessment for the three conventions (UNCBD, UNCCD and UNFCCC)
- Phase III: Cross-Thematic Assessment - Identifying priority needs to strengthen national capacity to address cross-cutting issues of the Conventions.
- Phase IV: Developing the Action Plan for implementing agreed priority areas to ensure effective implementation of the Conventions in Eritrea.

II STAKEHOLDER ANALYSIS AND DEVELOPING LINKAGES

2.1 Introduction

This chapter forms the first phase of the NCSA process that deals with a stakeholder analysis and developing linkages (DoE, 2005a; 2005b) of environmental management in Eritrea.

2.2. Results of Stakeholder Analysis and Consultation

Based on the stakeholder analysis the findings are grouped into three broad separate categories: namely identification of stakeholders and their activities, their linkages, their mandates and roles and involvement in the NCSA process.

A variety of projects have been carried out by the stakeholders and were classified as completed, on-going and planned future activities (Annex 1). The majority of the projects are related to reforestation, irrigated farming, establishing of closures, soil and water conservation, water management, biodiversity conservation along the coastal areas, environmental impact assessment, as well as introduction of alternate technology and human resources development. For a complete list of stakeholders and their related activities refer to Annex 1.

2.2.1 Identified Stakeholders

The potential stakeholders within each thematic area of UNCBD, UNCCD and UNFCCC and their role in the Rio Conventions have been identified. Some of the institutions are not directly related to the three Rio-conventions but they can help indirectly in awareness raising and the protection of the environment (Table 1).

For the analysis, stakeholders were categorised according to various criteria such as stakeholder position, level of interest, role and potential influence over processes relating to and implementation of the Convention/s. Based on these analysis three levels of stakeholder involvement and interactions with regard to environmental management in general and convention implementation in particular has been documented.

The first category is at the national (central) level; ministries headquarters and the centers of decision making, the second is at the regional level (Zobas) and the third at the local (community/village) level. The Zoba Maekel refers to the headquarters of the ministries/agencies, while the other Zobas relate to branch offices at a regional level. Within Zoba Maekel the stakeholders are classified into four namely: Government Ministries, UN agencies, NGO's and Private sector Firms.

The assessment has also reviewed the three Rio conventions, and their implementation in Eritrea. The identified stakeholders were also analyzed to understand their roles in the UNCBD, UNCCD and UNFCCC. Some of the stakeholders have direct role to play in the convention, while others have an indirect role. It was revealed that Eritrea has prepared National Action Plan for UNCCD and

National Biodiversity and Strategy and Action Plan for UNCBD and is in the process of implementing NAPA. It was also noted that capacity constraint at all levels has been the main bottleneck for the full national implementation of the three conventions.

2.2.2 Mandates and Responsibilities

The mandate of the stakeholders with regard to implementation of environmental policies and international environmental obligations has been covered in great detail as well as special emphasis was put on the operations of the DoE, as the main focal point for Biodiversity and Climate Change and similarly the role of the Ministry of Agriculture as the focal point of the UNCCD is mentioned.

Critical analysis of the mandates suggests that only few of the stakeholders have mandates related to environmental issues. The Ministry of Land, Water and Environment, Agriculture, Fisheries, Energy and Mines, Transport and Communication and Tourism and the National Union of Eritrean Youth and Students have included the promotion and protection of the environment as part of their mandate and responsibilities. However except for the Department of Environment and Ministry of Agriculture none of the other institutions have articulated specific details as to the implementation of the three conventions.

Table 1. Existing and Potential Stakeholders and Their Role in the Rio Conventions.

No.	Institution	CCD	UNCB D	UNFCC
1	Ministry of Land, Water and Environment (Water Resource Department)	xx	xx	x
2	Ministry of Land, Water and Environment (Land Resource Department)	xx	xx	x
3	Ministry of Land, Water and Environment (Department of Environment)	xx	xx	xx
4	Ministry of National Development	x	x	x
5	Ministry of Foreign Affairs	x	x	x
6	Ministry of Defense	x	x	x
7	Ministry of Information	x	x	x
8	Ministry of Energy & Mines (Department of Mines Control)	x	x	
9	Ministry of Energy & Mines (Department of Energy)	x	x	xx
10	Ministry of Labour and Social Welfare	x	x	
11	Ministry of Public Works (Department of Infrastructure)	x	xx	x
12	Ministry of Fisheries	x	xx	xx
13	Ministry of Agriculture CCD coordinator	xx	xx	xx
14	Ministry of Agriculture (Department of Regulatory Services, forestry and wildlife unit)	xx	xx	x
15	Ministry of Agriculture, Zoba Maekel Forestry Unit	xx	xx	x
16	Ministry of Tourism (Department of Tourism Development)	x	x	x
17	Ministry of Transport and Communication (Department of Land Transport)	x		xx
18	Ministry of Transport and Communication (Department of Marine Transport)		xx	x
19	Ministry of Trade and Industry	x	x	xx
20	Ministry of Education (Department of Curriculum)	x	x	x
21	Ministry of Health	x	x	x
22	Ministry of Finance	x	x	
23	Eritrea Emergency Reconstruction programme, Ministry of Finance	x	x	
24	Cultural Heritage	x	x	x
25	National Union of Eritrean Women	x	x	x
26	National Confederation of Eritrean Workers (Department of Research and Training).	x	x	
27	National Union of Eritrean Youth and students (Dept. of Human Resource Development)	x	x	x
28	Chamber of Commerce	x	x	x
29	Eritrean Employers Federation	x	x	x
30	Port of Assab	x	xx	xx
31	Port of Massawa	x	xx	xx
32	University of Asmara (Biology Dept.)	x	xx	x
33	University of Asmara (Geography Dept)	xx	x	
34	University of Asmara (College of Agriculture)	x	x	x
35	Halhale College of Agriculture	x	x	x
36	Mai Nefhi Institute of Technology	x	x	x

No.	Institution	CCD	UNCB D	UNFCC
37	Central Personnel Agency (CPA)	x	x	x
38	UNDP	x	x	x
39	UNICEF	xx	xx	x
40	WFP	x	x	x
41	UNHCR	x	x	x
44	UNFPA	x	x	x
45	WHO	x	x	x
46	FAO	xx	xx	x
47	OCHA	x	x	x
48	USAID	x	x	x
49	UNAIDS	x	x	x
50	UNMEE	x	x	x
51	Zoba Administrations	xx	xx	x
52	Ministry Branch Offices at Zoba level	x	x	x
53	Neus - Zoba Local Administrations	x	x	x
54	Oxfam	xx	x	
55	Lutheran World Federation (LWF)	xx	x	
56	Norwegian Church Aid	x	x	
57	Care International	x	x	
58	Mercy Corps	xx	x	
59	Catholic Relief Services	x	x	
60	Concern	xx	xx	
61	Haben	x	x	
62	Vision Eritrea	xx	xx	
63	Toker Integrated Community Development	xx	xx	
64	Citizens for Peace in Eritrea	x	x	
65	Wedi Legesse Farms	xx	x	x
66	Gash Farms	xx	x	x
67	Alla Farmers Association	xx	x	x
68	Elabered Farms	xx	x	x
69	Alligidir Farms	xx	x	x
70	Phaseun	x	x	x
71	Asmara Brewery	x	x	x
72	Tanneries	x	x	x
73	Textiles	x	x	x
74	Brick Factories	x	x	x
75	Flour Mills	x	x	x
76	Soft Drink Factories	x	x	x
77	Garages	x	x	x
78	Detergent Factories (such as OMO)	x	x	x

xx = plays role directly

x = plays role indirectly

2.2.3 Stakeholder Linkages

Based on this study it was found out that the majority of the stakeholders don't have an environmental unit or responsible person for environmental issues, while in some other institutions the environment unit has been merged with other units. In general the linkages and coordination of stakeholders with the DoE and with each other is poor. Unfortunately the majority of the stakeholders do not have any linkages or have weak linkages, which is restricted to participation in workshops or seminars. There is also poor coordination and linkages between stakeholders not only at Headquarters level (Zoba Maekel) but also at Zoba and Neus-Zoba level. Although there is close proximity of stakeholder offices and there are a limited number of experts at Zoba level, they hardly meet or have effective co-ordination amongst themselves.

The institutional linkages based on consultations and experience of the workings of some of the Governmental institutions have been grouped and linked as follows:

- The line Ministries that mainly deal with national planning, financing and investment issues and international relations such as Ministry of National Development, Foreign Affairs, Finance and Trade and Industry.
- The line Ministries that mainly deal with natural resources such as Ministry of Land, Water and Environment, Ministries of Agriculture, Energy and Mines and Fisheries.
- The line Ministries that mainly deal with infrastructural issues such as Ministry of Public Works and Transport and Communications.
- The line Ministries that mainly deal with services such as Ministry of Health, Education, Labour and Human Welfare and Tourism.
- Civil society Organisations such as the National Union of Eritrean Workers, National Union of Eritrean Women, and the National Union of Eritrean Youth and Students.
- UN Agencies and NGO's, whose role is to mobilise and provide funds, carry out advisory and advocacy roles.
- The Private Sector organisations and the Chamber of Commerce.
- The Branch Government offices and the Local Communities, who are in the forefront in implementing projects and are also involved in monitoring and evaluation.

2.2.4 Roles and Involvement in the NCSA process:

An analyses of the stakeholder mandates and roles has been made based on the extensive consultations made, the priorities set and the perceptions of the stakeholders and what role such stakeholders will play in the NCSA process and whether additional stakeholders should be added to the existing NCSA structure. Based on this analysis the different types of roles that all the stakeholders can play have been classified as follows:

- Policy making and regulatory body,
- Coordination and mobilization of resources / funding,
- Give expert support / advisory role,
- Awareness raising / Community sensitisation / Advocacy,
- Project Implementation,
- Monitoring and regulating of projects.

The policy making and regulatory body is done at the national level, through the ministries headquarters, where major decisions are made. Similarly the coordination and mobilization of resources / funding is also done at the national level, through the Ministry of National Development but also includes the UN agencies, while project implementation, monitoring and regulating of projects is done at the regional level (Zobas). However the bulk of project implementation is carried out by the various development committees, which could be called Community Based Organisations (CBO's) at the local (community/village) level.

Based on the extensive consultations made it has been possible to suggest the following approaches for all the stakeholders selected:-

- The ministries headquarters and the centers of decision-making would use two-way communication, advisory bodies, stakeholder consultation, partnerships and joint decision making as appropriate depending with which stakeholders they are dealing with. The UN agencies and the NGO's will get involved at stakeholder consultation, partnerships and joint decision making levels.
- Based on experience it is suggested that the best way to involve the Zobas and Community level stakeholders in the rural areas is through two-way communication as well as through stakeholder consultation and collective decision-making. The local Baito's or assemblies could also play an effective role in involving and mainstreaming environmental issues at local level.

This approach will promote wider stakeholder involvement, which includes indigenous and local communities.

2.3 Conclusion

This study deals with a stakeholder analysis and developing linkages of environmental management in Eritrea.

In order to meet its objectives the background and environmental context of the study was reviewed, which included the review of all the international conventions that Eritrea had ratified such as UNCBD, UNCCD and UNFCCC and others and action plans it adopted to fulfill its obligations as well as on environmental capacity building. These were followed by data collection with the help of questionnaires, which included 'discussion guides' for key informants in institutions, key informants from rural communities and another discussion guide for focus group discussion in the rural communities.

Based on these consultations it has become clear that the linkages between the stakeholders and the institutional capacity is weak and has still a long way to go before it achieves its objectives.

The survey result shows that there is lack of co-ordination of the focal points of all the three conventions. Except for UNCCD, which has a separate office and staff at the Ministry of Agriculture, neither the UNCBD nor UNFCCC have a well-established institutional setup. Hence there are capacity limitations in implementing the National Strategy and Action Plans that have been adopted.

There is also poor coordination and linkages between the stakeholders not only at Headquarters level (Zoba Maekel) but also at Zoba and Neus-Zoba level, which is due to serious constraints of skilled manpower at all levels especially in the regional offices. For example there is:

- Lack of a unit/person responsible for environmental issues as well as,
- Lack of representatives of the institutions at zoba level.

Lack of coordination and communication and overlap of activities between the stakeholders and the Department of Environment and lack of clear mandate of each organisation, has meant that environmental protection cannot continue at the pace required. In many cases the main reason for the poor linkages with the DoE is due to shortage of capacity, while in some other cases some institutions are not aware or do not see the necessity of establishing linkages with the DoE. Occasionally there are institutions that form ad-hoc linkages in order to resolve specific environmental problems.

Analyses of the stakeholder roles and involvement shows that a lot of stakeholders are not clear about their role and how they would like to be involved in the NCSA process. Hence it is suggested that fundamental change of attitudes and changes in ownership is required. It is also imperative that awareness raising campaign at National level should be carried out.

Based on the consultations it has been established that the line of communication is from top to bottom. Hence effective communication from National to Community level and vice versa has to be put in place if the process is going to achieve its objectives.

III. THEMATIC ASSESSMENTS

3.1 Introduction

As part of its commitment to sustainable development Eritrea has ratified the three most important environmental United Nations conventions, namely: Convention on Biological Diversity (UNCBD), Framework Convention on Climate Change (UNFCCC) and Convention to Combat Desertification (CCD), thereby confirming its strong commitment to environmental issues. This section will discuss on the status of three conventions, priority issues and their capacity constraints (DoE, 2006a).

3.2 Biodiversity

3.2.1 Global significance and Priority National Environmental issues

Global Significance

Eritrea has a significant diversity both in the terrestrial and marine ecosystems. At present the available data shows that in the terrestrial ecosystem there are 577 bird species, 126 mammals, 90 reptiles and 19 amphibians and in the marine ecosystem there are 100 birds, 1248 fish, 9 mammals and 44 hard corals (DoE, 1999). There is no data on the species of flora. In addition Eritrea is the route to different migratory birds therefore, conservation and sustainable use of biodiversity in Eritrea is a plus to the global biodiversity.

National priority Environmental issues

The priority issues of the country on biodiversity (DoE, 1999) are listed below based on the scale of the problem, level of concern (at community level, zoba level and national level) and ability to adequately address the issues.

1. Strengthening the capacities of the national and local agencies responsible for management, conservation and sustainable use of biodiversity;
2. Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes;
3. Development of appropriate legislation, measures, strategies and relevant institutions for in-situ conservation of species, restoration of degraded ecosystems and recovery of threatened species;
4. Integration of the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies;
5. Access the financial resources provided through the financial mechanism of the Convention and exploit the financial resources both at national and international level;
6. Identification and monitoring of components of biological diversity important for its conservation and sustainable use;
7. Respect for and preservation of knowledge, innovations and practices of indigenous and local communities;
8. Introduce appropriate procedures requiring environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity with a view to

avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures;

9. Creation of ex-situ conservation institutions (Botanic Gardens, Zoo with conservation facilities, Herbarium, Natural History Museum, Aquarium);
10. Survey and gazettement of a network of Marine Protected Areas, while developing conservation strategies for ex-MPA sites;
11. Establishment of continuously operating clearing house mechanism;
12. Development and maintenance of Coastal, Marine and Island (CMI) biodiversity database;
13. Conduct an inventory of traditional crop and livestock varieties, assessing their geographic range and potential, with a view to extending the accessions in the Plant Gene Bank;
14. Establish or maintain means to regulate, manage or control the risks associated with the use and release of living modified organisms resulting from biotechnology, which are likely to have adverse environmental impacts that could affect the conservation and sustainable use of biological diversity, taking also into account the risks to human health;
15. Introduction of appropriate measures for waste management and treatment;
16. Surveys of trade in prohibited animals and plants and development of effective control measures.

3.2.2 Status of Convention implementation

Eritrea tried to implement the obligations of UNCBD with the limited resources it has, but needs to work hard to implement fully the biological diversity conservation and sustainable use. The activities carried out are summarized in Table 2 below:

Table 2. Major activities carried out under UNCBD and related projects

Articles in Biodiversity Convention	<i>Activities carried out</i>
Article 5 Cooperation	<ul style="list-style-type: none"> ◆ MoA is involved in the project on soaring birds that involves 11 countries, approved by GEF. ◆ MoA gets information on the movement of endangered species through Interpol. ◆ CITES convention was ratified so it will help to create cooperation with different countries.
Article 6a Develop national strategy, plan or programmes	<ul style="list-style-type: none"> ◆ NBSAP has been prepared. ◆ National Environmental Management Plan (NEMP-E) has been prepared. ◆ Draft environmental, Water laws and Maritime code are prepared. ◆ Forestry and Wildlife policy is proclaimed. ◆ National Environmental Assessment Procedures and Guidelines (NEAPG) have been developed. In addition the MoA and Ministry of Public works have prepared sectoral guidelines.
Article 6B Integration	<ul style="list-style-type: none"> ◆ The National Constitution states unity in diversity as a basic principle guiding national development objectives. ◆ Fisheries proclamation contains a number of articles relevant to biodiversity.

	<ul style="list-style-type: none"> ◆ National Economic Policy Framework and Program (1998) states restoration, enhancement and preservation of Eritrea's Ecological integrity. ◆ Draft environmental law of Eritrea addresses the issue of biodiversity conservation. ◆ MoA addressed the issue of biodiversity in the forestry and wildlife proclamation.
Article 7 Identification and Monitoring	<ul style="list-style-type: none"> ◆ Preliminary identification of species was carried out.
Article 8 In Situ Conservation	<ul style="list-style-type: none"> ◆ MoA has identified areas for protection but has not being implemented yet. ◆ There are 3-gazetted closures. ◆ The afforestation that was carried out by MoA in the last 14 years has helped in conserving endangered species. ◆ A total of 200,000 hectares of land has so far been enclosed. ◆ Conservation of elephants needs also to be mentioned.
Article 8h Alien species	<ul style="list-style-type: none"> ◆ Some activities were carried out by the MoA to destroy prosopis, ◆ DoE has prioritised that prosopis is a major threat in Eritrea.
Article 8j Traditional knowledge	<ul style="list-style-type: none"> ◆ Very little has been done. ◆
Article 9 Ex-Situ Conservation	<ul style="list-style-type: none"> ◆ Nothing was done.
Article 10 Sustainable use of components of Biological diversity	<ul style="list-style-type: none"> ◆ ECMIB project is designed to ensure the sustainability of marine and coastal resources. ◆
Article 13 Public education and awareness	<ul style="list-style-type: none"> ◆ Little is done in the National Mass Media and National Newspaper. ◆ There are limited programmes in the adults education mass media. ◆ The issue of biodiversity has to some extent been addressed in the educational media.
Article 14 Impact Assessment and minimizing adverse impacts	<ul style="list-style-type: none"> ◆ There is a guideline for environmental impact assessment. ◆ Environmental Impact Assessment (EIA) has so far been limited to only few major projects.
Article 26 Reports	<ul style="list-style-type: none"> ◆ Eritrea fulfilled the obligation and two national reports were submitted.

3.2.3 Capacity Constraints and Key Priority Capacity Needs

3.2.3.1 Capacity Constraints

The capacity constraints has been categorised into individual, institutional and systemic level based from the thematic assessment survey (DoE, 2006a). The findings are summarized below:-

- ◆ Lack of implementation of NBSAP;
- ◆ Lack of human resources capacity for biodiversity conservation and sustainable use such as for example taxonomists and environmental lawyers. In five Zobas shortage of experts was ranked as of first priority, whereas in Zoba Anseba it was ranked fifth;
- ◆ Four zobas ranked lack of institutional linkages and coordination as second or third, while two zobas ranked them as fourth and fifth;

- Weak capacity for assessment, identification and monitoring of components of biodiversity;
- Poor understanding and information on status of invasive alien species and their impact on biodiversity as well as the methods to eradicate them;
- Lack of clarity of mandates and responsibilities of stakeholders. For example Ministry of Fisheries, Ministry of Agriculture, Department of Environment and Maritime Department do not know exactly what their mandate is in conserving and sustainable use of biodiversity;
- Mainstreaming of UNCBD was not carried out into all sectoral, cross-sectoral plans and programmes and into national decision-making process;
- Identification and monitoring of species in all ecosystems was not carried out and there is no data about the status of species and which species are endangered in the entire ecosystem;
- There is no guideline for the selection of protected areas;
- Intensive awareness raising campaign was not carried out for the public and to the decision makers about the conservation, sustainable use and sharing of biodiversity;
- Lack of ratification of environmental law;
- Lack of immediate action when endemic diseases appear;
- Lack of management of industrial waste;
- Resettlement of communities without EIA;
- Lack of effective enforcement of the laws especially as regards wildlife and poor understanding of biodiversity conservation and sustainable use issues and practices.

3.2.3.2 Key Priority Capacity Needs

The key capacity needs in implementing the UNCBD convention can be summarized as follows:

- Institutional capacity building.
- Human resource development and training.
- Extensive and intensive awareness raising activities at all levels.
- Mainstreaming of UNCBD and enforcement of laws, guidelines and proclamations related to UNCBD.

3.2.4 Possible Action

The key possible actions recommended are:

- Implementation of NBSAP;
- Strengthen protection of closures (using forestry guards);
- Strengthen institutional linkages and coordination;
- Train a cadre of environmental/natural resource experts, taxonomists, and environmental lawyers to fill existing capacity gaps;
- Approve, proclaim and enact the already drafted policy, laws and regulations;
- Conduct a study on the status of biodiversity of the country in all sectors;
- Conduct a study on how to increase the motivation of government staff;
- Strengthen and develop appropriate controlling mechanisms for alien invasive species;
- Introduce efficient and effective monitoring and supervision activities.

3.3 Land Degradation

3.3.1 Global significance and Priority National Environmental issues

Global significance

It is known that there is direct relationship between desertification and poverty in any country. Specially Eritrea is located in an arid and semi-arid area and majority of the people depend on subsistence farming and this makes more vulnerable. Therefore, Eritrea is working hard in implementing the UNCCD, which would help to achieve the Millennium Development Goals particularly in reducing the proportion of people living on less than a dollar a day by half and in reducing the proportion of people who suffer from hunger by half.

National Priority Environmental issues

The priority issues of the country about land degradation are listed below based on the scale of the problem, level of concern (at community level, zoba level and national level) and ability to adequately address the issues. The priority issues are:

- Promote awareness both at governmental, non-governmental institutions and community level;
- Promotion of participation of local populations, particularly women and youth;
- Mainstreaming of the issue of land degradation/desertification into the national policies, projects and programmes;
- Identification and use of traditional knowledge and practices in preventing land degradation;
- Strengthening of soil and water conservation activities nationwide;
- Expanding fuel substitution programmes;
- Encouraging social forestry and fuel-wood and fodder plantations;
- Creating a national database and indicators to monitor, assess and evaluate land degradation and use this as input to an early warning system;
- Exercising caution in expanding agriculture into dry woodlands and pasture lands;
- Identification and mapping of the areas affected and/or vulnerable to land degradation.

3.3.2 Status of Convention implementation

Several measures have been taken to implement the UNCCD by different Ministries. Some of the activities are listed in table 3 and Annex 1. A number of measures were also carried out to improve the knowledge and skill of staff of MoA and other concerned ministries through experience exchange, visits to other countries and through short-term training programmes locally and in countries with similar agro-ecological, social and economic conditions. In addition, the national research institutes specially the Research Department of the MoA and the Training and Research Department of Ministry of Energy and Mines put a lot of effort in developing and disseminating improved production techniques of improved energy saving stoves.

Table 3. Activities carried out in implementing CCD

CCD Focal point under MoA	Ministry of Land, Water and Environment	Ministry of Agriculture	Ministry of Energy and Mines	Community and Ministry of Education
<ul style="list-style-type: none"> Facilitated soil and water conservation activities. Facilitated rehabilitation of degraded forest. Study was done on how to Mainstream National Action Programme to combat desertification into the national development framework. 20 full-fledged project proposals have being prepared with a total funding requirement of about 38 million US dollars. Documentary film, posters/leaflets on land degradation were prepared for awareness raising programme. Wrote articles on land degradation. 	<ul style="list-style-type: none"> Dissemination of public awareness on environmental issues through public media. Implementing environmental education including land degradation in collaboration with the Ministry of Education. Implementing EIA using National Environmental Assessment Procedures and Guidelines (NEAPG). Preparation of National Adaptation Program of Action Framework (NAPA) for urgent adaptation measures in the country. Assessment of the status of Mangrove trees in the coastal areas. 10 NGOs have formed the Eritrean Sustainable Land Use Forum (ERSLUF) to enhance capacity building activities in arresting land degradation in collaboration with land care groups and the government. 	<ul style="list-style-type: none"> During the last 10 years through the student summer campaign carried out construction of 1,103 hectares, hillside terracing, 453385 m³ check dams and 148603 m³ micro basins were constructed and around 16 million tree seedlings were planted and replanted. In collaboration with all stakeholders and wide participation of the local communities 1,521 hectares of hillside terracing, more than 411,000 m³ check dams and around 108,000 micro basins were constructed and 151.5 million seedlings where planted and replanted. It is encouraging communities to establish woodlots on community lands. Provides different species of seedlings to communities or any interested group. Prepared forestry and wildlife proclamation. 	<ul style="list-style-type: none"> Eritrea's power generating capacity has more than doubled, increasing from 52 to 136 megawatts. This would help reduce the dependency on firewood. Transmission and distribution lines have being extended into the rural communities. A pilot wind energy applications project has being launched. Wind and solar resource assessment project has started. Improved traditional stoves that reduce fuel wood consumption by 50% were distributed. This is the top priority of the ministry. 	<ul style="list-style-type: none"> Every year the Ministry of Education organizes 18,000 students to carry out soil and water conservation and afforestation activities with MoA. The Local communities participate in soil and water conservation and afforestation programmes which is organized by the MoA. The local communities take seedlings from the MoA and plant them in their compounds. The communities carry out minor land management activities in their farmland despite the limitations of the land tenure system.

3.3.3 Capacity Constraints and Key Priority Capacity Needs

Capacity Constraints

There is acute shortage of qualified staff at national and/or at Zoba level. There are few staff that do everything in the National Co-ordination Office (NCCB); and there is no person that follows up desertification issues on a day-to-day basis. In addition financial resources are extremely scarce, since there is inadequate coordination of Government Programmes and Institutions and inadequate strategic programming and inadequate capacity in projects preparation of the NAPs to bankable levels.

The powers and duties of the village/area level committee's are defined in Art. 30 (D), of the proclamation for the Establishment of Regional Administration. However, none of these committees have been established and implemented effectively at regional level due to the slow implementation of NAP.

It is widely believed that there is lack of institutional awareness in most ministries and it is also clear that there is lack of awareness even within the MoLWE.

The communities have stated that there is limited awareness among the community, and there is no law to enforce it. Every person cuts trees and there is no one to protect them. Unfortunately indigenous laws are not taken into consideration. In addition they stated that the MoA gives them directives but there is no support from the local administrations. This shows that there is weak linkages and coordination between stakeholders.

Key Priority Capacity Needs

Discussion with several staff of the MoA revealed that many saw little difference between programmes in water and soil conservation in the Ministry and the requirements of the UNCCD. In their opinion priority programmes should be:

- Awareness creation for effective participation of the land users;
- Organizing land care groups in communities - leading to proper land utilization;
- Land use planning for grazing, cropping, conservation and urbanization;
- Development of the Desertification Trust Fund will be useful in the long-term (e.g in ~10 years), when the land care groups become well informed;
- Transfer and exchange of local technology;
- Development of appropriate policies e.g in science and technology and land;
- Information and increased knowledge base on courses, process and effects of desertification.

In order for the UNCCD NFP to undertake the above duties effectively the coordinator has identified the following minimum staff requirements for the secretariat:

- Focal point;
- Coordinator;
- Assistant coordinator;
- Secretary/ office assistant.

3.3.4 Possible actions

The most important major recommended possible actions are:

- Exercising caution in expanding agriculture into dry woodlands and pasturelands;
- Encouraging social forestry and fuel wood and fodder plantations;
- Adopting moisture retention, groundwater conservation and water recycling measures;
- Expanding fuel substitution programmes;
- Creating a national database to monitor, assess and evaluate land degradation and use this as input to an early warning system;
- Mobilising civil society through participatory processes to increase awareness and shape policy;
- Save trees before they are cut, by employing guards instead of only checking for illegal logging at checkpoints;
- Enforce policies and directives;
- Preparation of Land Use planning and cadastral survey maps and
- Secure financial resources.

3.4 Climate Change

3.4.1 Global Significance and Priority National Environmental Issues

Global Significance

The United Nation Framework Convention on Climate Change (UNFCCC) sets an overall framework for intergovernmental efforts to tackle the challenge posed by Climate Change (CC). All parties must report on the steps they are taking or envisage undertaking to implement the UNFCCC (Article 4.1 & 12.1) by: “reporting to the COP on emissions by sources and removals by sinks of all GHGs not controlled by the MOP (GHG inventories): national or, where appropriate, regional programmes containing measures to mitigate, and to facilitate adequate adaptation to CC; and any other information that the party considers to the achievement of the objective of the Convention” (UNFCCC, 2003). Thus, reporting of UNFCCC implementation activities in Eritrea to the COP is a plus to the Global knowledge base of the adverse impacts of CC on the human and natural systems. Since change in the Earth’s climate and its adverse effects are a common concern of humankind, Eritrea has the responsibility to ensure that activities within its jurisdiction or control don’t cause damage to environment of other states.

Priority National Environmental Issues

The priority national environmental issues in the context of Climate Change and based on the principle of common but differentiated responsibilities include:

- Promote sustainable management, conservation and enhancement, as appropriate, of sinks and reservoirs of all GHGs, including biomass, forests and oceans as well as other terrestrial coastal and marine ecosystems;
- Promote and cooperate in the development, application and diffusion including transfer, of technologies, practices and processes that control, reduce or prevent

anthropogenic emissions of GHG in key source sectors including energy, transport, and LDCF sectors according to the results of GHG inventory conducted in 1994 in Eritrea;

- Develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture and for the protection and rehabilitation of areas affected by drought and desertification as well as floods;
- Take CC considerations into account in relevant social, economic and environmental policies and actions, and employ appropriate methods;
- Promote and cooperate in scientific, technological, technical, socio-economic and other research, systematic observation and development of data archives related to the climate system;
- Promote and cooperate in the full, open and promote exchange of relevant scientific, technological, technical, socio-economic and legal information related to the climate system and climate change, and to the economic and social consequences of various response strategies;
- Promote and cooperate in education, training and public awareness related to CC and encourage the widest participation in the process, including that of non-governmental organizations; and
- Communicate to the CoP information related to implementation, in accordance with Article 12.

3.4.2 Status of UNFCCC Implementation

Since the ratification of the Convention in 1995, significant progress has been made in the implementation of UNFCCC in Eritrea. The most important ones are preparation of National Communications pursuant to Article 4.1 and 12.1 of the Convention and Preparation of the National Adaptation Programmes of Action (NAPA) under the Least Developed Countries Fund (LDCF). There are also various activities implemented by various governmental, non-governmental and private institutions that have direct or indirect relevance to Eritrea's commitment to the UNFCCC.

The national Communication process comprise six key components: 1) national circumstances; 2) the national GHG inventory; 3) programmes containing measures to facilitate adequate adaptation to CC; 4) programmes containing measures to mitigate CC; 5) other information considered relevant to the achievement of the objectives of the Convention; and 6) constraints and gaps and related financial, technical and capacity building needs.

3.4.2.1 Eritrea's Initial National Communication for Climate Change (EINCCC)

Eritrea submitted its first national communication to the COP of UNFCCC in 2001. Eritrea tried to prepare its first national communication with limited technical, institutional and human capacity. A National Steering Committee had been established under the auspices of the Department of Environment (DoE). This committee provided policy guidance for the implementation of the project. The committee comprised of representatives from DoE, MLWE, MoA, MoTI, MoH, MoF, MoTC, UoA, and MoEM.

A National Project Coordinator and a National Consultant were recruited to implement the project. Generally, the institutional set up to finalize the EINCC was not adequate to maintain the sustainability of the national communication processes in Eritrea.

The major activities carried out under the EINCC are summarized in Table 4 component by component.

Table 4 Major activities carried out under the EINCC

Component of NC	Activities
National Circumstances	Supply relevant information about the socio-economic and environmental conditions that provide an overall understanding of CC.
National GHG Inventory	Prepare national GHG report for the base year 1994 including technical annexes with the inventory procedures calculations and sectoral tables, worksheets for Energy, Industrial processes, Agriculture and LUCF sectors
Programmes containing measures to facilitate adequate adaptation to CC	Provide description of approaches, methodologies and tools used, including scenario for the assessment of impacts of, and vulnerability & adaptation to, CC
	Prepare reports on vulnerability & impact assessments in agriculture, forestry, water resources, coastal and marine environments and public health sectors.
	Develop strategies and measures for adapting to CC in agriculture, forestry, water resources coastal and marine, and public health sectors
	Elaborate general existing policies that have implication for adaptation
	Elaborate general capacity building and institutional strengthening needs across the country
	Elaborate public awareness, education and information provision needs of the country
	Develop adaptation needs and concerns
Programmes containing measures to mitigate CC.	Describe barriers to adaptation, including legal arrangements, institutional management, financial and technological constraints for smooth implementation of UNFCCC in Eritrea
	Identify mitigation options related to energy, transport and LUCF sectors, which were the most important sources of GHG
Other information considered relevant to the achievement of the objectives of the Convention	Elaborate existing programmes and measures implemented or planned to mitigate GHG
	Elaborate linkages between the NC process and national development priorities
	Develop measures and recommendations to improve national programmes for research and systematic observation
	Develop initiatives to increase awareness and understanding of CC issues
Constraints and gaps, and related financial, technical and capacity needs	Develop strategies to cooperate to promote education, training and public awareness
	Elaborate constraints and gaps and additional needs for capacity building activities

3.4.2.2 National Adaptation Programmes of Action (NAPA)

The activities carried out under the preparation of NAPA included V&A assessments as well as identification of priority adaptation activities to adapt to the adverse effects of climate variability and extreme weather events in crop and livestock production, forestry, coastal, marine and island environments, water resources and public health sectors. No new research was carried out to prepare the NAPA, however the available information was synthesized; and carried out an assessment of vulnerability to current climate variability and extreme events and of areas, where risks would increase due to CC, identified key adaptation measures as well as criteria for prioritizing activities and created a prioritized short list of activities. The development of NAPA in Eritrea also includes short profiles of projects and /or activities intended to address urgent and immediate adaptation needs of Eritrea. The NAPA consultation process gave considerable emphasis to the analysis of existing policies and institutional framework so as to assess their suitability for integration and implementation of the NAPA in the national development context.

3.4.2.3 Eritrea's Second National Communication (SNC)

Eritrea is in the process of preparing its Second National Communication (SNC). The SNC builds on the EINCC and tries to address the data and information gaps, capacity constraints, and uncertainties identified in the EINCC. SNC also identifies new emerging socio-economic and environmental issues for study under its various components. The findings of the SNC will link to national development planning at the policy and project levels.

The production of EINCC document was considered the end point of the process in Eritrea. Eritrea was unable to use the initial national communication as an entry point into the development process. The SNC represents an opportunity to transform the process from merely reporting to development of a strategic and policy-support tool. The national communication team will guide this transition; however international backstopping will assist in the process. The SNC will be a vehicle to facilitate:

- Institutionalization of CC responses;
- Production of knowledge and information on the basis of national priorities;
- Effective policy dialogue; and
- Public education and awareness for mainstreaming CC concerns at different levels in society.

One of the best ways to ensure sustainability of the national communication outputs is to institutionalize the process so that CC responses are mainstreamed into the government agenda, hence institutionalisation of CC responses will be a key objective of SNC. National team will revisit the existing scope of the national communication and ensure that the outputs focus on national priorities and are linked to development planning.

3.4.3 Capacity Constraints and Key Priority Capacity Needs

3.4.3.1 Capacity Constraints

The major capacity constraints identified in the course of implementing UNFCCC in Eritrea as well as findings obtained at individual, institutional and systemic capacity assessments are summarized component by component in Table 5.

Table 5. Major Capacity Constraints during implementing UNFCCC

Component of NC	Capacity Constraints
National Circumstances	Lack of effective institutional structure to sustain the national communication.
National GHG Inventory	Lack of capacity to formulate arrangements to collect and manage data for continuous inventory preparation.
	Lack of capacity to formulate procedures for managing uncertainties in inventory data & GHG emission calculations.
Programmes containing measures to facilitate adequate adaptation to CC	Lack of capacity to conduct vulnerability assessments for priority systems, sectors or regions.
	Inadequate capacity to identify adaptation strategies and measures.
	Inadequate capacity to formulate policy frameworks for implementing mitigation measures.
Programmes containing measures to mitigate CC	Inadequate capacity to conduct CC mitigation analysis.
	Inadequate capacity to formulate policy frameworks for implementing mitigation measures.
Other information considered relevant to the achievement of the objectives of the Convention	Inadequate capacity to mainstream/integrate CC considerations into national development and policy formulations.
	Inadequate capacity to carry out activities related to transfer of environmentally sustainable technologies.
	Inadequate capacity to promote national and Global information on CC research and systematic observation.
	Inadequate capacity to promote information on CC education, training, and public awareness.
Constraints and gaps, and related financial, technical and capacity needs	See the next section 3.4.3.2

3.4.3.2 Key Priority Capacity Needs

It would be impossible to address all of the capacity constraints due to technical, institutional and financial capacity limitations under the NC process, hence the strategy is to find other windows such as NCSA to address some of the capacity constraints that would assist the NC process to be sustainable. The capacity constraints to be channeled into the NCSA process should provide entry points of common capacity needs with other Rio Conventions to the extent possible. With this guiding principle, the key priority capacity needs are summarized below component by component in Table 6.

Table 6 Key priority capacity needs under the UNFCCC in Eritrea

Component of NC	Key priority capacity needs
National Circumstances	Identify and analyse other sources of financial and technical assistance for preparing NCs including sectoral level assessments. Training for the NC team on planning the NC project on sustainable manner.
National GHG Inventory	Training for GHG inventory TWG on GHG inventory planning and preparation.
Programmes containing measures to facilitate adequate adaptation to CC	Training for mitigation and V & A assessments thematic working groups on general steps for developing climate and socio-economic scenarios and models, tools and data sources Identify and analyse the available funds for adaptation activities. Training for V&A assessment thematic working group on designing, planning for and implementing policy relevant to V& A studies under the SNC. Training for V&A Thematic Working Group (TWG) on identifying and evaluating adaptation options. Training for V&A TWG on leveraging the process and results of V&A studies for the development of national/ sectoral adaptation strategies, policies and projects.
Programmes containing measures to mitigate CC	Training for mitigation of TWG on implementing the mitigation assessment. Identify and analyze the available mitigation funds such as CDM.
Other information considered relevant to the achievement of the objectives of the Convention	Training for mitigation and V&A TWGs on implementing technology needs assessment
Constraints and gaps, and related financial, technical and capacity needs	Training for mitigation and V&A TWGs on how to put plans into action

3.4.4 POSSIBLE ACTIONS

The recommended priority actions are:

- Implement the immediate, mid-term and long-term priority adaptation activities identified in the NAPA and EINCC processes using the various mitigation and adaptation funding mechanisms as appropriate including:
 - Special Climate Change Fund (SCCF) under the UNFCCC:
 - Least Developed Country Fund (LDCF) under the UNFCCC:
 - The Adaptation Fund under the Kyoto Protocol:
 - The Strategic Priority on Adaptation (SPA) under the GEF:
 - Clean Development Mechanism for mitigation projects:
 - Resource Allocation Fund (RAF) under the GEF: and
 - Small Grant Project (SGP) Fund under the GEF
- Establish appropriate institutional framework for SNC and sustainability of National Communication process in Eritrea;
- Develop institutional, technical, managerial and financial capacities of the National Communication system in Eritrea using the opportunity presented by the NCSA processes;
- Emphasizing socio-economic assessments as a key element of mitigation and V&A assessments;
- Guiding technical teams to leverage the results of mitigation and V&A studies for project formulation and implementation;

- Promoting policy-oriented studies that expand on the traditional technical assessments;
- Promote education and awareness for mainstreaming CC concerns at different levels in society;
- Use existing platforms (i.e. Poverty Reduction Strategy Papers, Millennium Development Goals (MDGs), national development plans and strategies to integrate CC adaptation into development;
- Climate proof development at the national and sectoral level;
- Bring CC adaptation concerns into the design of projects in areas vulnerable to CC (e.g., agricultural, livestock, forestry, land use, water, health, coastal environment, etc);
- Design specific adaptation projects to be supported by SCCF, LDCF and SPA Fund; and
- In SNC adopt appropriate short-and long-term measures to mitigate CC and/or adapt to the adverse effects of CC; and
- Develop mitigation options that also meet Eritrea's sustainable development objectives, such as MDGs.

3.5 National Biosafety Framework

3.5.1 Introduction

The Cartagena Protocol on Biosafety to the Convention on Biological Diversity entered into force for Eritrea on 8th of June 2005. The Cartagena Protocol on Biosafety is the first International agreement that addresses the adverse effects of modern biotechnology on the conservation and sustainable use of biological diversity, particularly the adverse effects of trans-boundary movement of living modified organisms (LMOs).

3.5.2 Global Significance and Priority National Environmental issues

Global Significance

Eritrea is importing a lot of food aid, processed foods and even LMOs in the form of small plantlets, animals, etc. Nobody in the country knows what these GM foods can cause to human health, nor can any one predict how the imported LMOs could affect the biological diversity of the country as well as the adverse effects of trans-boundary movement of living modified organisms (LMOs) to the neighbouring countries.

National Priority Environmental issues

The priority issues of the country about Cartagena Protocol on Biosafety are listed below:

- Promote awareness both at governmental, non-governmental institutions and community level;
- Write up a government policy on Biosafety;
- Promulgate a regulatory regime for 'follow up' such as enforcement and monitoring for environmental effects;

- Mainstreaming of Cartagena Protocol on Biosafety into the national policies, projects and programmes;
- Identification of the areas affected and/or vulnerable due to living modified organisms (LMOs),
- Creating a national database and indicators to monitor, assess issues on Biosafety and use this as input to an early warning system.

3.5.3 Status of Convention implementation

The National Biosafety Framework (NBF) for Eritrea was launched in the beginning of 2005 with the financial assistance from GEF/UNEP. The project is in its final stage of implementation and is expected to come to an end before the end of 2007.

The project is divided into three phases as follows:

- Survey and Preparation of Inventories
- Consultation, Analysis and Training
- Drafting of NBF.

The activities carried out are summarized in Table 7 below.

Table 7. Major activities carried out under the National Biosafety Framework study

Component	Activities	Findings
Survey and Preparation of Inventories	<ul style="list-style-type: none"> ● Surveys on the status of biotechnology (practice and policy) in the country. ● Designation of a National Focal Point on Biosafety; ● Establishment of a National Biosafety Committee; ● Development of National Biosafety Frameworks. ● Designation of a National Focal Point for the Biosafety Clearing House (BCH). 	<ul style="list-style-type: none"> ● Eritrea is practising the traditional biotechnology and has not yet reached the level of using modern biotechnology. The practise is restricted only in fermentation, brewing and animal breeding. ● Tissue culture practiced at the University of Asmara for research purposes. The National Agricultural Research Institute is also in the process of establishing a tissue culture laboratory. ● Existing laboratories in the country are not equipped with facilities for biotechnological applications. ● No policy specifically tailored to address Biotechnology as well as Biosafety matters that arise in the context of the adoption and/or application of Biotechnology. ● Public awareness has been found to be very low in the country. ● The legal regime of Eritrea has no tailor-made legislation either on

		biotechnology or on biosafety.
Consultation, Analysis and Training	Consultation and Analysis is in progress	Training has not yet been done.
Drafting of NBF	<p>A draft NBF document has been prepared:</p> <p>The following four sets of guidelines have been prepared:-</p> <ul style="list-style-type: none"> ◆ Guidelines for handling Requests/Permits for Authorization, ◆ Guidelines for Risk Assessment of GMOs, ◆ Guidelines for Public Awareness and Participation in Biotechnology/Biosafety, ◆ Guidelines for the Protection of Confidential Business Information (CBI). 	

3.5.4 Capacity Constraints and Key Priority Capacity Needs

Constraints

- There are acute capacity constraints in dealing with biotechnology issues in the country at all levels. There are only very few people in the various ministries and other government offices, who have been trained in the area of Biotechnology or related fields.
- The infrastructural capacity is also found to be very low.

Key Priority Capacity Needs

The key priority capacity needs are as follows:

- Awareness creation for effective participation of the stakeholders;
- Development of appropriate policies and regulatory framework e.g in science and technology and land;
- Training of human resources capacity;
- Creating a national database and indicators to monitor, assess issues on Biosafety.

3.5.5 Action Plan

The main action plans that need to be implemented urgently are the following:

- A strategy be developed to raise public awareness about biotechnology/biosafety.
- Eritrea needs to develop its capacity in the area of biotechnology so as to benefit from it, while minimizing the potential risks.
- Develop a national Biosafety policy in light of the existing gap. The policy should, at the bare minimum, articulate the government's approach on Biosafety, the interface between Biotechnology and Biosafety, the institutions that should be established, the institutional relationships that should exist between and among concerned ministries and other relevant issues.
- Establish regulatory instruments on biotechnology and biosafety. However, there are adopted and, mostly, drafted laws that might be relevant from the vantage point of biosafety/biotechnology.
- Eritrean Biosafety regulatory system should fully address all stages and activities of GMOs. This would mean that it has to encompass the deliberate release into the environment, commercial release, confined and unconfined field trials and consumption by humans and/or animals of GMOs.
- The NBF document should therefore take all these gaps into account and provide detailed proposals for promoting and developing biotechnology in the country with the desired level of biosafety measures.

IV. OPPORTUNITIES FOR SYNERGISTIC AND CROSS CUTTING CAPACITY BUILDING IN ERITREA

4.1 Why Do We Need Analysis of Cross-Cutting Issues

As party to the Rio conventions, Eritrea has certain obligations to protect its biodiversity, respond to climate change and minimize land degradation. For instance, the Rio conventions are all calling for national strategies and action plans, obviously it is reasonable to combine efforts on climate change, desertification, and biodiversity in order to produce a coordinated plan with mutually-reinforcing activities instead of multiple action plans whose activities are poorly coordinated or worse, contradictory.

Synergy is defined as the achievement of results greater than what would occur if efforts to address a common problem were undertaken independently, hence synergy in the context of the environmental conventions would help avoid duplication of efforts and promote close collaboration among the implementing institutions thus boosting efficiency and cost-effectiveness at the national and local level. By taking a “complementary approach” and working cooperatively to address climate change, desertification and biodiversity loss it is hoped that synergy can be promoted.

Climate change, desertification and loss of biological diversity are intimately connected to one another; they overlap and affect, and are affected by each other. For example, loss of biological diversity will have profound implications for desertification, and will certainly contribute to climate change of the world. This interconnectedness means that opportunities exist to build on areas of mutual interest in a manner that promotes identifying opportunities for synergistic capacity building for global environmental management. By seeking synergies between MEAs and appropriate capacity building for their effective implementation can help achieve national development objectives while also supporting the achievement of Eritrea’s climate change, desertification and biological diversity objectives.

Eritrea while fulfilling its obligation under each of the Rio conventions, the NCSA project could provide for identifying capacity gaps, when implementing National Biodiversity Strategies and Action Plans (NBSAPs), National Action Plan to Combat Desertification (NAP), National Communications (INC) and National Adaptation Programmes of Action (NAPA). By doing a cross-cutting assessment and removing the common constraint, while implementing each of the Rio conventions, would actually have a positive impact. The search for inter-linkages among the three Rio conventions is also a desirable initiative, since the NCSA process provides the direction and purpose for achieving synergies among the Rio conventions.

4.2 Thematic Interlinkages

Linkages among the Rio Conventions refer to common objectives, processes and other elements of the Conventions. The Rio Conventions to which Eritrea signed are linked in many ways, creating numerous opportunities for building synergies. Since Eritrea is party to the Rio Conventions there are many similar requirements for action, research, reporting and other necessary activities.

Achieving goals: the underlined three Rio Conventions need to have the following goals for national action, capacity building and awareness raising, and cooperation.

Approaches to activities: all of the Rio Conventions support activities of research, assessments, information exchange, training, development of strategies and action plans and inventories.

Awareness raising and education, public participation: all the conventions emphasise that in order to implement the conventions, it is important to ensure that the public and workers in the fields of environment and development are aware and educated.

4.3 Areas for Common Capacity Needs for Global Environmental Management in Eritrea

In consultation with the stakeholders, the areas of common capacity needs have been developed and analyzed, and identified eight specific cross-cutting areas, where capacity needs across all three conventions namely biodiversity, climate change and land degradation are similar and where further in-depth analysis is required. The most important common capacity needs are presented below:

1. Environmental Education, Awareness and advocacy: The long-term objective for this program area is to facilitate the emergence of an informed public, knowledgeable of and committed to the furtherance of sound environmental practices in the context of broad-based social and economic development. At present, public information is limited by:

- an absence of authoritative and accessible scientific guides to the issues,
- an absence of regular and skilled media presentations, notably by radio on environmental issues,
- a weak or non-existent civil society sector concerned with environmental issues, and
- an absence of links to international bodies with concerns in this area.

2. Environmental Policy, Institutional and Legal Frameworks: Although Eritrea has issued a number of laws in support of sustainable development, certain gaps remain. For example these laws are still in draft form and need to be approved and harmonized with other sectoral legislation:

- Environmental Law
- Water Law

- Maritime Law.

3. Environmental Impact Assessments: The use of EIAs is still barely developed in Eritrea. The primary objective will be to extend the capacity and use of the EIA procedures and guidelines as both a planning and a regulatory tool among relevant ministries, local governments and the private sector.

4. Environmental Information Management Systems: The primary objective is to develop the scientific and technical capacity required to provide a more complete assessment of the dynamic state of the Eritrean environment and to monitor key environmental parameters by the establishment of an EIS network in Eritrea with regional and global linkages.

5. Biodiversity Conservation and Management: The central objective is to facilitate and direct the planned expansion of production systems and the resettlement of populations in an environmentally sustainable manner, while conserving and protecting critical biodiversity resources.

6. Human Resources Development and Institutional Capacity Building: The objective is to rapidly increase staff opportunities for exposure, education and experience in relevant areas of environmental management, regulatory policy and practice, environmental impact assessment methods, information collection and management, and State of the Environment Reporting. At the same time, enhancing institutional memory capacity that will ensure the retention of key insights and documentation.

7. Global - National - Provincial - Local linkages: Effective processes must be established for co-ordination between the national and provincial on environmental issues, which are not defined by administrative boundaries. At the same time, the active participation of the local communities is essential to sustainable environmental management.

8. Gender: Eritrea has typically advanced legislation in respect of women's rights and powerful and cohesive women's associations. It is recognized that women are key stakeholders in all processes of environmental awareness, as they transmit value-systems to the upcoming generations. A particular focus will therefore be on awareness and training in relation to women's associations and in the production of gender-sensitive educational materials.

4.4 Constraints and opportunities for capacity building for the synergistic implementation of MEAs

The major constraints and opportunities (Table 8) identified by the NCSA process were entirely cross-cutting for the three thematic areas and, therefore, merit a synergistic intervention approach. They include systemic and institutional constraints:

A. Systemic Constraints

1. Weak inter-institutional coordination and communication: The ineffective inter-institutional coordination mechanisms, hosting of various Natural Resources (NR) sub-sectors in different ministries, unharmonized institutional interests and the weak vertical and horizontal information flow between them and local governments are some of the causes.

All of the Conventions (UNCBD, UNFCCC, UNCCD) require the creation of a national steering and technical committee. However, the linkages between these committees are relatively weak. In addition, there are weak institutional bodies to implement and follow up the Conventions in the Department of Environment and the Ministry of Agriculture.

2. Weak policy and legal framework: The lack of enabling laws to strengthen national commitment and harmonization in implementation of MEAs and their integration into national laws and policies is a key constraint in this respect.

3. Low awareness by the public of MEAs issues: At present there is lack of a well informed public due to scarcity of awareness materials on MEAs, poor integration of MEA and other ENR issues into formal education programs and curriculum limits public appreciation of MEAs issues, and a weak or non-existent civil society sector concerned with environmental issues.

4. Lack of baseline data and information exchange: Modern database management facilities and skilled human resources to develop and maintain databases are generally lacking in the key institutions dealing with natural resource management.

It has to be realized that each Rio convention (UNCBD, and UNCCD and UNFCCC,) have separate ways of addressing information required and information generation and have independent monitoring and reporting requirements. Therefore, there is failure to understand the common principles of monitoring among the conventions and failure to facilitate common reporting from national governments.

5. Absence of land use planning: The dominant use of primitive and labor-intensive production tools for cultivating the land and the expansion of agriculture into marginal lands DoEs not provide the incentive for soil and water conservation at farm level. The traditional tenure patterns particularly the Diessa (village ownership) and Risti (kinship ownership) have not been conducive to good land husbandry, they have instead prevented landlessness. In addition lack of land use and land cover maps are serious constraints in land use planning.

B. Institutional Constraints:

- 1. Inadequate technical capacity to implement the MEAs:** There is inadequate skilled human capacity in the Department of Environment and Ministry of Agriculture, which are focal and implementing bodies for the Rio-Conventions. Hence in order to

implement MEAs there is a need to carry out an assessment of the Human Resources Capacity and training needs, this could be done by increasing staff opportunities for exposure, education and experience in relevant areas of environmental management, regulatory policy and practice, environmental impact assessment methods, information collection and management, and State of the Environment Reporting.

2. **Weak institutional capacity:** An institutional structure has not been established to maintain progress and to upgrade levels of scientific knowledge among experts in different relevant institutions, leading to serious limitations in adaptive planning capacities, infrastructure development, information gathering and management, analysis and information dissemination.
3. **Inadequate funding and lack of budget:** Access of financial resources for implementation of programs and projects are limited, due to weak capacity to prepare timely and acceptable proposals using guidelines provided by funding agencies. If the required resources are not mobilized to implement the activities, then the mandate to fulfill the Rio convention obligations could be threatened.
4. **Inadequate Monitoring and Evaluation mechanisms:** Lack of baseline data and measurable indicators on key parameters relevant to implementation of MEAs make monitoring and evaluation (M&E) less valuable to decision makers. Not to mention the poor integration of M&E in environmental programs, which has affected performance tremendously.
5. **Inadequate research and training:** Low priority given to environmental issues in the national research policy and strategic plans, and inadequate infrastructure and facilities for research in specific MEA issues, has affected the capacity of relevant institutions to conduct environmental related research. Since technical and scientific capacity is required to implement the Rio conventions, the research capacity of the thematic areas has to be enhanced as well as the training of research staff has to be put in place and scientific institutions have to be encouraged to carry out research.

C. Opportunities for Synergy in Capacity Building

There are several opportunities for every institution involved in environmental activities related to each thematic area. One of the main opportunities is that many stakeholders are already engaged in different environmental activities and have significant experience in planning, implementing and evaluation of various environmental conservation activities ((Annex 2). For instance, the Ministry of Education jointly with the Ministry of Agriculture and Zonal administrations have been conducting excellent work in soil and water conservation by mobilizing students during the summer work program.

The other opportunity is that although further awareness raising campaigns are needed nevertheless there is well-founded awareness, indigenous wisdom and traditional practices among the different Eritrean communities on environmental conservation. Thus new practices and knowledge could be applied on top of these traditional practices.

The third type of opportunity is that many of the staff and experts of the stakeholders have some basic knowledge and skill about the thematic areas and hence their skill could easily be enhanced with some short training. For example the small pool of knowledge and experience in the DoE could be effectively utilised if short term specialised training is given to the staff.

The detailed breakdown is presented below:

1. Existing institutional support

There are several opportunities for every institution involved in environmental activities related to each thematic area like:

- Many stakeholders are already engaged in different environmental activities and have significant experience in planning, implementing and evaluation of various environmental conservation activities and their skill could easily be enhanced with some short-term training.
- There is well-founded awareness, as well as indigenous wisdom and traditional practices among the different Eritrean communities on environmental conservation. However further awareness raising campaigns are needed.
- Existence of DoE as the principal government agency on environment matters with a role to coordinate, supervise and monitor all matters of environmental management provides a good institutional foundation for synergistic implementation of the MEAs.
- The existence of Village Committees on development projects and established water and environmental committees from district to local level facilitates the development of strong local environmental management institutions and could promote participatory planning and monitoring environmental changes.

2. Supportive legal and policy frameworks

- Although most of the existing natural resource management related laws and policies do not specifically mention MEAs, they outline measures necessary for implementation of MEAs issues and could be reviewed to strengthen implementation of MEAs.
- The Proclamation for the Establishment of Regional Administrations (No. 86/1996, GOE, 1996) and the Land Reform Proclamation No. 58/1994 (GOE, 1994), provide the necessary legal basis for implementing the synergy for capacity building.
- Poverty reduction and economic development is addressed in the Transitional Economic Growth and Poverty Reduction Strategy (GoE, 2001) and Interim Poverty Reduction Paper (2004), which lays out the government's policies for macroeconomic management, steps to create the conditions for economic growth, and policies and programs to ensure that growth is widely shared.

3. Existence of structures to support community level initiatives

- The existence of a decentralized governance system with local village councils up to village level provides structures through, which communities can be organized

to undertake initiatives to implement MEAs. This will help to coordinate environmental efforts and achieve synergies.

- NGOs and CBOs working on Natural Resource management and micro-credit activities are available that could support and facilitate synergistic implementation of MEAs at community level.

4. Potential institutions to provide technical and managerial skills

- Asmara University and the recent decentralization to the Zoba's of institutions of higher learning could be used as a springboard to integrate the required technical and managerial training programs to support implementation of MEAs.
- There are institutions, such as Statistics and Evaluation Office and Sustainable Land Management (SLM, NSEO, 2003) and Eritrean Land Use Forum (ER-SLUF), Global Water Partnership in Eritrea (GWP-Eritrea), which are already engaged in collecting data relevant to MEAs and can provide a starting point to strengthen national reporting, development of country profiles and harmonization of databases.

5. Conducive environment for awareness and education

- The adoption of environmental education in the National Curriculum and the growing number of mass media broadcast of environment awareness campaigns particularly through radio provides an opportunity to educate the public, particularly the youth on issues of natural resource management, particularly on MEAs.

6. Potential for mainstreaming and tapping global resources

- Periodic review of national and district development frameworks and the annual budgeting process are participatory and allow integration of emerging issues and priorities. This is conducive for mainstreaming and prioritizing MEAs issues in national planning and budgeting processes in order to enhance resource allocation for their implementation.
- The decentralized management of development programs adopted by government enables more financial resources to reach targeted areas and populations, thus enhancing effective use of the available resources.

7. Mainstreaming MEA issues into Sector-Wide Action Plans and District Development Plans

- The Government of Eritrea gives high priority to proper conservation and use of the environment and as part of its poverty assessment the I-PRSP project took on board environmental issues in order to establish causes of poverty. However in the sectoral policies and priorities not many of the Line Ministries had given emphasis to environmental issues.
- The Eritrean Government has formulated a food security strategy and a realistic plan to meet the challenges, which will form an integral part of the poverty reduction strategy paper.

4.5 Conclusion

Since Eritrea is a new state, it is overstretched by the Rio conventions' competing demands and obligatory activities. Therefore, capacity building will help the country to address these demands and achieve synergy. The following recommendations are suggested for follow up in order to ensure the success of synergistic implementation of NCSA:

It is suggested that development of capacity to conceptualise and formulate policies, legislations, strategies, and programmes should be formulated, which will help in effective implementation of capacity building projects by:

This will be done by:

- Developing policy, planning effectively and reforming legal frameworks;
- Developing and synchronizing national policy, legal and regulatory frameworks to avoid confusion between sectors and among national, zoba, sub-zoba and local levels;
- Improve information management, monitoring and observations to facilitate policy-making and decision making;
- Developing institutional mandates in order to avoid overlap or reduce gaps;
- Enhancing mobilization of science and technology in support of policy and decision-making.

At the same time capacity has to be developed to engage and build consensus among all stakeholders, which will ensure the ownership of project. In addition the capacity to mobilise information and knowledge should be put in place to ensure wider participation and create awareness of the people and beneficiary organizations.

This will be done by:

- Examining existing institutional structures and altering them as needed to facilitate greater communication and cooperation between MEA focal points;
- Improving coordination in implementation of the MEAs at national and local levels, by bringing together cross-cutting national committees or steering committees for the three Rio Conventions, which will help facilitate the achievement of synergies;
- Establishing a coordinating mechanism between the Department of Environment and Ministry of Agriculture that links the two separate institutions, which are focal points for UNCBD, UNCCD and UNFCCC respectively, which helps synergy at national level;
- Developing capacity to strengthen the ability of MEA implementers to resolve conflicts and engage in integrated planning processes;
- Enhancing education, training and creating awareness of focal point members about the objectives and activities of the various MEAs in order to highlight their mutual interests, foster more effective decision-making and action plan;

- Enhance capacity of key institutions, which are involved in policy-making in order to ensure effective communications between institutions.

If the required resources are not mobilized to implement the activities, then the mandate to fulfill the Rio convention obligations could be threatened.

This will be done by:

- Developing capacity to access financial and technological resources for implementation of programs and projects;
- Prepare timely and acceptable proposals using guidelines provided by funding agencies;
- Create awareness' and lobby for a fair share of budget from the Government;
- Developing incentive systems and market instruments.

In order to implement MEAs there is a need to increase capacity of the human resources by:

- Carrying out an assessment of the Human Resources Capacity and training needs;
- Increasing staff opportunities for exposure, education and experience in relevant areas of environmental management, regulatory policy and practice, environmental impact assessment methods, information collection and management, and State of the Environment Reporting;
- Enhancing skills to enable staff to participate in international agreements, carry out effective negotiations and reporting; improve coordination and processes for interaction within the country and among regions;
- Improving management capacity to make sure individuals are effectively deployed, mobilized, motivated, and are given appropriate and adequate responsibilities.

Finally the project cannot be accomplished successfully unless the capacity to monitor, evaluate, report and learn is put as part of the overall strategy by:

- Performing impact assessments and research;
- Reporting and monitoring.

Table 8. Identifying Capacity Constraints and Opportunities for integrated Capacity Building

Cross-Cutting Capacity Constraints	Biodiversity	Desertification or land degradation	Climate Change	Opportunities for cross-cutting Capacity building
Legislation and policies	X	X	X	<ul style="list-style-type: none"> • Approval of available draft policies and environmental law • Draft legislations by taking the experience of other countries
Stakeholder coordination	X	X	X	<ul style="list-style-type: none"> • Review the past projects properly and use the lessons learned. • Improve coordination and communication of stakeholders • Use multi-stakeholder consultations and decision making efforts
Unclear stakeholders mandate	X	X	X	<ul style="list-style-type: none"> • Promotion of partnership and working together • Agree on activities to carry out between the stakeholders • Continuous communication and information exchange
Institutional weakness of government institutions in project implementation	X	X	X	<ul style="list-style-type: none"> • Projects should be led and driven nationally by including self monitoring, self evaluation and learning by doing • High political commitment in implementing projects related to the three conventions
Public awareness and education	X	X	X	<ul style="list-style-type: none"> • Use of mass media • Use of schools to raise awareness and public education • Improve the existing curricula so that it integrates national environmental issues
Information and data management	X	X	X	<ul style="list-style-type: none"> • Use experience of other countries data management system • Establish national or sectoral data management institution
Financial resources	X	X	X	<ul style="list-style-type: none"> • Assess and use the available international funds • Improve national funding system
Monitoring and evaluation skill	X	X	X	<ul style="list-style-type: none"> • Use learning by doing approach • Introduce M&E in all projects.

V. STRATEGY AND ACTION PLAN

5.1 Goals, Objectives and Strategy for Capacity Development

Goals

Eritrea has weak institutional capacity, low technical and managerial capacity, and inadequate human resources both at the national and regional levels and financial constraints to achieve synergy and implement the Rio Conventions. Hence the **goals** of the capacity development initiatives are to enhance institutional, technical, managerial, human resources and financial capacity of the country to fully implement its commitments under the Rio Conventions.

Capacity Development Objectives

As a contribution to the achievement of these goals, the capacity development initiatives' **objectives** are as follows:

The main objective of the Strategy is strengthening of the systemic, institutional and individual capacities for implementation of the three Rio Conventions. This will ensure that the overall goal of the Department of Environment (DoE) is achieved by improving the living conditions at the community level, whereas the developmental objective is promoting environmental sustainability.

The Strategy provides sustainability through identification of the overall objectives for capacity development, as well as a guideline for implementation regarding time, resources and basic indicators, and mechanisms and procedures for monitoring and evaluation of the progress.

The capacity development objectives will involve:

- Proposing a series of programmes or/and actions that respond to the national capacity needs identified, prioritized and agreed in the above process.
- Propose criteria for prioritization of the actions including time horizon of the action plan (i.e. short, medium or long term actions)
- For each action, propose implementation mechanism, estimates of required funding, idea on source of fund and other necessary details
- Present findings to the DoE, Steering Committee and national workshop, seek their inputs and finalize the plan accordingly.

Strategy for Capacity Development

A synergistic approach is taken in developing the capacity building strategy. This approach intends to ensure the implementation of the strategy and to build necessary capacity focusing on the cross-cutting issues and common possibilities for more efficient

implementation of the three Conventions. It sets a limited number of objectives, tasks and activities that meet the following criteria:

- Those that contribute directly to capacity, common to the implementation of the three Conventions. For example, improved knowledge and skills for implementation of the principles that are common to the three Conventions;
- That are urgent, that must be addressed immediately before it is too late;
- They are of critical, meaning that their non-implementation renders impossible the achievement of other, broader goals;
- They are considered highly effective and efficient, i.e. they bring significant benefits without enormous expenses. Such activities involve improvement of coordination, early consultations with stakeholders for decision-making, improvement of the transparency as an element of governance.

5.2 Action Plan and Follow up Steps

5.2.1 Introduction

The synergistic Action Plan intervention areas were re-prioritized taking into account the existing constraints, opportunities, their ranking, their relevance and scale and level of concern of the problem they are addressing. Each of the following recommended activities addresses either two or three of the environmental conventions including UNCBD, UNCCD and UNFCCC and may give clue to synergized capacity building activities.

In the Action Plan a short activity description, the timeframe for implementation, tentative budget, expected results, indicators, responsible institutions are given. The activities in the Action plan are planned for a period of five years, namely from 2007 to 2012.

The consultants identified eight synergistic capacity building intervention areas and a number of convention-specific intervention areas as priorities to be implemented in the short, medium and long term horizons. The short term is 1 year, medium term is 2-3 years, and long term is 3-5 years.

The following are the 8 synergistic capacity building intervention areas identified:

- Environmental education, awareness and advocacy
- Environmental policy, institutional and legal frameworks
- Environmental Impact Assessment
- Environmental Information Management systems
- Biodiversity, conservation and management
- Human resources development and institutional capacity building
- Global-national-provincial linkages
- Gender

5.2.2 Action Plan for Synergistic Interventions for the NCSA Project

5.2.2.1. Environmental Education, Awareness and Advocacy

The strategic objective for this program area is to facilitate the emergence of an informed public, knowledgeable of and committed to the furtherance of sound environmental practices in the context of broad-based social and economic development. This can be achieved by:

- Authoritative and accessible scientific guides to the environmental issues.
- Simplification and translation of information and key documents on MEAs into the main local languages and sensitization workshops for key stakeholders, particularly the policy and decision makers.
- Producing regular and skilled media presentations, notably by radio on environmental issues.
- Appropriate curriculum material based on the local situation for schools and universities, and strengthening public education on MEAs will require review of curriculum, production of education/ teaching materials and orientation of teachers towards MEAs issues.
- Promoting a strong civil society sector concerned with environmental issues,
- Building linkage with international bodies with concerns in environmental issues.

Implementation of the above-mentioned interventions will go a long way in creating public education and awareness of the MEAs as well as integrating these issues into educational programs of schools and tertiary institutions.

5.2.2.2 Environmental Policy, Institutional and Legal Frameworks

Inadequate integration of MEAs issues in sectoral policies and plans as well as the weak implementation and enforcement of policies and laws for natural resource management are key constraints to sustainable utilization of these resources. Hence the action plan should focus on the following issues:

- Putting in place guidelines for integration of MEAs issues into national and district development plans and policies.
- Where necessary formulate new policies and laws e.g. on rangelands management, pastoralism, land use, biodiversity, climate, research, employment, energy, disaster preparedness and natural resource.
- Although Eritrea has adopted a number of laws in support of sustainable development, certain gaps such as Protection of the Environment and Water Management remain; hence these laws are still in draft and need to be harmonized with other sectoral legislation.
- Agreement around critical issues such as the authority and procedures for the establishment and management of protected areas will be required. In the light of forest encroachment and locally rapid degradation, a 'fast-track' procedure needs to be instituted to ensure, for example, rapid gazettement of Protected Areas.
- In view of potential policy conflicts, such as between high-output farming and agrobiodiversity conservation, a powerful inter-institutional committee will have to be established to set priorities. Its authority will have to be adequate to over-

rule policies of individual ministries. Such a committee should include representatives from civil society bodies.

- Actions to promote increased public awareness of laws and policies on natural resource management should be enhanced.
- Measures should also be taken to promote participatory implementation and enforcement of laws and policies on natural resources through strengthening the role of local communities in monitoring natural resources management.

It is expected that the above interventions will lead to stronger integration of MEAs issues into national and district legal, policy and regulatory frameworks. In addition, this will strengthen human and institutional capacity to implement and enforce laws and policies for natural resource management.

5.2.2.3. Environmental Impact Assessments (EIA)

The use of EIAs is still barely developed in Eritrea. The primary objective will be to extend the capacity and use of the EIA procedures and guidelines as both a planning and a regulatory tool among relevant ministries, local governments and the private sector.

5.2.2.4. Environmental Information Management Systems

The primary objective is to develop the scientific and technical capacity required to provide a more complete assessment of the dynamic state of the Eritrean environment and to monitor key environmental parameters by the establishment of an EIS network in Eritrea with regional and global linkages.

Hence the action plan should focus on the following issues:

- Steps should be taken to standardize data collection and analysis formats and tools in order to facilitate easy data exchange and use by a wide section of users.
- There is need to enhance data and information exchange by digitizing available data sets, expanding access to and making cost effective the use of ICT by promoting wireless internet use especially for rural based planners and actors.
- Efficiency in data collection, analysis and management should be improved through upgrading data collection facilities with a view to making them less labour intensive especially in rural areas, where skilled man power is scarce.
- Training programs in data management and ICT use is required.
- The capacity to network and facilitate electronic exchange of data among generators and users should be strengthened through frequent networking meetings to determine data and information needs and bridging technology gaps.
- Establish data collection centres and networks specifically on ENR
- Make use of Drought Monitoring Centre, IGAD's Grain Marketing Information System in order to strengthen information exchange and dissemination.

The above activities are expected to strengthen information collection, analysis and exchange, and put in place frameworks and protocols for exchange of information and monitoring of natural resources that integrate MEAs issues.

5.2.2.5. Biodiversity Conservation and Management

The central objective is to facilitate and direct the planned expansion of production systems and the resettlement of populations in an environmentally sustainable manner, while conserving and protecting critical biodiversity resources. This will be achieved through:

- Integrated initiatives in land use planning, water resource management, applied research on the effective use and conservation of agricultural biodiversity resources, and the identification and protection of biological resources through the establishment of resource-specific management plans and a graduated protected areas system.
- Preparing guidelines for sustainable land use planning that integrate MEA issues, which should be made available to land planners in all sectors and users.
- Make use of Information and Communication Technologies (ICTs), such as GIS and Remote Sensing and other modern land use planning tools should be integrated in all sectors through targeted training programs.
- An integrated approach to Sustainable Land Management (SLM) that incorporates MEA issues, particularly weather and climate information, early warning and disaster preparedness, should be developed and adopted by land use planners.

5.2.2.6. Human Resources Development and Institutional Capacity Building

The objective is to rapidly increase staff opportunities for exposure, education and experience in relevant areas of environmental management, regulatory policy and practice, environmental impact assessment methods, information collection and management, and State of the Environment Reporting. At the same time, institutional memory capacity will ensure the retention of key insights and documentation. This will be achieved by:

- Ensuring that all stakeholders participate in the co-ordination and management of sustainable development, the roles and mandates of all the stakeholders must be clearly articulated. This implies the establishment of key committees with mandates for prioritisation.
- Strong coordination between institutions and adoption of an integrated approach are fundamental in ensuring synergistic implementation of the MEAs. This can be achieved by establishment and strengthening collaboration between institutions through formation of relevant committees and networks, development of guidelines for joint actions and mainstreaming of MEAs into planning processes.
- Strengthening manpower in the relevant fields of institutional development through recruitment and training, as well as improvement of the available physical infrastructure and facilities to facilitate coordination at national and district and lower administrative levels.
- Build technical and managerial capacity, by focusing on those that are relevant across the four MEAs and facilitate a synergistic approach to implementation of MEAs. These include: review of institutional curricula to integrate MEAs issues; preparation of training materials on MEAs basing on identified needs; training key actors in implementation of MEAs in the following fields: negotiation skills, conflict resolution and management, gender responsive policy and law development and analysis, integrated planning and assessment, monitoring and

evaluation, SLM, biotechnology, ICT, ecosystem and data management, and designing incentives and entrepreneurship related to MEAs.

- Strengthen research related to MEAs and technology development/ transfer.
- Research institutions and centers of excellence should be equipped with relevant facilities and trained manpower in required competences to enable them conduct resource valuation and impact of environmental degradation studies.
- It is also essential to promote exchange of MEAs related research findings and technologies by establishing and strengthening research and technology networks and supporting their activities such as electronic information networks, workshops, conferences as well as journals and publications.

5.2.2.7. Global - National - Provincial - Local linkages

Eritrea has been effective in developing NAPs based on its obligations following ratification of international conventions. Although the GoE is undertaking an extensive programme of decentralisation to *zoba* level, the Global, National, Regional and local linkages and accessing resources for project implementation has been weak. Hence in order to enhance national capacity for mobilizing resources, and strengthen Global, National, Regional and local linkages the following action plan should be undertaken:

- Effective processes must be established for co-ordination between the national and provincial on environmental issues, which are not defined by administrative boundaries.
- Village level committees should be empowered to co-ordinate and integrate development plans and programmes by mobilising and establishing co-operative self-help projects and programmes.
- Train actors in preparation of multidisciplinary proposals, and management and sharing of information on availability and means of accessing both domestic and external resources (e.g. carbon funds).
- Promote partnerships with a view to mobilize resources from various donors and make use of the expanded GEF portfolio that includes land degradation and deforestation as focal areas.

5.2.2.8. Gender

As key providers in the household, women are preferentially affected by soil erosion, declining yields and decreased food security. Eritrea has typically advanced legislation in respect of women's rights and powerful and cohesive women's associations. It is recognised that women are key stakeholders in all processes of environmental awareness, as they transmit value-systems to the upcoming generations. A particular focus will therefore be on awareness and training in relation to women's associations and in the production of gender-sensitive educational materials.

5.2.3 Action Plan for the Specific Interventions for the NCSA Project

The Eritrean NCSA includes an Action Plan and indicative costing proposal for its implementation in the form of project profiles. A summary of the timeframe (Annex 3) and project profiles (Annex 4) for each Action Plan, which gives indicative costs, has also been included. This Annex describes each of the proposed capacity development initiatives briefly in terms of its rationale for the activity to contribute to effective implementation of the Conventions, goals, objectives, linkages and directly related activities, partners, roles, implementation arrangements, annual targets and indicators, risks and barriers, financial costs and monitoring and evaluation plan.

Elements of such an Action Plan were based on stakeholder consultations and on the findings of the assessment study as well as key Eritrean priorities. It was impossible to include all “possible actions” and recommendations from the thematic assessments, although a large number of them are represented. It is anticipated that once first actions are being implemented, others will follow. The Action Plan provides for reviews and work sessions for adaptive planning, and contains the setting up of the necessary structure as well as resources mobilization and a monitoring and evaluation framework in order to implement the project efficiently.

5.3 Strategy and Action Plan (SAP) Implementation

5.3.1 Concepts of Operation of the Project /Implementation arrangements

In order to carry out the implementation of the follow up Action Plan three issues are key elements for their successful implementation namely: project planning and initiation, resource mobilization as well as monitoring and evaluation.

5.3.2 Project Planning and Initiation

The Strategy and Action Plan for capacity development in the areas of biodiversity, climate change and land degradation/desertification shall be implemented effectively, based on the capacity and objective realities of the State of Eritrea.

The leading organization for implementation of the Strategy and Action Plan in accordance with the legal provisions shall be the Department of Environment (DoE) of the Ministry of Land, Water and Environment, with involvement of other stakeholders such as the Ministries of National Development, Agriculture, Fisheries, Energy and Mines, Transport and Communication and Finance.

However the implementation of the Action Plan is far more complex and requires a strong institutional arrangement if the work is going to be implemented successfully.

Lessons learned suggested that the implementation phase requires high-level support. It has to be realized that many experts/practitioner/decision makers are very busy. Any involvement in an ongoing Action Plan process needs to be well targeted and realistic. Only at strategic intervention levels the time of some of these people should be thought. It is important to find a constructive balance of need for participation and strategic involvement.

Having in mind the complexity of the issues and in order to ensure that effective monitoring and evaluation is carried out it is recommended that the Government establish a National Steering Committee, (as a continuation of the NCSA Steering Committee) and an NCSA Project Management Unit (PMU). The National Steering Committee will be directly accountable to the Department of Environment and the PMU will be involved in the day-to-day follow up of all the project implementation and will be supported by a permanent Secretariat.

A well-organized organizational structure is proposed (Figure 1), which will develop clear and targeted participation strategy of all the concerned stakeholders.

The Steering Committee and the PMU will be supported by a technical committee, which would directly cooperate with existing National Committees / Focal Points for Biodiversity, Climate Change, and Land Degradation and Desertification. The technical committees will from time to time access experts from the Information and Assessment and the Environmental Management Units of the DOE.

The National Steering Committee will be supported by national and international experts, with funds from international donors such as UNEP/GEF, UNDP, the World Bank and the national budget.

In order to accomplish its tasks the DOE has to establish Regional Co-ordination Offices at Zoba level, which will be composed mostly of representatives of the Ministries of Land, Water and Environment; Agriculture, Fisheries and Transport and Communication and Local Administration and Local communities.

A Forum of Stakeholders will have to be formed at National level in order to support the effective implementation of the NCSA Action Plan.

The National Steering Committee (NSC) and the Project Management Unit (PMU) will have to develop an agreement on the operational aspects of the Action Plan process in a consultative manner. Under the guidance of the Committee, and building on the project planning, the Project Manager will develop a brief but sufficiently descriptive framework for the execution of the project and a detailed work plan sequencing events, milestones and outputs.

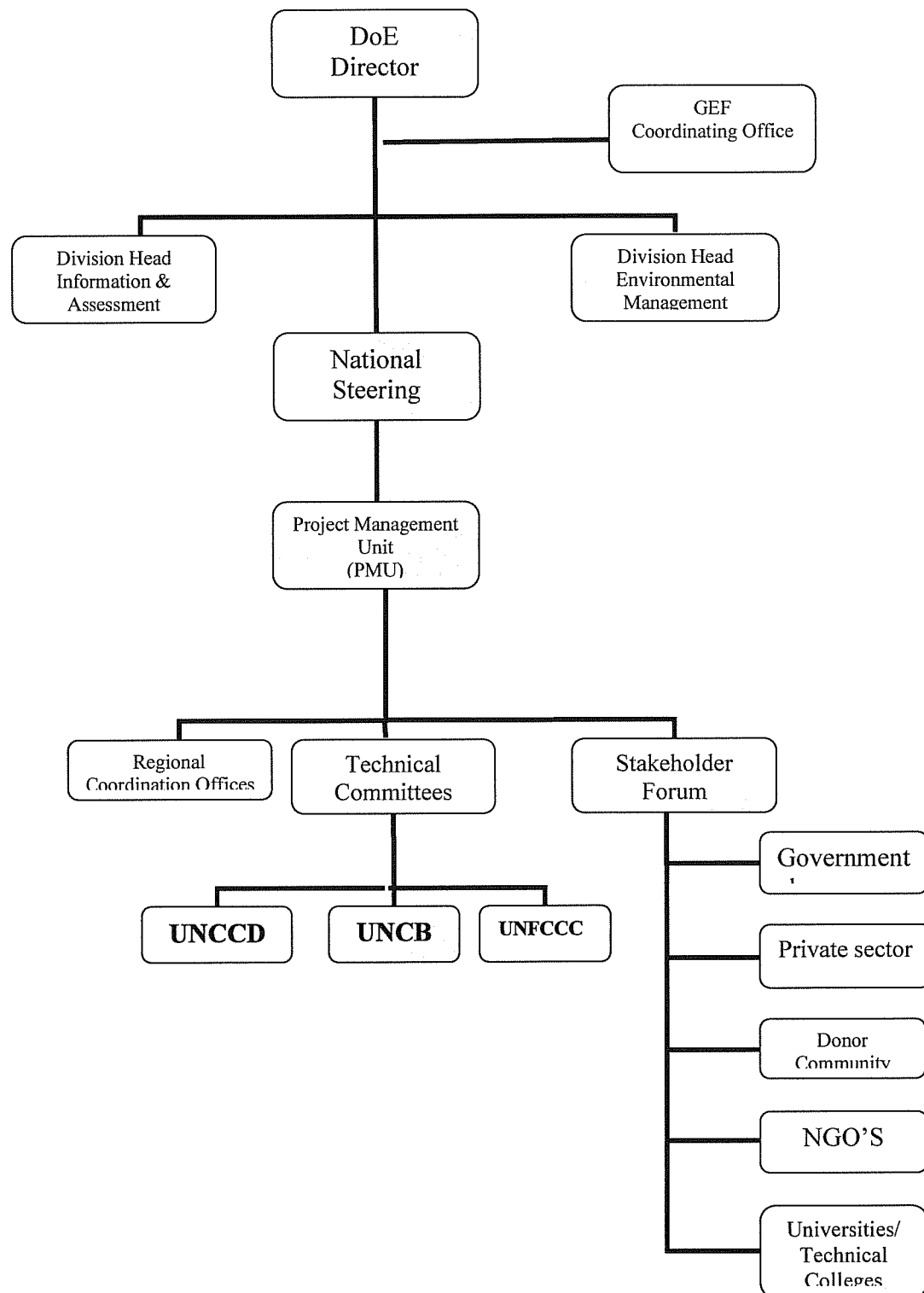
Guidelines for the project will also be established and documented, detailing areas of responsibility, resource allocation, and monitoring procedures for the first five years.

Another important aspect of the project initiation stage will be a full briefing of all the stakeholders from various sectors of the society, a critical step in engaging the stakeholders and encouraging their participation. Government agencies, NGOs, CBOs, academia, professional bodies, donor agencies and the private sector will be invited to a national workshop at the inception of the Action Plan process to present the work plan and to raise awareness about the initiative. Mechanisms to keep the stakeholders informed at each juncture in the process will be identified and agreed upon.

The National Steering Committee shall regulate the issues of composition, number of members and its responsibilities. The DOE shall continue to support the work of the National Steering Committee in the period of implementation of the Action Plan. The mandate and the responsibility of the Steering Committee would be the following:

- Coordination and monitoring of the Strategy and Action Plan implementation;
- Development of indicators for monitoring of the implementation;
- Cooperation with partner institutions responsible for implementation of the SAP;
- Preparation of annual reports, to be presented to the DoE for adoption;
- Provide regular update of the web page, with information and data from the three thematic areas;
- Organize stakeholder consultation meetings.

Figure 1 Proposed Structure for the Implementation of NCSA Project.



Based on the current design of the project the sequence of activities will be as follows:

- A detailed design phase will be conducted at the beginning of the project. This phase will start with the strengthening and restructuring of the Steering Committee and continue with the review of the overall design, the identification of partners, the establishment of a baseline using a set of indicators, the development of a monitoring plan and the first annual work plan. This phase will be concluded with a Stakeholder workshop, where the project detailed design will be presented.
- For each output, a partnership agreement with the relevant Stakeholders will be drawn and signed by all parties. It will contain the planned activities to be conducted, the expected results, the resources allocated by each party and the mode of operation among the parties. It will be the guidance document to implement activity and disburse project funds.
- The Project Management Unit supported by the Steering Committee will produce annual work plans. These work plans will be the basis to allocate resources among planned activities. It will be generated in close collaboration with the relevant Stakeholders and be presented to the National Steering Committee for their approval before the endorsement by the DoE.
- The PMU will produce semi-annual progress reports. These progress reports will summarize the progress made by the project versus the expected results, explain any significant variances, detailed the necessary adjustments and be the main reporting mechanism for project monitoring activities.

5.4 Financing / Resource Mobilization

There are limitations to acquire funds from donors for Multilateral Environmental Agreements (MEA), as well as the fact that low priority is accorded to MEAs issues at national and district levels, and limited capacity of institutions to prepare timely and acceptable proposals are serious constraints to resource mobilization for implementation of MEAs. This is further constrained by the stringent and very low national budget ceilings for the key sectors of Environmental Natural Resources and agriculture. On the other hand, a number of opportunities for resource mobilization and mainstreaming of MEAs exist. These include the periodic review of national and district development plans, the annual budgeting process, the decentralized finance flows for development programs, and the expanded GEF portfolio that includes land degradation and deforestation as focal areas.

Although summary of project profiles (Annex 4) have being carried out it is important to write full fledged and effective project profiles for funding purposes.

In order to enhance national capacity for mobilizing resources, action should be taken to train actors in preparation of multidisciplinary proposals, and management and sharing of information on availability and means of accessing both domestic and external resources. Furthermore, specific measures should be taken to promote partnerships with a view to

mobilize resources from various actors. Such measures should include training in negotiation skills, development of guidelines for mainstreaming MEAs in both national and district development and budgeting frameworks, organizing partnership fora, increased advocacy for MEA issues and sensitization of the private sector on their role in implementation of MEAs and the possible sources of funds (e.g. carbon funds). It is expected that these measures will enhance the integration of MEAs into national development plans and improve the capacity of key actors in mobilizing resources for programmes on MEAs.

It is anticipated that fund raising activities will include the following activities:

- Targeted requests for capacity building funding. Opportunities will be researched and projects will be developed and presented for donor funding as appropriate.
- Following Ministerial approval, the DoE will be in a position to submit the document to any forthcoming donor round tables, or similar donor meetings/mechanisms.
- Tracking the progress made in fund raising and the determination of any appropriate actions where necessary.

5.5 Monitoring and Evaluation of the NCSA Action Plan

In principle, monitoring of the effectiveness of any activity and bringing to light its benefit is something that enables better understanding of the effects of the activities that are implemented. In brief the process of monitoring and evaluation provides information whether:

- The activity is achieving the desired goals,
- The implementation conforms to the initial wider and specific goals,
- The implementation is progressing towards the expected results,
- The time frame is respected.

The process of monitoring and evaluation requires regular information and analysis on the key issues for the duration of the planned activities. Certainly the process of monitoring and evaluation should involve all stakeholders at the same level in which they had participated, within the process of developing the NCSA and Action Plan.

One of the mechanisms for evaluation of the implementation, apart from the Steering Committee, may be the organization of workshops, where participants may review the plan of actions and come with new proposals, since the Action Plan needs to be updated on a regular basis, in order to incorporate possible new developments in any area.

The schedules and targets identified in the Action Plan will provide the framework for monitoring the implementation. Monitoring activities should include:

- Preparation of regular quarterly or annual progress reports, to be distributed to the Steering Committee and all stakeholders for their evaluation and approval;

- Holding a monitoring and evaluation workshop, six months after approval of the NCSA report and respective action plan, in order to discuss progress, to identify possible progress constraints and mitigation measures for overcoming them.

The process of monitoring and evaluation will support the implementation of the activities identified within the NCSA report and Action Plan as well as their periodical updating. This would guarantee wide acceptance of any activity undertaken in the process of implementation.

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ANNEX 1. Activities of Key Stakeholders from Governmental Sector

Institution	Activities			Thematic Area	Funding Agency
	Completed	On going	Planned		
Ministry of Energy and Mines	<ul style="list-style-type: none"> ➤ Issued mining proclamation in 1995 that include environmental protection, and directives were issued in 1996 and 1997. ➤ Pre-assessment on the quality of water in Debarwa was carried out ➤ In Zoba Gash Barka analysis of mercury level in water and soil was carried out. ➤ They built 22,000 improved stove (Mogogo) in different parts of Eritrea. ➤ Expansion of electricity generation and transmission system. ➤ Wind and solar energy resource assessment carried out nationwide. ➤ Two phases of rural electrification carried out ➤ Over 600 kw installed. 	<ul style="list-style-type: none"> ➤ They give licence to mining company ➤ They supervise the rehabilitations after mining activities take place. ➤ Introduction of improved parts of Mogogo in different parts of Eritrea. ➤ Pilot wind energy project in Southern Red Sea area. ➤ Electrification of Villages. ➤ Power sector reform measures being taken. ➤ Rehabilitation of Asmara power distribution system. ➤ Installation of solar PV systems 	<ul style="list-style-type: none"> ➤ Mercury assessment in the highlands ➤ Electrification of 90 villages. ➤ Transformers will be replaced. ➤ Assessment of social and environmental impact of electrification. ➤ Training on environmental management and planning and other regulatory training that helps the activities of the department, will take place. ➤ Distribution of improved stoves (Mogogo) throughout the nation. ➤ Feasibility study for geothermal energy. 	UNCCD UNCBD UNFCCC	Government World Bank Middle Eastern Partners, UNEP/GEF and Italy, International and local NGOs.
Ministry of Agriculture	<ul style="list-style-type: none"> ➤ Different sizes of catchment areas, dams, ponds, wells and stream diversion structures were treated and embankments were constructed and treated. ➤ Farmers training ➤ Plant quarantine services have modestly started at Asmara International Airport, Massawa and Asseb Seaport. ➤ Plant quarantine legislation and its regulation have been revised. ➤ Eritrea's regulated non-quarantine 	<ul style="list-style-type: none"> ➤ The preparation of three operation Manuals is in progress (import permit, import inspection and export certification) ➤ Promotion crop and livestock production ➤ Horticultural development down stream of the dams. ➤ There is gap of vegetable production during May therefore they are working to produce vegetables 	<ul style="list-style-type: none"> ➤ Intensify soil and water conservation work ➤ Expanding irrigated and supplementary irrigated farming ➤ Crop intensification, crop and livestock diversification, crop and livestock integration ➤ Awareness raising at community level, especially the farmers ➤ Rangeland development and agricultural production (cash crop) using diversions and spate irrigation schemes in Afambo, 	Directly involved in the thematic area of UNCCD, UNCBD and indirectly with UNFCCC.	Government UNDP FAO International and local NGOs

Institution	Activities		Thematic Area	Funding Agency
	Completed	On going		
	<p>pests have been drafted.</p> <p>Guidelines for the importation, handling, use, storage and disposal of pesticides including list of pesticides permitted to be imported into Eritrea has been prepared.</p> <p>Guidelines for pest control operators has been prepared.</p> <p>Desert locust survey conducted</p> <p>Veterinary legislation translated from English into Tigrigna.</p> <p>Analysis of water and soil samples carried out.</p> <p>Research on varieties of crops and fruits was carried out.</p> <p>Many extension manuals were prepared.</p> <p>Conserving closures in different areas, seedling production, afforestation, hillside terracing, farmland terracing, watershed treatment and other soil and water conservation activities has carried out.</p> <p>They established community forestry development expert group. They have started to establish community forest in villages.</p> <p>They have selected 15 nursery sites at national level and the other nursery sites to be budgeted by the community.</p> <p>In all the zobas they divided the land into high and low rainfall areas and land, which is not utilized by the</p>	<p>during those months.</p> <p>Analysis of water and soil samples, fertilizer trials</p> <p>Fruit and crop variety research.</p> <p>Rangeland development in Edi, Rahayta and Gahro and introduction of fodder trees.</p> <p>Finalize the draft Forestry and Wildlife legislation</p> <p>Finalizing the environmental impact assessment procedures and guidelines for agricultural development projects</p>	<p>Sireu and Miebale.</p> <p>In Tio and Gahro, the MoA has a plan to conserve fertile soil transported through floods from Ethiopia and Djibouti before it joins the sea,</p> <p>In Shieab sub-zone the MoA has a plan to expand afforestation activities hence it has prepared a nursery of about 5ha beside river Kintisal.</p> <p>Catchments treatment</p> <p>Protection of elephants will be implemented</p> <p>Inventory of tree species in Semienawi Keyh Bahri will take place</p> <p>Training of forest guards and wildlife scouts at diploma level will start in Hamelmalo.</p> <p>Preparation of detailed and reliable inventory of obsolete pesticide stockpiles in Eritrea</p> <p>Review the existing regulatory gaps for pesticide management in Eritrea.</p> <p>Plans are underway to construct animal quarantine stations in Gahtelay and Tesseney.</p> <p>Introduction of better performing seeds.</p> <p>Horticultural Development down stream of the dams will take place extensively.</p> <p>Preparation of detailed and reliable</p>	

Institution	Activities		Thematic Area	Funding Agency
	Completed	On going	Planned	
	<p>farmers are taken away by the Zobas.</p> <p>➤ Horticultural development down stream of the dams has started in 12 villages in zoba Debub and 10 villages in Zoba Maekel.</p> <p>➤ They succeed to produce brown and white sugar cane.</p> <p>➤ They distributed 500 leaflets about wildlife to each Sirihit Zoba to create awareness among the soldiers.</p> <p>➤ Closure sites for conservation of biodiversity, have been identified in areas such as in Zula, Rora-Baqila, Felket, Kelhamet, Embatkala, Dongolo Laelai, Foro (Emba Gedem) Karora, Elabered, Halhal, Hagaz, Adi-Teklezan.</p> <p>➤ The branch office in Gash Barka gave license of commercial farming and tried to control cutting of trees, sales of wood and charcoal.</p> <p>➤ The branch office in zoba Debub in addition to the soil and water conservation, afforestation and seedling production they carried our awareness raising among the farmers on combating land degradation.</p>		<p>inventory of obsolete pesticide stockpiles in Eritrea.</p> <p>➤ Review the existing regulatory gaps for pesticide management in Eritrea.</p> <p>➤ Finalization of the Seed Legislation and establish norms and standards for the production and importation of seeds</p> <p>➤ Conduct surveillance on locust and other pest outbreaks.</p> <p>➤ Develop standards and requirements for spraying activities, including locust</p> <p>➤ Undertake pre and post investment environmental impact assessment of agricultural development projects</p> <p>➤ Introduce improved forest guard system for Semienawi and Debubawi Keyh Bahri</p> <p>➤ Introduce proper control system on the utilization of forest products; updating royalty fees, import, export and re-export permit procedures, etc.</p> <p>➤ Finalize the four draft veterinary legislations</p> <p>➤ Finalize national list of veterinary drugs and biologics</p> <p>➤ Inspect veterinary drugs and biologics located at different stores as and when required.</p> <p>➤ Undertake routine inspection services in meat and milk</p>	

Institution	Activities		Thematic Area	Funding Agency
	Completed	On going		
		<p>processing plants and closely monitor the standards</p> <p>Undertake surveillance on diseases of national regional and international importance</p> <p>Establish virology laboratory</p> <p>Strengthen the central laboratory</p> <p>Conduct research and trials to enhance production and quality of products</p> <p>Introduce and improve the different cultural practices</p> <p>Introduce and improve post harvest techniques to increase quality and shelf life.</p> <p>Regular training for MOA staff and farmers</p> <p>Conduct soil survey and land evaluation on potential areas.</p> <p>Conduct on farm and on station agro forestry trials in Halib Mentel, Akurdet and Shambuko</p>		
Ministry of Fisheries	<p>Environmental monitoring in coastal area</p> <p>In 1998 heavy metal concentration study was carried out.</p> <p>Conserving biodiversity in the marine and coastal area.</p> <p>It started to build strong links and relations with related parties (e.g. Ministries and NGO's)</p> <p>Conducts monthly visit to the Manzanar and seawater farm sites</p> <p>Conducts every two months survey around Massawa coast</p>	<p>Environmental monitoring in coastal area and water takes place every two years.</p> <p>The Eritrean Coastal and Island Biodiversity Project dealing with the conservation management of biodiversity by creating Marine protected areas and carrying out research of corals and planting of</p>	<p>Conserving biodiversity in the marine and coastal area.</p> <p>Assessment of potential threats to the mangrove, seagrass, and seaweed ecosystem;</p> <p>Assessment of potential threats to the coral reef ecosystem;</p> <p>Assessment of potential threats to the Coastal Zone Management (CZM);</p> <p>Pollution assessment and monitoring;</p> <p>Works on oceanography and</p>	<p>Government</p> <p>UNDP</p> <p>GEF</p> <p>UNEP</p>

Institution	Activities			Thematic Area	Funding Agency
	Completed	On going	Planned		
	<ul style="list-style-type: none"> ➤ Receives quarterly reports from Manzanar and sea water farm ➤ Prepare a draft of Sectoral Marine and Coastal Environmental Assessment Guidelines and procedures ➤ The unit staffs have taken open and advanced diving course. ➤ The unit staff are participating in Reef Check Training program organized by ECMIB. 	<ul style="list-style-type: none"> ➤ mangroves that could help in carbon sequestration. 	<ul style="list-style-type: none"> ➤ climate; ➤ Assessment of potential threats from unregulated fisheries; and ➤ Assessment of potential threats resulting from various development projects such as aquaculture, power plant and refinery...etc 		
Ministry of Land, Water and Environment	<ul style="list-style-type: none"> ➤ Draft on the water policy paper of Eritrea is prepared. ➤ Eritrean water laws draft was updated. ➤ Directives on ground water works were prepared. ➤ Guidelines on project preparations <ul style="list-style-type: none"> ○ Roles and responsibilities of parties involved in water supply projects ○ Criteria for priority setting for rural water supply projects ○ Steps in project preparations and implementations of water supply programs. <ul style="list-style-type: none"> ➤ Directive and guidelines on rainwater harvesting from roof catchments. ➤ Organizational structure for new water resources agency of Eritrea was prepared. 	<ul style="list-style-type: none"> ➤ Establishing Eritrean water quality standards ➤ They are introducing detail database on a piece of land and the applicants of land ➤ Study of on application of land and preparation of maps ➤ Lobbying and Advocacy ➤ Carrying out different environmental projects ➤ Assessment of water table. ➤ Environmental Impact Assessment ➤ The DOE is engaged in the preparation of National Biosafety Framework in accordance with the relevant provisions of the Cartagena Protocol of Biosafety. ➤ NAPA is underway ➤ Study on the status of the 	<ul style="list-style-type: none"> ➤ Promulgation of environmental law and its enforcement ➤ They will introduce a basin management approach. ➤ Roof water harvesting in the highlands will be introduced extensively. ➤ Sub surface dams will be constructed. ➤ Authorised water supply unit will be established that is town water supply units like board and Village Water Committee. ➤ Strengthening the water resource sector ➤ Push for the approval of water laws and regulations. ➤ Announce guideline for water quality, consultancy, well drilling, licensing and permit, roles and responsibilities of water stakeholders ➤ Awareness raising and advocacy activities on environmental issues 	UNCCD UNCBD UNFCCC	Government UNDP GEF UNEP GTZ EU International & Local NGO's

Institution	Activities		Thematic Area	Funding Agency
	Completed	On going	Planned	
	<p>➤ A network was already established with Zobas.</p> <p>➤ They studied applications of land and they prepared maps.</p> <p>➤ Prepared national action programmes</p> <p>➤ Carried out different environmental projects</p> <p>➤ Carried out Environmental Impact Assessment of different projects.</p> <p>➤ Eritrea has prepared the 1st and 2nd Biodiversity National Reports.</p> <p>➤ Assessment of Sewage Pollution in Massawa.</p> <p>➤ Assessment of heavy metal load of Mai Bela Stream.</p> <p>➤ Assessment of the existing Asmara land fill</p> <p>➤ Branch office in Zoba Anseba permitted licences of quarrying sand, rocks and agricultural projects.</p> <p>➤ The branch office in Debub carried out EIA on projects that are presented to the branch with the support of the DoE Head office.</p>	<p>➤ Eritrean Coastal Environment</p> <p>➤ EIA activities of development projects</p> <p>➤ Salt water intrusion along the coastal towns and villages of Eritrea.</p> <p>➤ Assessment of Water Quality Hygiene and Sanitation of Asmara</p> <p>➤ Issuing proclamations aimed at prevention of Environmental pollution and work closely for their implementation</p>	<p>➤ Preparation of the 3rd National Reports on Biodiversity.</p> <p>➤ Undertake EIA of development projects</p> <p>➤ Preparation of management plan of projects</p> <p>➤ Undertaking Environmental Monitoring of development projects.</p> <p>➤ Preparation of guidelines.</p> <p>➤ Engage in the 2nd Communication Report of Climate Change</p> <p>➤ Various studies and assessments aimed at the protection of the environment</p> <p>➤ Signing of Environmental conventions such as Ramsar</p> <p>➤ Comply with the Provisions of the Conventions already signed.</p> <p>➤ Fully functioning of the Eritrean Clearing house Mechanism</p> <p>➤ website for the exchange of Biodiversity related information</p> <p>➤ Preparation of projects for funding.</p>	
Ministry of Transport and Communication	<p>➤ Commercial vehicles, which served for 5 years, banned from been imported to Eritrea.</p> <p>➤ The final draft of the maritime code, the commercial part has been finalized.</p> <p>➤ Environmental management plan (the EMP) for Massawa port is under revision.</p>	<p>➤ Safety campaign about car accidents is taking place;</p> <p>➤ Preparing traffic regulations for cars that carry dusty and polluted materials.</p> <p>➤ Port regulation is on its final stage.</p>	<p>➤ Introduction of catalysers for vehicles,</p> <p>➤ Establishing inspection centres,</p> <p>➤ Establishing emission standards,</p> <p>➤ There is a plan to push for building of new bus terminals in the outskirts of the towns, in order to reduce air pollution in the centre of the towns.</p> <p>➤ If Jeddah Convention is not ratified</p>	Government EU

Institution	Activities			Thematic Area	Funding Agency
	Completed	On going	Planned		
UNCCD Focal Point	<p>➤ The National Coordination Body was established after ratification of the Convention,</p> <p>➤ NAP document prepared,</p> <p>➤ Bankable project proposal on NAP prepared,</p> <p>➤ Leaflet on land degradation and mitigation measures,</p> <p>➤ Documentary film on land degradation in three languages,</p> <p>➤ Awareness raising programmes,</p> <p>➤ Writing reports on status of CCD activities,</p> <p>➤ Facilitated and funded soil and water conservation activities.</p> <p>➤ Facilitated and funded rehabilitation of degraded forest.</p>	<p>➤ Joint projects with DOE on marine and terrestrial biodiversity conservation,</p> <p>➤ Establishment of Environmental Youth Group,</p> <p>➤ Awareness raising programmes,</p> <p>➤ Writing reports on status of CCD activities,</p> <p>➤ Facilitate and funded soil and water conservation activities.</p>	<p>then there will be an initiative to sign Nairobi convention.</p> <p>➤ Implementation of the waste reception facility</p> <p>➤ Translation of maritime code.</p> <p>➤ Prepare status of land degradation</p> <p>➤ Transboundary project identification through SREAP.</p>	UNCCD	UNCCD Secretariat, Global Mechanism (GM), Government of Eritrea.

Key Stakeholders from Non-governmental Sector

<p>National Union of Eritrean Workers (NCEW)</p>	<ul style="list-style-type: none"> ➤ Tree planting in Park Semaetat during May Day ➤ Study about environmental healthy and safety of workers. <ul style="list-style-type: none"> ➤ NCEW is chairing the steering committee for the Dry Land Coordination Group DCG). The main objective of the dry land coordination group is ensuring food security and sustainable development. This group has carried out: <ul style="list-style-type: none"> ○ Studies on soil salinity, deforestation and soil degradation. ○ Trained farmers in order to create awareness about land degradation and afforestation. ○ Reafforestation activities in Tokombia (Shemshimiya) farm area. ○ Soil and water conservation activities in Shemshimiya. ➤ NCEW trained cooperative 	<p>➤ NCEW is chairing the steering committee for the Dry Land Coordination Group (DCG).</p>	<p>➤ Training about environmental health and safety will be carried out if there is availability of external funds.</p>	<p>UNCCD</p>	<p>ILO Norwegian Development, Norwegian peoples Aid and others</p>
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	groups about the environmental problems that could arise from agrochemicals and training was also given in Soil and Water conservation.					
Chamber of Commerce	<ul style="list-style-type: none"> ➤ In their business newsletter environmental issues are considered. ➤ In the business excellence award guideline environmental impact is one of the criteria. ➤ They work in increasing the consciousness of the business community. ➤ They participate in committees and cleaning campaign. ➤ Greening of their compound. 	<ul style="list-style-type: none"> ➤ They participate in committees and cleaning campaign. ➤ Greening of their compound. 	<ul style="list-style-type: none"> ➤ Awareness raising on environment among the business community 	UNCCD UNFCCC UNCBD	No data available	
CARP	<ul style="list-style-type: none"> ➤ Archaeological inventory of the greater Asmara area started by Asmara University. ➤ Preservation of Qahaito and Nakfa – pilot project on community based innovation and knowledge bases. ➤ Book about the designs of Asmara has been printed but also guide books on Asmara and Massawa. ➤ Awareness creation in Tigrinya (Kirsi). 	<ul style="list-style-type: none"> ○ Archaeological inventory of the greater Asmara area started is continuing. ➤ Restore the Walkway of Massawa. ➤ Protect the Brana archives of Debre Bizen. 	<ul style="list-style-type: none"> ➤ Restoration studies of Cinema Asmara, Post Office, Cinema Capitol, Governors Palace; Banco di Italia in Massawa etc. ➤ Create an “Asmara Architectural Resource Centre”, which is planned to be set up in Alfa Romero Building. <p>Conservation</p> <ul style="list-style-type: none"> ➤ Restoration of buildings, control emission related 			

	<p>➤ Restoration studies of Cinema Asmara, Post Office, Cinema Capitol, Governors Palace; Banco di Italia in Massawa etc.</p> <p>Guidelines</p> <p>➤ Architectural designs to be area sensitive.</p> <p>➤ Can interfere only to a certain extent; height of buildings, land use etc.</p>		<p>problems.</p> <p>➤ Problem of parking spaces.</p> <p>➤ Suggest green areas in empty areas.</p> <p>➤ Develop public transport, hence no need for additional parking.</p>		
UNDP	<p>Supported projects:</p> <p>➤ Conserving biodiversity in the marine and coastal areas.</p> <p>➤ National adaptation plan of action</p> <p>➤ Wind energy pilot project in Eritrea</p> <p>➤ Support to legislative and regulatory framework for effective natural resource management</p>	<p>➤ Conserving biodiversity in the marine and coastal areas</p> <p>➤ Support of mainstreaming NAP/CCD</p>	<p>➤ National communication to UNFCCC</p> <p>➤ Revising environmental law</p>	UNCCD UNCBD UNFCCC	International Agencies Governments
Oxfam GB	<p>➤ In Adi-Keshi extension of pipelines and reservoir was done in the existing borehole. Construction of latrines and distribution of Jerrycan can promote hygiene.</p> <p>➤ In Meftech and Adi-Bigidi water supply and construction of latrines was carried out.</p>	<p>➤ In May-Mine water supply facility is under construction and soil and water conservation activities such as terracing, earth fill micro-dams and masonry check dams are taking place</p>	<p>➤ There is a plan to move from the emergency programme to the development programme.</p> <p>➤ There is a plan to introduce soda (solar) disinfectant</p> <p>➤ Since there is no secure ground water in Eritrea, there is a plan to construct dams, ponds and infiltration</p>	UNCCD	International Agencies Governments Private contributions

	<p>➤ They carry out ELA in all projects since it is a prerequisite for funding.</p>			galleries.		
PHAESUN	<p>➤ Provided energy service</p> <p>➤ Small lighting systems / solar power at Sebaa near Durko, Akrur</p> <p>➤ Soft loan is not subscribed for replacing kerosene / dry cell batteries (a major saving).</p> <p>➤ Supplied improved stoves (Mogogo), which are integrated with lighting.</p>	<p>➤ Loans are put in place for rural communities to buy solar lighting system,</p>	<p>➤ To expand small lighting/ solar power in Kisad Daro.</p> <p>➤ PHAESUN will expand solar heating, pumping and irrigation systems in Eritrea.</p>	UNFCCC UNCCD	Private	

ANNEX 2. Constraints, Gaps and Opportunities

Organisation	Constraints	Gaps	Opportunities
1. Ministry of Public Works	<ul style="list-style-type: none"> Skilled manpower 	<p>Experts on:-</p> <ul style="list-style-type: none"> Biodiversity Archaeology and Resettlement Issues 	<ul style="list-style-type: none"> An environmental unit has been set up. Training young graduate in relevant areas is been carried out.
2. Ministry of Fisheries	<ul style="list-style-type: none"> Lack of specialists. Lack of technical know how of fishing. Lack of monitoring equipment. Lack of clear mandate to conserve marine and coastal area. Lack of budget/finance. 	<ul style="list-style-type: none"> Skilled manpower on fishing technology, pollution control and monitoring. Electronic monitoring equipments Patrol control. Lack of mandate of the Fishery Department to conserve biodiversity, (must be authorised by the Department of Environment). 	<ul style="list-style-type: none"> Working with GEF projects, on conserving biodiversity Proposed protected areas. Environmental management could easily be harmonized with the Department of Environment. Rules and regulations could easily be approved and will improve the capacity of the MoFish.
3. NUEYS	<p>The NUEYS has constraints at all levels, however, the interviewees said that environmental issues are not the priority.</p>	<p>Limited involvement of the NUEYS in Environmental projects. So far they don't have a programme except the cleaning day.</p>	<ul style="list-style-type: none"> Awareness raising and training of NUEYS staff on environmental issues by DOE can enhance sustainability of the environment. DOE has good relations with all stakeholders and could easily involve them in its activities. DOE could fund some environmental projects of other stakeholders as it has the capacity and access to raise funds.

4. Transport and Communication	<ul style="list-style-type: none"> There is shortage of skilled manpower. Lack of inspection equipment and laboratory. Lack of a person responsible for environmental issues. Lack of regulations and standards. Lack of awareness of the public. He gave an example that in environmental workshops/seminars nothing is said concerning pollution from vehicles. Shortage of funds. 	<ul style="list-style-type: none"> The capacity needs in progress The inspection sector needs a fully equipped mini-laboratory. Awareness has to be created in all levels. Department of Environment has to give funds. DoE did not give emission standards No future programmes organised. 	<p>Introduction of catalyst and establishing inspection centres could enable the:</p> <ul style="list-style-type: none"> Establishment of emission standards. There is a plan that new bus terminals be built in the outskirts of the cities, in order to reduce air pollution in the centre of the cities. DOE has relatively more experts and could easily be strengthened. DOE could easily give short-term training courses with its available staff. Considering the DoE's good linkages with the line ministries, the DOE can easily enhance its relationship. DOE can easily get sponsorship for carrying out environment related studies.
5. Ministry of Health	<ul style="list-style-type: none"> There is serious human resource constraint. Shortage of funds. Lack of equipment to measure air and water quality. Lack of coordination between of ministries. DOE is not giving attention to sectors, which are involved in environmental issues. 	<ul style="list-style-type: none"> Shortage of specialisation on environmental issues. 	<ul style="list-style-type: none"> Department of Environment could play a leading role in environmental issues. The DoE can focus its attention for the sectors, which are active in different environmental issues. The DoE could play a great role in creating awareness (behavioural change). The DoE has the mandate to take strong preventive measures, Initiated the establishment of committee's composed of all

				<p>stakeholders to solve environmental problems.</p> <ul style="list-style-type: none"> There is improved commitment of all stakeholders and the government about the environment. The relationship among stakeholders and within stakeholders can easily be strengthened. DOE as a focal point can strengthen its coordination with other stakeholders such as the University of Asmara. DOE can easily play an active and leading role.
6. Biology and Geography Departments of the University of Asmara	<ul style="list-style-type: none"> Lack of funds and research materials. 	<ul style="list-style-type: none"> Lack of capacity or mandate to access available funds to conduct research. Human resource development at undergraduate level, short-term training and post-graduate studies. Lack of participation in alleviating environmental problems. 		<ul style="list-style-type: none"> There is increasing staff in environmental protection and soil and water conservation. There is a plan to carry out research on:- <ul style="list-style-type: none"> Soil resource evaluation, Environmental protection and rehabilitation, Forest and wildlife resource. Land degradation.
7. College of Agriculture Department of Land Resource and Environment	<ul style="list-style-type: none"> Human resource constraint, which is causing overwork of staff. Lack of chemicals and facility in the laboratory. The College does not have land for experiment. Lack of research funds. 	<ul style="list-style-type: none"> Staff in environmental protection and soil and water conservation. Delay of chemicals for laboratory. No field experiment. Lack of funds for research. 		
8. Department of Marine Transport Regulation and Standards Unit MOTC	<ul style="list-style-type: none"> Shortage of skilled manpower. Protection of the Red Sea Lack of communication and coordination between concerned bodies. Lack of environmental law, 	<ul style="list-style-type: none"> Environmental equipment operators Ratify and implement international maritime conventions such as the Jeddah and Nairobi Conventions. Lack of approved environmental law. Lack of training and awareness campaign at the grass root level. 		<ul style="list-style-type: none"> By ratifying and implementing international conventions such as Jeddah Convention or Nairobi convention, Eritrea can benefit greatly since Eritrea is located in a strategic place. There are plans to implement a waste

	<p>hence there is unclear mandate about the protection of the Red Sea.</p> <ul style="list-style-type: none"> • Shortage of funds. • Lack of awareness about environment at all levels. • Outdated Maritime Code. 	<ul style="list-style-type: none"> • Focusing on Legal issues, • Marine Technology. • Social issues. • Operational issues. 	<p>reception facility.</p> <ul style="list-style-type: none"> • Department of Marine Transport is in the process of finalizing Port regulation as well as translating the maritime code and enforcing it. • Department of Marine Transport can easily enhance the environmental awareness of port communities and identify leading agency for coastal zone management. • Approval of environmental law can enhance the work of the Department of Marine Transport.
9. Industrial development Ministry of Trade and Industry	<ul style="list-style-type: none"> • Lack of environmental law • Lack of follow up and evaluation of any action plan. 	<ul style="list-style-type: none"> • Experts in policy development and implementation. • No Researchers • Experts in industrial projects. • Computer scientist. • Lack of Monitoring and evaluation. 	<ul style="list-style-type: none"> • Sustainable economic development can happen easily by encouraging enviroins friendly industries to expand to zoba's and locating & specifying industrial zones and parks. • Designing integrated long-term strategy for industrial, mining and agricultural development activities. • Ensuring continuity and sustainability of activities. • The approval of the Environmental law can accelerate its implementation.
10. Ministry of Education	<ul style="list-style-type: none"> • Shortage of geography staff in the panel, (at present there is only one staff member). • Office facilities like 	<ul style="list-style-type: none"> • Increase the staff in the geography panel. • Offices & ICT facilities. • Latest books. • No improved water supply and 	<ul style="list-style-type: none"> • The MoE is interested to work with the Department of Environment. • MoE has increased the level of staff participation in workshops.

	<p>computer, internet access</p> <ul style="list-style-type: none"> Books available in the library are outdated. Lack of water and toilet s Lack of awareness. Lack of communication with concerned ministries. 	<p>sanitation of the office.</p> <ul style="list-style-type: none"> Awareness has to be created in all levels. Working hand in hand with the concerned bodies. 	
11. Department of Energy, MoEM	<ul style="list-style-type: none"> The department is understaffed due to low remuneration and low motivation. Lack of information or database. 	<ul style="list-style-type: none"> Lack of training priorities. Hire and train employees on short and long term basis on energy demand side management, Energy utility side management (efficiency); Energy information system. Employ one energy economist and one planner. 	<ul style="list-style-type: none"> Expanding electrification to 90 villages during 2005/6. Studying and piloting wind energy in Asseb. Replacing old transformers Assessing environmental impact of electrification. Training on environmental management, planning and other regulatory roles.
12. Department of Regulatory Services Environmental Quality Division, Forestry and Wildlife unit of MoA	<ul style="list-style-type: none"> Lack of manpower in different specialization. Lack of ICT and transportation facilities. Lack of office facility like computers. The organisational structure of the department is not filled with human resource. Lack of land use policy, as a result extended farming is taking place by the army and there is a possibility that this land will degrade. 	<ul style="list-style-type: none"> Lack of specialists in land use planning, EIA expert, Irrigation Engineer, Geologies (hydro-geologist), Forestry and Wildlife unit, Forest inventory specialist, Silviculturalist, Wildlife expert, Cartographer and ornithologist, environmental law specialist is needed in the division. Office and ICT facilities. The legislation on wildlife and forestry must be approved. Other rules and regulations must be approved and implemented. 	<ul style="list-style-type: none"> Protecting elephant area is in progress. Inventorying of tree species in Semienawi Bahri. Training of forest guards and wildlife scout at diploma level will start in Hamelmalo. Collaborating and working together with Department of Environment will enhance the work of the Department of Regulatory Services.

	<ul style="list-style-type: none"> • Lack of ratification of conventions. 	<ul style="list-style-type: none"> • International conventions must be signed implemented. 	
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ANNEX 3. Action Plan Implementation Programme

Activity Schedule		2007	2008	2009	2010	2011	2012
Operation of the Project /Implementation Arrangements							
1. Project Planning and Initiation							
2. Financing / Resource Mobilization							
Action Plan and Follow up Steps							
1. Environmental education, awareness and advocacy							
2. Environmental Policy, Institutional and Legal Frameworks							
3. Environmental Impact Assessments							
4. Environmental Information Management Systems							
5. Biodiversity Conservation and Management							
6. Human Resources Development and Institutional Capacity Building							
7. Global - National - Provincial - Local linkages							
8. Gender							
National Capacity Building Workshops							
Monitoring and Evaluation							
Finalising and Dissemination of Reports							

ANNEX 4 Project Profiles for Synergistic Implementation of the NCSA Action Plan

PROJECT PROFILE 1: ENVIRONMENTAL EDUCATION, AWARENESS AND ADVOCACY

Project Title:	Enhancing Dissemination of Information on MEAs
Target Group:	Policy and decision makers, local communities and other actors sensitized on MEAs
Time Frame:	5 years
Total Funds:	US \$ 1,240,000
Secured Funds:	Nil

Problem statement:

Eritrea is a signatory to a number of international agreements for management of the global environment. These include UNCBD, UNCCD, and UNFCCC. These MEAs, among other things, provide mechanisms for collaboration in management and utilization of natural resources; exchange of information, funding and technology transfer. However, the level of implementation is still very low, which calls for massive awareness and sensitization campaigns among policy and decision makers, planners, local communities and other actors. Awareness and educational programmes on radio, television and print media would enhance sensitization of all stakeholders on the need for sustainable conservation of the environment. Furthermore, integration of MEAs issues into curricula of educational and training institutions would go a long way in building a critical mass of actors with relevant knowledge of the MEAs.

Objectives

Facilitate the emergence of an informed public, knowledgeable of and committed to the furtherance of sound environmental practices in the context of broad-based social and economic development.

Implementation Strategy

The project would be implemented through contracting people to prepare the simplified awareness materials and translating them to local languages. The DoE (MoWLE) would collaborate with other actors such as Ministry of National Development (MoND), MoI, Cultural Affairs Bureau, University of Asmara (hire institutions), training institutions, identified responsible staff, NGOs, private sector, etc. will organize sensitization and training workshops for targeted audiences, and organize mass media programs. In addition, MoWLE will collaborate with the Curriculum Development Division of the MoE, MoND, higher institutions and other

training institutions to review curricula of training institutions and prepare training modules. The training institutions would then integrate MEAs issues into their training programs and train manpower to strengthen human resources to implement the MEAs. In the local administrations (Zoba and Neus Zoba), the local Environment Committee would spearhead awareness and training of zonal and local actors on MEA implementation at that level, in collaboration with other local actors such as the local administration, NGOs, CBOs and the private sector.

Activities

- ▶ Prepare awareness materials and scientific guides about environmental issues for dissemination.
- ▶ Translate awareness materials and key documents on MEAs into the main local languages.
- ▶ Conduct sensitization workshops for key stakeholders, particularly the policy and decision makers.
- ▶ Produce regular and skilled media presentations, in radio, TV and print on environmental issues.
- ▶ Promote a strong civil society sector concerned about environmental issues.
- ▶ Building linkages with international bodies, which are concerned about environmental issues.
- ▶ Develop training modules/ materials
- ▶ Conduct training of trainer's programmes
- ▶ Assess the level of knowledge, available manpower and facilities to integrate MEAs issues into training programs.
- ▶ Review curricula of educational institutions for integration of MEAs issues
- ▶ Develop teaching/ training materials on MEAs for educational institutions.
- ▶ Make aware existing teaching staff about MEAs Issues.

Outputs

- ▶ Policy and decision-makers, local communities and other actors become aware of and knowledgeable and thus committed to the implementation of MEAs
- ▶ Extension service providers trained on MEAs.
- ▶ MEAs integrated in curricula of schools and other institutions.
- ▶ Popular versions of teaching materials produced in various languages.
- ▶ Focal points established at all levels.
- ▶ Regular columns and programmes on MEAs produced in print and electronic media, respectively.
- ▶ Teaching/training materials for educational institutions produced.

Indicators of success

- ▶ The number of relevant policy makers informed about outcomes of NCSA project.
- ▶ Local/regional assessment reports have been made widely available, especially to participants.
- ▶ Brochure / leaflets are printed and disseminated to key target groups (policy makers and assessment participants).
- ▶ The NCSA awareness raising strategy is integrated into work plan of identified responsible staff.

- ▶ Training modules/ materials prepared.
- ▶ Curricula reviewed and MEAs issues integrated and training materials developed.
- ▶ Teachers made aware about MEAs Issues.

Project Budget

Activities	Amount in USD
Prepare and print awareness materials and scientific guides about environmental issues for dissemination.	450,000
Translate awareness materials and key documents on MEAs into the main local languages.	350,000
Conduct sensitization workshops for key stakeholders, particularly the policy and decision makers.	65,000
Produce regular and skilled media presentations, in radio, TV & print on environmental issues.	80,000
Promote a strong civil society sector concerned about environmental issues.	35,000
Building linkages with international bodies, which are concerned about environmental issues.	30,000
Develop training modules/ materials.	65,000
Conduct training of trainers programmes.	35,000
Assess the level of knowledge, available manpower and facilities to integrate MEAs issues into training programs.	35,000
Review curricula of educational institutions for integration of MEAs issues	30,000
Develop teaching/ training materials on MEAs for educational institutions.	35,000
Make aware existing teaching staff about MEAs Issues.	30,000
Total budget	1,240,000

PROJECT PROFILE 2: ENVIRONMENTAL POLICY, INSTITUTIONAL AND LEGAL FRAMEWORKS

Project Title:	Operationalisation of Environmental Policy, Institutional and Legal Frameworks for MEAs
Target Group:	Policy and Decision Makers, Education and Training Institutions, Law Enforcement Functionaries, Local Government Authorities, Non-State Actors and Communities
Time Frame:	3 years
Total Funds:	US \$ 715,000
Secured Funds:	Nil

Problem statement:

Eritrea is signatory of the MEAs. And there is ongoing national effort to place environmental policies in development plans and projects, which are promising. However, much work still remains in order to mainstream climate change, desertification and conservation and sustainable use of biodiversity in the broad national development agenda. Currently there is no national policy that encourages synergy between and among UNCBD, UNCCD and UNFCCC in particular and among MEAs in general.

Several socio-economic sectors have not yet developed their environmental legislations and Environmental Impact Assessment Procedures and Guidelines for their respective development agenda. Identification of detailed capacity building needs to develop each sectoral environmental legislations, policies and Environmental Impact Assessment Procedures and Guidelines is critical. Nevertheless the Ministry of Agriculture and Department of Environment of Ministry of Land, Water and Environment can capitalize on this situation to mainstream synergistically desertification, climate change and biodiversity issues. Once this has been done, it would be very easy to identify priority synergistic activities so as to conduct cost-effective capacity building programs at national level with broad participation of the stakeholders with clear mandates and goals.

However, there is an urgent need for an umbrella environmental law to be put in place, which will harmonize the various sectoral environmental legislations together with the mandate and responsibilities of sectors in reference to environmental protection and capacity building needs.

Objectives

- ▶ Enhance the integration of MEAs issues into national and district legal, policy and regulatory frameworks.
- ▶ Strengthen human and institutional capacity to implement and enforce laws and policies for natural resource management.

Implementation Strategy

The project will involve review of existing as well as formulation of new policies relevant to MEAs implementation. Furthermore, guidelines, plans and bylaws and ordinances will be prepared, and training of actors will be conducted. Consultants will be procured to carry out these activities. They will consult with relevant actors both at national and zoba levels, and prepare the required documents, which will be discussed by the relevant actors. DoE will take lead in implementation of these activities, in collaboration with other actors, including MoA, MoEM, MoJ, Ministry of National Development; other line ministries; identified responsible staff; in collaboration with partners; and wide range of affected and interested stakeholders

Activities

- ▶ Putting in place guidelines for integration of MEAs issues into national and district development plans and policies.
- ▶ Agreement on procedures for the establishment and management of protected areas.
- ▶ Actions to promote increased public awareness of laws and policies on natural resource management should be enhanced.
- ▶ Promote participatory implementation and enforcement of laws and policies on natural resources through strengthening the role of local communities in monitoring natural resources management.
- ▶ Formulate new policies and laws e.g. on Protection of the environment and water management, rangelands management, pastoralism, land use, biodiversity, climate, research, employment, energy, disaster preparedness and natural resources.
- ▶ Formulate NR (rangelands management, pastoralism and land use, biodiversity, climate) policies that integrate MEAs issues
- ▶ In view of potential policy conflicts, such as between high-output farming and agrobiodiversity conservation, a powerful inter-institutional committee will have to be established to set priorities and harmonize the policies.
- ▶ Putting in place guidelines for integration of MEAs issues into national and zoba development plans and policies.

Outputs

- ▶ National and Zonal Development Plans that integrate MEAs issues developed
- ▶ Comprehensive and coherent laws, policies, regulations and standards relevant to MEAs formulated.

Indicators of success

- ▶ EIA awareness enhanced; NEAPAG updated and enforcement laws are put in place.
- ▶ Policies put in place.
- ▶ Guidelines published.
- ▶ Extension materials addressing MEAs issues.
- ▶ Plans integrating MEAs issues.

Project Funding

Activities	Amount in USD
Putting in place guidelines for integration of MEAs issues into national and district development plans and policies.	60,000
Agreement on procedures for the establishment and management of protected areas.	25,000
Actions to promote increased public awareness of laws and policies on natural resource management should be enhanced.	40,000
Promote participatory implementation and enforcement of laws and policies on natural resources through strengthening the role of local communities in monitoring natural resources management.	100,000
Formulate new policies and laws e.g. on Protection of the environment and water management, rangelands management, pastoralism, land use, biodiversity, climate, research, employment, energy, disaster preparedness and natural resource.	250,000
Formulate NR (rangelands management, pastoralism and land use, biodiversity, climate) policies that integrate MEAs issues	200,000
Establishing powerful inter-institutional committee to set priorities and harmonize the policies.	40,000
Total	715,000

PROJECT PROFILE 3: ENVIRONMENTAL IMPACT ASSESSMENTS

Project Title:	Enhancing the EIA Capacity of Stakeholder institutions
Target Group:	Key line ministries and other relevant government institutions and agencies, authorities and licensing agencies.
Total Funding:	USD\$ 300,000
Funding Secured:	Nil
Time Frame:	2 years

Problem statement

Environmental considerations are national priority and the line ministries are attempting to incorporate it into their decision-making and planning system. Nonetheless, the technical capacity to develop EIA, environmental policies, guidelines, directives and environmental criteria is very limited. All of the ministries have inadequate environmental personnel to oversee environmental management issues. In some line ministries an environmental unit is put in their organizational structure as a unit but there are no staff and plans are assigned. Most of the ministries give priority to their operations with little concern to environmental protection.

There is a need to elaborate detailed environmental guidelines in each line ministry for major activities, which will have a significant impact on the environment. The guidelines will assist ministries and licensing authorities to integrate environmental considerations into their policy, project preparation and decision-making processes. In order to ensure an integrated development process, environmental, social, and economic sustainability should be clear objectives. There is a need to assess all impacts of policies and projects.

The DOE is expected to assist line ministries in preparing their own EIA and develop their sectoral environmental legislations. Nonetheless, DOE itself has limited institutional and technical capacity to do these responsibilities.

Objectives

To extend the capacity and use of the EIA procedures and guidelines as both a planning and a regulatory tool among relevant ministries, local governments and the private sector.

Implementation strategy

Implementation of the project will involve hiring consultants to finalize preparation of the sectoral EIA procedures and guidelines and conduct consultation with both relevant stakeholders and closely working with them. The DOE (MoLWE) need to assist and co-ordinate the efforts of the human and institutional capacities of line

ministries such as MoA, MoEM, MoFish, Ministry of National Development; as well as other ministries that have direct involvement in conducting EIA.

Activities

- ▶ Extend the capacity and use of the EIA procedures and guidelines as both a planning and a regulatory tool among relevant ministries, local governments and the private sector.
- ▶ Update NEAPAG

Outputs

EIA procedures and guidelines in place

Indicators of success

- ▶ EIA awareness enhanced
- ▶ NEAPAG updated and
- ▶ Enforcement laws are in place

Estimated Budget

Activities	Amount (US \$)
Extend the capacity and use of the EIA procedures and guidelines as both a planning and a regulatory tool among relevant ministries, local governments and the private sector.	150,000
Update NEAPAG	50,000
Putting in place sectoral guidelines for integration of MEAs issues into national and zoba development plans and policies.	100,000
Total	300,000

PROJECT PROFILE 4: ENVIRONMENTAL INFORMATION MANAGEMENT SYSTEMS

Project Title:	Strengthening MEAs Information Management Systems
Target Group:	Environmental Management end users, data collectors, integrators and analysts,
Total Funding:	US \$ 1,150,000
Funding Secured:	Nil
Time Frame:	3 years

Problem statement

Existence of data and information on environment is essential for decision-making on management of the natural resources. However, there is inadequate manpower in the relevant institutions to effectively collect, analyze and interpret the data for use by local actors. There is very scarce manpower, who are literate in ITC skills mainly in the rural areas. In addition, there is lack of modern ICT and other data management facilities. Therefore, there is a need to standardize data collection, analysis and dissemination procedures. This will, among other things, promote synergies and facilitate efficient resource utilization in implementation of the relevant MEAs. Standardization of data collection will also facilitate packaging of environmental information to enable rational decision making by policy makers, planners and other actors, both at national, zonal and community levels. Improving the capacity of personnel who are involved in the data collection, analysis and dissemination in ITC use and data management is also essential to make information management system operational.

Objectives

- ▶ To develop the scientific and technical capacity required to provide a more complete assessment of the dynamic State of the Eritrean Environment
- ▶ To monitor key environmental parameters by the establishment of an EIS network in Eritrea with regional and global linkages.
- ▶ Strengthen MEAs data collection, analysis and dissemination by relevant institutions.
- ▶ Establish mechanisms and protocols for data/ information exchange.
- ▶ Monitor and evaluate use of data/ information in implementation of MEAs.

Implementation Strategy

Implementation of this project will involve hiring consultants to conduct studies of baselines and targets of information requirements. Consultants will also prepare joint data collection and reporting guidelines for the MEAs. Manpower will be recruited and trained to collect, analyse and store or disseminate data and information to relevant users. Furthermore, relevant institutions will be equipped with ICT and other

data management facilities. DOE will spearhead implementation of these activities in collaboration with other actors, such as MoND, MoA, MoEM, MoFish, CBO, NGOs, and Department of Meteorology and University of Asmara (other institutions of higher learning). Especially Zoba and Neus Zoba administrations will also participate in data and information collection and management through their Planning and Environment Directorates, in collaboration with NGOs, as well as civil societies. Networking and electronic exchange technologies such Internet will be applied to strengthen the information exchange and dissemination.

Activities

- ▶ Standardize data collection and analysis formats and dissemination mechanisms in order to facilitate easy data exchange and use by a wide section of users.
- ▶ Enhance data and information exchange by digitizing available data sets, expanding access to and making cost effective the use of ICT by promoting wireless Internet use especially for rural based planners and actors.
- ▶ Improve efficiency in data collection, analysis and management through modern data management facilities.
- ▶ Training programs in data management and ICT use.
- ▶ Strengthen capacity to network and facilitate electronic exchange of data among generators and users.
- ▶ Establish data collection centres and networks specifically on NR information for use in policy and decision making support.
- ▶ Make use of Drought Monitoring Centre, IGAD's Grain Marketing Information Management System in order to strengthen information exchange and dissemination.
- ▶ Establish monitoring programmes in all NR sub sectors.
- ▶ Set up and modernize networks of NR monitoring stations.
- ▶ Strengthen and broaden marketing information.
- ▶ Develop monitoring and evaluation plan.

Outputs

- ▶ MEAs data collection, analysis and dissemination strengthened.
- ▶ Mechanisms and protocols for data/ information exchange established.
- ▶ Implementation of MEAs monitored and evaluated.

Indicators of success

- ▶ Targets set for MEAs data and information management.
- ▶ Up to date ICT and data management facilities put in place.
- ▶ Joint data collection and reporting.
- ▶ Improved data and information management in relevant institutions and
- ▶ Improved monitoring of MEAs implementation.

Estimated Budget

Activities	Amount (US\$)
Standardize data collection and analysis formats and dissemination mechanisms to facilitate data exchange and use by users.	50,000
Enhance data and information exchange by digitizing available data sets, expanding access to and making cost effective the use of ICT by promoting wireless Internet use especially for rural based planners and actors.	200,000
Improve efficiency in data collection, analysis and management through modern data management facilities	150,000
Training programs in data management and ICT use.	250,000
Strengthen capacity to network and facilitate electronic exchange of data among generators and users.	60,000
Establish data collection centres and networks specifically on NR information for use in policy and decision making support.	200,000
Make use of Drought Monitoring Centre, IGAD's Grain Marketing Information System in order to strengthen information exchange and dissemination.	30,000
Establish monitoring programmes in all NR sub sectors	50,000
Set up and modernize networks of NR monitoring stations	100,000
Strengthen and broaden marketing information	25,000
Develop monitoring and evaluation plan	35,000
Total Amount	1,150,000

PROJECT PROFILE 5: BIODIVERSITY CONSERVATION AND MANAGEMENT

Project Title:	Sustainable Land Use Planning, and Biodiversity Conservation and Management.
Target Group:	Educational and Training Institutions, and local communities
Total Funding:	US \$ 1,100,000
Funding Secured:	Nil
Time Frame:	5 years

Problem Statement

The dominant use of primitive and labor-intensive production tools for cultivating the land provide less incentive for soil and water conservation at farm level. Traditional tenure patterns particularly the *Diessa* (village ownership) and *Resti* (kinship ownership) have not been conducive to good land husbandry, even though these tenure systems produced a uniquely egalitarian society with a deep spirit of community. These systems have prevented landlessness and thus were economically and socially valuable in the context of subsistence agriculture. However the positive aspect of traditional tenure has been undermined by population pressure. Both the *Diessa* and *Resti* ownership patterns have generated into fragmentation of land holdings. Whatever traditional conservation measures existed was rendered ineffective as dramatic political, social and economic changes occurred around the turn of the twentieth century.

Objectives

To facilitate and direct the planned expansion of production systems and the resettlement of populations in an environmentally sustainable manner, while conserving and protecting critical biodiversity resources.

Implementation Strategy

The project involves an integrated initiative in land use planning, water resource management, applied research on the effective use and conservation of agricultural biodiversity resources, and the identification and protection of biological resources through the establishment of resource-specific management plans and a graduated protected area system.

Guidelines for sustainable land use planning that integrate MEA issues will be prepared, which should be made available to land planners in all sectors and users. Information and Communication Technologies (ICTs), such as GIS and Remote Sensing and other modern land use planning tools should be integrated in all sectors through targeted training programs.

An integrated approach to Sustainable Land Management (SLM) that incorporates MEA issues, particularly weather and climate information, early warning and disaster preparedness, should be developed and adopted by land use planners such as the MoLWE/DoE, MoA, MoEM, MoND; and other line ministries.

Activities

- ▶ Develop guidelines for sustainable land use planning in line with MEAs.
- ▶ Integrated initiatives in land use planning, water resource management, and on the effective use and conservation of agricultural biodiversity resources.
- ▶ Make use of GIS and Remote Sensing and other modern land use planning tools, which should be integrated in all sectors through targeted training programs.
- ▶ Implement land use planning under different ecosystems.
- ▶ Integrate weather and climate information, early warning and disaster preparedness into SLM plans.

Outputs

Sustainable land use plans, Biodiversity Conservation prepared and implemented.

Indicators of success

- ▶ Finalized Land Use Policy;
- ▶ Increased compliance with policies and legislations on UNCBD and SLM;
- ▶ Relevant plans integrating MEAs approval;
- ▶ Increased awareness of policies and guidelines on UNCBD/SLM;
- ▶ Number of plans integrating MEAs.
- ▶ Number of community level initiatives on UNCBD/SLM under implementation.

Estimated Budget

Activities	Amount (US\$)
Develop guidelines for sustainable land use planning in line with MEAs.	50,000
Integrated initiatives in land use planning, water resource management, and on the effective use and conservation of agricultural biodiversity resources.	150,000
Make use of GIS and Remote Sensing and other modern land use planning tools, which should be integrated in all sectors through targeted training programs.	350,000
Implement land use planning under different ecosystems.	400,000
Integrate weather and climate information, early warning and disaster preparedness into SLM plans.	150,000
Total Amount	1,100,000

PROJECT PROFILE 6: HUMAN RESOURCES DEVELOPMENT AND INSTITUTIONAL CAPACITY BUILDING

Project Title:	Enhancing Capacity of Training Institutions to Impart Technical and Managerial Skills for Implementation of MEAs.
Target Group:	Educational and Training Institutions, and National Curriculum Development Experts.
Total Funding:	US \$ 1,815,000
Funding Secured:	Nil
Time Frame:	4 years

Problem Statement

The most critical constraint affecting implementation of MEAs is the limited managerial and technical capacity of the human resources in the relevant areas of MEAs.

Building a strong economy in the longer-term will require overcoming a shortage of skilled manpower. However with only 25% of the population literate, the lack of human resource capacity is daunting. Net primary school enrolment in Eritrea is only 10%, compared to 40% for countries in Sub-Saharan Africa. Until there is a literate population and a well-trained work force the economic and social development strategy developed by Eritrea is unlikely to succeed.

Recently the Government of the State of Eritrea with support of the World Bank has made the necessary resources available for improving education and increasing access of education to the population at large. In order to implement MEAs there is a need to carry out an assessment of the Human Resources Capacity and training needs. Increase staff opportunities for exposure, education and experience in relevant areas of environmental management, regulatory policy and practice, environmental impact assessment methods, information collection and management, and State of the Environment Reporting.

Objectives

- ▶ Train manpower in relevant areas of MEAs implementation;
- ▶ Provide equipment and facilities to educational and training institutions for skills development in implementation of MEAs; and
- ▶ Develop and/or review the curricula of educational and training institutions to integrate MEAs issues.

Implementation Strategy

The project will involve conducting capacity needs assessment for the Universities and institutions of higher learning. Provide institutions with the necessary equipment and facilities and undertake the relevant training of manpower to implement the MEAs. The project also will review the existing curricula of schools and tertiary training institutions so as to integrate MEAs issues and undertake preparation and production of training and educational materials on MEAs. Training sessions on MEAs issues would then be conducted at all education levels to acquire adequate human resource to implement the MEAs at different levels. The project will be implemented by the MoLWE/DoE in collaboration with the MoA, MoE, MoND, MoEM, and other line ministries, tertiary training institutions, National Curriculum Development Division, NGO's and Local Administrations.

Activities

- ▶ Ensuring that all stakeholders participate in the co-ordination and management of sustainable development.
- ▶ Develop guidelines for strong coordination between institutions and adoption of an integrated approach.
- ▶ Strengthen manpower in the relevant fields of institutional development through recruitment and training.
- ▶ Improve available physical infrastructure and office equipment (Focal Points and districts).
- ▶ Research and training institutions and centers of excellence should be equipped with relevant facilities and trained manpower.
- ▶ Build technical and managerial capacity, by focusing on those that are relevant across the four MEAs.
- ▶ Conduct training needs assessment for MEAs actors
- ▶ Prepare training materials based on identified needs
- ▶ Review relevant sectoral and district plans to integrate training in MEAs issues
- ▶ Train staff in negotiation skills; conflict resolution and management; gender responsive policy and law; integrated planning and assessment; monitoring and evaluation; SLM; biotechnology; ICT; ecosystem and data management; and designing incentives and entrepreneurship related to MEAs.
- ▶ Strengthen research related to MEAs and technology development/ transfer.
- ▶ Promote exchange of MEAs related research findings and technologies by establishing and strengthening research and technology networks.
- ▶ Conduct integrated studies on the impact of environmental degradation (including social and economic impacts).
- ▶ Create and institutionalize a national NR journal and supporting their activities such as electronic information networks, workshops, conferences as well as journals and publications to share/ exchange research findings.
- ▶ Set up a website on MEAs implementation at national level.

Outputs

- ▶ Inter-institutional collaboration framework established.
- ▶ Institutions strengthened.
- ▶ Capacity of local training institutions developed and strengthened.
- ▶ Technical and managerial capacity to address MEAs issues created and/or strengthened.
- ▶ Integrated research on MEAs strengthened.
- ▶ Mechanisms for disseminating and exchanging research findings.

Indicators of success

- ▶ Training needs assessment reports;
- ▶ Curriculum review reports;
- ▶ Enhanced man power for implementation of MEAs; and
- ▶ Well-facilitated training institutions.
- ▶ Well equipped research institutions and technology development centres;
- ▶ A functional national NR journal and web site;
- ▶ Functional partnerships with private sector and NGOs;
- ▶ Number of promoted MEAs related technologies;
- ▶ Improved NR management.

Estimated Budget

Activities	Amount US\$
Ensuring that all stakeholders participate in the co-ordination and management of sustainable development.	20,000
Develop guidelines for strong coordination between institutions and adoption of an integrated approach.	50,000
Strengthen manpower in the relevant fields of institutional development through recruitment and training.	500,000
Improve available physical infrastructure and office equipment (Focal Points and districts).	200,000
Research and training institutions and centers of excellence should be equipped with relevant facilities and trained manpower.	300,000
Build technical and managerial capacity, by focusing on those that are relevant across the four MEAs.	50,000
Conduct training needs assessment for MEAs actors	30,000
Prepare training materials basing on identified needs	100,000
Review relevant sectoral and district plans to integrate training in MEAs issues	50,000
Train staff in negotiation skills; conflict resolution and management; gender responsive policy and law; integrated planning and assessment; monitoring and evaluation; SLM; biotechnology; ICT; ecosystem and data management; and designing incentives and entrepreneurship related to MEAs.	150,000
Strengthen research related to MEAs and technology development/ transfer.	85,000
Promote exchange of MEAs related research findings and technologies by establishing and strengthening research and technology networks.	100,000
Conduct integrated studies on the impact of environmental degradation	50,000
Create and institutionalize a national NR journal and supporting their activities such as electronic information networks, workshops, conferences as well as journals and publications to share/ exchange research findings.	80,000

Set up a website on MEAs implementation at national level.	50,000
Total Amount	1,815,000

PROJECT PROFILE 7 GLOBAL - NATIONAL - PROVINCIAL – LOCAL LINKAGES

Project Title:	Strengthening the Global, National and Provincial Local Linkages.
Target Group:	National, Regional Institutions as well as Local Communities.
Total Funding:	US\$ 860,000
Funding Secured:	Nil
Time Frame:	5 years

Problem Statement

Global-National-Provincial linkages is a cross-cutting issue in national policies, sectoral legislations, national programs and projects, MEAs, GEF related enabling activities and multilateral and bilateral cooperation in the country.

Global-National-Provincial linkages has potential synergies in all aspects of the strategic elements including environmental management, policies, legal and institutional framework, and gender issues.

Eritrea has been effective in developing NAPs based on its obligations following ratification of international conventions. Although the GoE is undertaking an extensive programme of decentralisation to *zoba* level, the Global, National, Regional and Local linkages and accessing resources for project implementation has being weak.

Objectives

- ▶ Funding for the implementation MEAs secured;
- ▶ Environmental planning and implementation coordinated at national, regional and local levels.

Implementation strategy

The project will involve enhancing the Global, National, Regional and Local linkages mobilizing resources for effective coordination of environmental issues among the national, zonal and village level committees to co-ordinate and integrate development plans and programmes by mobilising and establishing co-operative self-help projects and programmes. The actors will be trained to be able to prepare multidisciplinary proposals, the management and sharing of information as well as on the availability and means of accessing both domestic and external resources (e.g. carbon funds). Moreover, partnership will be promoted with a view to mobilize resources from various donors and make use of the expanded GEF portfolio that includes land degradation and deforestation as focal areas. Led by the DoE, the project will solicit the support of government agencies and international organizations such as Ministry

of National Development; MoA, Regional Administrations, ERREC, NGO's, CBO's and other collaborating stakeholders and funding partners.

Activities

- ▶ Prepare common mainstreaming guidelines for national, sectoral and zonal plans and budgets.
- ▶ Review national, sectoral and zonal plans and budgets to mainstream MEAs issues.
- ▶ Establish co-ordination between the national and provincial on environmental issues, which are not defined by administrative boundaries.
- ▶ Village level committees should be empowered to co-ordinate and integrate development plans and programmes.
- ▶ Train actors in preparation of multidisciplinary proposals, and management and sharing of information on availability and means of accessing both domestic and external resources (e.g. carbon funds).
- ▶ Promote partnerships with a view to mobilize resources from various donors and make use of the expanded GEF portfolio that includes land degradation and deforestation as focal areas.
- ▶ Provide incentives for private sector investment in MEAs related issues.

Outputs

- ▶ MEAs issues integrated into global, national, sectoral and zonal plans
- ▶ Capacity of national and zonal actors to mobilize resources for MEAs programmes strengthened

Indicators of success

Funding and implementation commences

Estimated Budget

Activities	Amount (US\$)
Prepare common mainstreaming guidelines for national, sectoral and zonal plans and budgets.	60,000
Review national, sectoral and zonal plans and budgets to mainstream MEAs issues.	50,000
Establish co-ordination between the national and provincial on environmental issues, which are not defined by administrative boundaries.	100,000
Village level committees should be empowered to co-ordinate and integrate development plans and programmes.	200,000
Train actors in preparation of multidisciplinary proposals, and management and sharing of information on availability and means of accessing both domestic and external resources (e.g. carbon funds).	250,000
Promote partnerships with a view to mobilize resources from various donors and make use of the expanded GEF portfolio that includes land degradation and deforestation as focal areas.	50,000
Provide incentives for private sector investment in MEAs related issues.	150,000
Total Amount	860,000

PROJECT PROFILE 8 GENDER

Project Title:	Promotion of Gender Equality
Target Group:	Local Communities, and Women's Associations
Total funding:	US\$ 600,000
Funding Secured:	Nil
Time Frame:	4 years

Problem Statement

Gender inequality is a historical social phenomenon all over the world that continues to exclude women from accessing and enjoying the full spectrum of their human rights as equal citizens.

In Eritrea, like in other African countries, women's experiences, knowledge, perspectives and special gender needs have yet to be specifically consulted, tapped and incorporated to inform national and regional conceptual repository of knowledge or development frameworks. Their vital role in public sector has not been fully recognized and appreciated. Their voices on issues of nationhood, governance, development, and constitutionality including economic policies and social rights and choices remain anecdotal and incidental within the context of public policy formulation and national development planning.

Women are the most vulnerable groups due to underdevelopment exacerbated by recurrent natural and human made disasters including famine, widening and deepening poverty, poor infrastructure, armed conflicts and deeply entrenched traditional practices that give rise to many inequalities within, between and among men and women.

Objectives

- ▶ Promote equality.
- ▶ Enhance women's role in environmental protection.

Implementation strategy

As key providers in the household, women are preferentially affected by soil erosion, declining yields and decreased food security. Eritrea has typically advanced legislation in respect of women's rights and powerful and cohesive women's associations. It is recognised that women are key stakeholders in all processes of environmental awareness, as they transmit value-systems to the upcoming generations. A particular focus of the project will therefore be on awareness and training in relation to women's associations and in the production of gender-sensitive educational materials.

Activities

- ▶ Awareness and training in relation to women's associations
- ▶ Production of gender-sensitive educational materials.

Outputs

- ▶ Empower women and create awareness on gender issues.

Indicators of success

- ▶ Women empowered.
- ▶ Number of awareness training carried out.

Estimated Budget

Activities	Amount (US \$)
Awareness and training in relation to women's associations	350,000
Production of gender-sensitive educational materials.	250,000
Total Amount	600,000