

THE STATE OF ERITREA MINISTRY OF AGRICULTURE

NATIONAL REPORT ON THE IMPLEMENTATION OF THE UNCCD



Asmara, Eritrea
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1. Introduction

In accordance with article 26 of the United Nations Convention to Combat Desertification (UNCCD), and the relevant decision of its Conference of parties (COP), particularly decision 11/COP1, each Party to the Convention is required to report, through the UNCCD secretariat, on measures undertaken to implement the UNCCD. The first comprehensive reports from affected African country Parties were submitted to COP 3 and the Ad Hoc Working Group completed a subsequent review in 2001 and the second review was undertaken in the aftermath of the World Summit on Sustainable Development (WSSD), in the context of the first session of the Committee for the Review of the Implementation of the Convention (CRIC) convened in 2002. Accordingly, the Eritrean first and second national reports were prepared in May 1999 and April 2002 respectively. This national report is the third of its kind, which is prepared pursuant to that requirement.

This report is prepared in accordance with the detailed guidelines prepared by the UNCCD Secretariat in the document entitled “National Reporting Process of Affected Country Parties”.

2. Executive summary

2.1. Strategies and priorities established within the framework of sustainable development plans and/or policies

The Eritrean national strategy on sustainable development is described through five main initiatives, which form the basis for sustainable development. The five initiatives are:

- a) Macro Policy (1994)
- b) Economic growth and Poverty Reduction Strategy (PRS, 2001) and Interim Poverty Reduction Strategy Paper (1-PASP, Draft 2003)
- c) National Environmental Management Plan (NEMP-E, 1995)
- d) National Action Programme to Combat Desertification and Mitigate the effects of drought (NAP, 2001) and
- e) National Biodiversity Strategy and Action Plan (2000).

All strategies are formulated in 5 different documents relating to the titles above.

2. 2. Institutional measures taken to implement the Convention

According to the agreement reached between the Government of Eritrea and the Government of Denmark to support the preparation and implementation of the National Action Programme (NAP) for implementation of the United Nations Convention to Combat Desertification (UNCCD), CCD/ NAP project has become operational since the beginning of January 2000. The Ministry of Agriculture hosted and organized a workshop on 14-15 July 2003 under the theme ‘ National forum for promoting synergies for the implementation of the three international environmental conventions in Eritrea –

UNCCD, UNFCCC & UNCBD. International, local NGO's, project managers, advisors, implementers and other stakeholders attended the event. Towards the end of the workshop, participants presented their group work finding and passed specific and general recommendations. Agreement between the Global Mechanism of the UNCCD and State of Eritrea through UNDP office in Eritrea signed a 75,000USD year project on 2004. The national management of the project is with the NAP national secretariat, under Agricultural Promotion and Development Department (APPD), which has the main role to coordinate the implementation of CCD/NAP. Major activities identified to be implemented during this phase of the project were:

- Strengthening of NAP national secretariat
- Sub-regional consultation, NAP regionalisation research and
- Launching village centered development initiatives.

Improving the institutional setup for CCD/NAP planning and implementation was one of the major activities of the project. Accordingly, CCD national secretariat has been established and staffed with a coordinator and regional facilitators. In addition to this the office of CCD national secretariat has been equipped with all basic office facilities including e-mail and Internet service.

Moreover, new institutional setup has been proposed in the NAP document, which clearly incorporates the role and responsibilities of all stakeholders including the local community in implementing the Convention. NAP mainstreaming consultation will start soon to accelerate the implementation of the NAP to combat desertification in Eritrea.

2. 3. Participatory process in support of the preparation and implementation of the action program

Stakeholders from governmental and non-governmental organizations, civil society groups and community-based organizations have participated in all stages of development of the action programme. Seminars, workshops, awareness raising campaigns, and conferences were organized to collect and reflect the views of all stakeholders in the NAP document. The local communities have effectively participated in this process through regional and sub-regional level consultations that were organized through out the country. The NAP document has been distributed to all stakeholders as reference in supporting the implementation of the action program.

2. 4. Consultative process in support of the preparation and implementation of the NAP and the partnership agreement with developed country parties and other interested entities.

In addition to the consultations, which were carried out in various regions, more in-depth consultations have been carried out at sub-regional level (SRL) in order to raise the level of awareness of all stakeholders at local community levels. The SRL consultations have been carried out in all sub-regions throughout the country. Governmental organizations, NGOs, community based organizations; farmers and pastoralists participated in these consultations.

Consultations were conducted among relevant organizations as described above, but combating desertification being a complex task, inputs such as funds, expertise, and guidance had to be sought and attained from diverse sources such as UNSO/UNDP, IGAD, and UNCCD.

2. 5. Measures taken or planned within the Framework of the NAP.

Several measures have been taken to implement the UNCCD by the government, non-governmental organizations and community based organizations. Apart from their active involvement in preparation the NAP document as members of the Technical Committee, they have done tremendous amount of work to combat desertification in various fields.

The Government of Eritrea with assistance from its development partners has made substantial investment in the energy sector, the largest of which is the Hirgigo Power Plant and Transmission Expansion project commissioned in 2002. With the completion of the Hirgigo project, Eritrea's power generating capacity has more than doubled, increasing from 52 to 136 megawatts. Transmission and distribution lines are being extended beyond the major cities and towns into the rural communities.

The task of developing and designing an improved *mogogo* stove for baking *injera* (*local staple bread*) is one of the top priorities of the Ministry of Energy and Mines. A major programme is being undertaken to disseminate such stoves to the rural areas with over 12,000 so far installed. This will be of great benefit to women as they shoulder the responsibility of fuel wood collection and cooking. Moreover, the pressure on wood and by the same token, on trees and shrubs, is considerably reduced because of the efficiency of the improved mogogo.

The Ministry of education (MoE) on the other hand is working hard to incorporate environmental education in school curriculum. Parallel to the existing environmental awareness-raising programmes and activities in the schools and through adult radio programs on environmental conservations, efforts are being made by ministry of education to introduce environmental clubs and school afforestation programmes into schools to engage students in extra-curricular activities. Some schools have already established these clubs. To support the Government of Eritrea for the establishment of the Environment Youth Program in the context of implementing the National Action Program to combat desertification, the Grants Committee of the UNCCD Secretariat has approved USD 50,000 for a pilot project, the implementation phase of which will start soon after the transfer of the fund to the CCD Account in Eritrea.

The MoE has opened a new Institute of Science and Technology that train young students who have completed their secondary school in environmental science and technologies starting from 2003/2004 academic years. The University of Asmara also continues to train students in environmental sciences under its Department of Land Resource and Environmental studies since 2001/2002 academic years.

The Ministry of Agriculture (MoA) as the National Focal Point for UNCCD is engaged in implementing programs to reduce soil degradation and improve control over water in rain fed areas through the Integrated Watershed Development Program and the Land Productivity Management Initiative (FAO). The MoA, in collaboration with all concerned governmental and non-governmental organizations and assisted by the local communities, is undertaking an accelerated and sustainable afforestation programs. One element of the program is to encourage communities to establish woodlots on community lands. Residents actively participate in designing and managing the community woodlots, and the Ministry of Agriculture provides seedlings and overall guidance. A second element is to involve young people, who are part of the Summer Youth Campaign Program in building terraces, planting trees and undertaking other soil and water conservation activities.

Since 1994, Eritrean students throughout the country have been participating in afforestation and soil-conservation campaigns during their summer vacations, during *Kremti* (June-September), organized jointly by the MoE and the MoA. This year about 18,000 students have participated in the summer student campaign mainly on soil and water conservation and afforestation activities for which the government has allocated about 17 million Nakfa (1.3 million US\$). The major achievements accomplished in the last 9 rounds of the student summer campaign are summarized in Appendix 1 (table 1).

As an integral part of the country development plan, the Ministry of Agriculture, in collaboration with all stakeholders and wide participation of the local community has accomplished impressive works. Major activities that have been implemented by MoA/Stakeholders for the last decade are summarized in Appendix 1 (table 2).

The MoA is going through a significant and important transformation process. This process is an outcome of the Government's strategy of having established a lean, effective and efficient public service delivery system. Based on the core functions of the ministry, the functional analysis developed – policy, regulations, technical support, research and human resources development – as there was a need to review the organizational structure of the ministry and the way in which it was doing its business.

In 2003 the Government of Eritrea launched an operation for economic growth '*Warsay-Yikalo Development Campaign*' with massive local community participation and a new Ministry of National Development was established to coordinate all sectoral development activities in the country. Most of the work of the '*Warsay-Yikalo Development Campaign*' focuses on combating desertification through participation in environmental conservation and development activities. The Ministry of Health and Information also continue to play a key role in creating awareness among the community that conservation of environment is the responsibility of every citizen in the nation.

2. 6. Financial allocations from national budget in support of implementation of as well as financial assistance and technical cooperation.

The government allocates significant funds of money every year for anti-desertification measures carried out by different sectors. In addition to the budget allocated by the government for the implementation of conservation activities, international non-governmental organizations and bilateral donors also fund several projects. The existing funding sources include: GM/UNCCD, UNDP, IGAD, World Bank, ADB, GEF and KR2 (Japan Counterpart Fund for Community Forestry Development & Food Security), the government of Saudi Arabia, Kuwait Fund, Arab Development Bank, Abu Dhabi Fund, OPEC and the Government of Italy. The European Union is funding a project to rehabilitate the Massawa area power distribution. An agreement has just been concluded between the GoE and the World Bank to finance the 'Asmara Power Distribution and Rural Electrification'. The GoE and the Global Environment Facility (GEF) are also launching a pilot wind energy applications project with 50% contribution each. SIDA has financed the wind and solar resource assessment project, preparation of Regulatory Framework for the energy sector and in the electrification of many rural and semi-urban villages.

The National Action Programme places significant emphasis on project profiles, which represent the practical actions required in implementing it. NAP has elaborated 23 project profiles with a total funding requirement of about 38 million US dollars.

As to the funding of the 23 proposed Project Profiles (PPs), it is suggested that a total of US\$ 37.890 million will be needed for their implementation, of which US\$ 3.815 million (10%) is to come from local sources, and the remaining US\$ 34.075 million (90%) from external sources.

2.7. Review of benchmarks and indicators utilized to measure progress and an assessment thereof

No change has been made after the 2nd national report. Benchmarks and indicators, which had been developed and indicated in the national report, remain unchanged except minor modifications.

2.8 National and sub-regional frameworks relevant to CCD

2.8.1 Focal point institution:

Name of focal point	Mr. Heruy Asgedom
Address including e-mail address	Ministry of Agriculture P. O. Box 1048, Asmara, Eritrea heruyas@moa.gov.er / redaet@moa.gov.er

Country-specific websites relating to desertification	Not yet available
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2.8.2 Status of NAP

Date of validation	Ministry of Foreign Affairs, 24/01/2002
NAP review(s)	
NAP has been integrated into the poverty reduction strategy paper (PRSP)	Currently under way
NAP has been integrated into the national development strategy	Currently under way
NAP implementation has started with or without the conclusions of partnership agreements	Yes
Expected NAP validation	
Final draft of a NAP exists	NAP document available
Formulation of a draft NAP is under way	NAP document available
Basic guidelines for a NAP have been established	NAP document available
Process has only been initiated	
Process has not yet started	

2.8.3 Member of SRAP/RAP:

Name of sub regional and/or regional cooperation framework		Involvement specifically in topics such as water harvesting techniques, soil erosion etc.
1	IGAD member state	Soil & water conservation, Early Warning & food security information, Trans-boundary natural resources management, Crop production & protection, Fuel saving technology...etc
2	NEPAD	Integrated management of water resources including river basins, Community based natural resources management and Promotion of sustainable crop production in dry lands.
3.	CEN-SAD (Community of Sahel-Saharan states)	Integrated economic development & environmental conservation; coordination of activities among CEN-SAD member states in the field of transport, trade, food security, energy.... etc

2.8.4 Composition of the NCB:

Name of institution		Government	Private sector/ Civil society	Male/female
1.	Ministry of Agriculture	♦		M
2.	Ministry of Land, Water & Environment	♦		M
3.	Ministry of Mining & Energy	♦		M
4.	Ministry of Local Government	♦		M
5.	Chamber of Commerce		♦	M
6.	National Union of Eritrean Youth & Students (NUEYS)		♦	M
7.	National Union of Eritrean Women (NUEW)		♦	F
8.	National Confederation of Eritrean Workers (NCEW)		♦	M

2.8.5 Total number of NGOs accredited to the process: 24

Has an NGO National Coordinating Committee on desertification been established; if yes, how many NGOs or civil society organizations participate in it? 24	Yes, 3 civil society organizations participate. (NUEYS, NUEW & NCEW)
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2.8.6 Total number of acts and laws passed relating to the UNCCD: 5

Name up to five most relevant acts and laws and/or regulations:

Title of the law		Date of adoption
1.	Land Reform Proclamation No.58/1994	1994
2.	Fisheries & marine resources Proclamation No 104/1998	1998
3.	Exploitation of mineral resources & petroleum Proclamation No 108/2000 & 109/2000	2000
4.	Electricity Proclamation No 141/2004	2004
5.	Proclamation for Corporitising Eritrean Electric Authority (EEA), No 142/2004	2004

2.8.7 The consultative process

Number of partnership agreements that have been concluded and/or are being initiated within the framework of the UNCCD

Official title of partnership		Donor(s), international organization(s), and/or agencies of the UN system involved	Date of (expected) conclusion
1.	Danish Support to Combat Desertification	Danida/Government of State of Eritrea (GoSE)	2002
2.	UNDP Support to National Action Program Process	UNDP/Government of State of Eritrea (GoSE)	2002

List of consultative meeting on UNCCD implementation

Name of consultative meeting		Date/year	Donor countries involved	International organizations or agencies of the UN system involved
1.	NAP Regional & sub-regional consultation (within the country)	1999-2001	- Denmark - Italy	UNDP

Name of country, which has taken over the role of Chef de file
(Please provide information where appropriate): _____

2.8.8 Name up to 10 projects currently under implementation, which are directly or indirectly related to the UNCCD.

	Name of project	Project implemented within the framework of the NAP/SRAP/RAP? (Yes/No)	Project implemented within the framework of...	Timeframe	Partners involved	Overall budget
1	Central Highland Irrigated Horticulture Development Project	No	National development	12/1996 – 12/2004	MoA, ADB/ADF	\$12,682,376
2	Eastern Lowland Wadi Dev. Project	>>	>>	1996 – 2005	MoA & BSF/IFAD	\$16,000,000
3	Naro Irrigated Agriculture Project	>>	>>	02/03-01/08	MoA & Africare	\$6.2 million
4	Kerkebet Integrated People's Development	>>	>>	2002 – 2006	EED, BFTW & LWF Geneva	\$1,040,000
5	Toker Integrated Community Development	>>	>>	01/2005 – 12/2008	TICD & NOVIB	\$2,758,256
6	Multi-sectoral Intervention in Agro-pastoral Community in Eritrea	>>	>>	02/2004 – 01/2005	CARE, Haben & MoA	\$250,000
7	Self Help Development Project	>>	>>	1996 – 2006	SHDI & MoA	\$5,079,667
8	Integrated Watershed & Community Development Program	>>	>>	2003-2008	APSO, DCI & Concern	±886,408
9	Integrate Food Security Project	>>	>>	2002 – 2004	Vision Eritrea CARE & MoA	\$743,280
10	Rural Electrification (129 villages and 5 towns)	>>	>>	2002 – 2007	MOE & EEA	\$11,367,378

3. Strategies and priorities established within the framework of sustainable development plans and/or policies

3.1. National Economic Growth and Poverty Reduction Strategy (PRS)

Eritrea is a young developing country emerged as an independent state in 1993. Following independence, the Government defined its vision of the new Eritrea that it aspires to build: ***‘The creation of a modern technologically advanced and internationally competitive economy’***. For the realization of this vision, the Government has set up a number of strategic economic and social development targets. To accomplish these targets, the Government adopted a broad-based development strategy and set up Macro Policy framework in 1994. The core of this development strategy is the establishment of an efficient outward looking private sector-led market economy with the Government playing a proactive role to stimulate private initiatives.

In 2001 the Government published a document on the strategy for growth and poverty reduction. The document entitled ***“Transitional Economic Growth and Poverty Reduction Strategy,”*** which reiterates the Government commitment to poverty reduction and economic development as reflected in three key clauses of the Eritrean Constitution:

“The state shall work to bring about a balanced and sustainable development throughout the country, and shall use all available means to enable all citizens to improve their livelihood in a sustainable manner, through their participation (Article 8, paragraph 2)”.

“Every citizen shall have the right of equal access to publicly funded social services. The State shall endeavour, within the limit of its resources, to make available to all citizens health, education, cultural, and other social services (Article 21, paragraph 1)”.

“The State shall secure, within available means, the social welfare of all citizens and particularly those disadvantaged (Article 21, paragraph 2)”.

The PRSP makes five salient points: -

- Poverty is concentrated in rural areas and is deepest in the arid zones
- The greatest number of poor live in the highlands
- Households headed by women are not poorer than average
- Access to social services is poor; as a result, the health, nutrition and educational levels are amongst the worst in World.

The PRSP proposes a two-pronged approach:

- Immediate period, 2001-2002. The Government intends to focus on:
 - Meeting immediate needs for emergency humanitarian assistance,
 - Reconstructing infrastructure,
 - Assisting displaced people,
 - Restoring a stable macroeconomic framework, and
 - Demobilizing and reintegrating combatants.

- Medium-term period, 2003-2005. The government will concentrate on:
 - Developing new export markets
 - Rebuilding the port business
 - Increasing agricultural productivity so that the sector can contribute a much greater portion to GDP, (currently only 16%) commensurate with the high proportion of the population depending on agriculture (currently 60-80 percent)
 - Achieving macroeconomic stability
 - Attracting private sector investment and privatizing government owned enterprises
 - Developing a sound financial system.

3. 2. Water Resources

In the Ministry of Land, Water and Environment, the department of water is charged with the responsibility of formulating the sector's policies, strategies and programmes. Realizing the security of water, the Eritrean Government will strive to enhance the protection and conservation enrichment, proper management and utilization of the water resources in a sustainable manner. Therefore to implement, it the water resources department will use the following strategies and priorities:

- Awareness raising on water issues
- Strengthen capacity building (Training- Education media)
- Strengthen planning capacity
- Facilitate for decision makers to issue laws and guide lines on water
- Promote community participation focusing on women's role
- Assist in the establishment of appropriate institutional set up for the water sector including for the disaster management preparedness
- Sensitize decision makers on the issue of water
- Ensure sustainability of water resources in the utilization and management through proper planning, monitoring and evaluation based on Integrated Water Resources Management (IWRM).
- Encourage the use of various water resources for enriching, conserving and saving mechanisms
- Support water resources studies as well as research and development
- Increase knowledge on the use of boundary and trans-boundary waters.

3. 3. Land and Soil Resources

In the Ministry of Land, Water and Environment, the department of land is charged with the responsibility of formulating the sector's policies, strategies and programmes. The strategy with regard to land can be represented by the environmental objectives of land law No. 58/1994. These include:

- Security of tenure that creates the opportunity for land-users to incorporate environmental improvements on their land, and
- The right ambience for sustainable land use and environmental protection

The land and soils priorities relatable to environmental aspects are:

- Arresting land degradation and desertification, particularly for arable land
- Increase public awareness about land degradation and desertification
- Increasing soil cover by a variety of means and techniques
- Empowering farmers to improve farming methods and land husbandry
- Implementing the environmental aspects of the land law
- Preparation of a national action plan to combat desertification (which is prepared by MoA), and
- Preparation of a national soil policy

3. 4. National Biodiversity Strategy and Action Plan for Eritrea (NBAP)

The Government of Eritrea (GoE) formally ratified the Convention on Biological Diversity (CBD) on 21 March 1996. Article 6 of the Convention calls for contracting parties to the convention to develop a National Biodiversity Strategy and Action Plan (NBSAP), aimed at the conservation and sustainable use of biological diversity or to adopt existing strategies to reflect the requirement of the convention. As a result of the first enabling activity project, the Government published the National Biodiversity Strategy and Action Plan for Eritrea in 2000. This sought to build upon the Government's previous commitment to broader conservation and sustainable use of biodiversity resources as contained in the NEMP-E, 1995.

3. 5. Eritrean Initial National Communications Under the United Nations Framework Convention on Climate Change (EINCC)

In line with its obligation under the United Nations Framework Convention on Climate Change (UNFCCC), Eritrea has started a programme of assessing the levels of greenhouse (GHG) emissions in the country. The Department of Environment, in the Ministry of Land, Water and Environment in Collaboration with other line ministries has conducted the inventory using the revised IPCC 1996 guidelines.

Like most developing countries, Eritrea's contribution to the emission of green house gases is insignificant. Despite the country's minimal contribution, Eritrea is working to reduce green house gases by shifting to clean development mechanisms such as solar energy, wind energy, geothermal energy, rural electrification and developing policies that give due emphasis to the sustainable use of the environment. At this stage, Eritrea needs the development of policies and programmes to address the impact of climate change, as 80% of its population is dependent on agriculture and livestock for their livelihood. Human impact on wildlife and marine should be taken carefully and protected by law.

The key points for action suggested by the EINCC are:

- Conducting and updating the inventory of GHGs
- Monitoring biomass energy consumption
- Identifying and encouraging policy measures for alternative energy sources
- Encouraging afforestation

- Vulnerability assessment and adaptive strategies will be developed based on socio-economic survey, and
- Using outputs from GCMs (Global Circulation Models) to predict vulnerability and put in place disaster-preparedness strategies

3. 6. Agriculture

The work prepared on ‘Agricultural Sector Policy Framework and Strategy’ focused on the strategy to support the economic and social development in the agricultural sector rather than responding to the emergency and humanitarian need strategy. Therefore, achieving sustainable economic growth of the agricultural sector is the foundation of this strategy.

The path to achieve this target is a mix of intensification of farming to obtain higher yields per unit area through the use of improved inputs and modern farming practices in the highlands, and intensification more land use per worker through cultivation of new land and use more machinery in the lowlands. The main stimulus to agricultural growth is to provide high economic incentives such as rewarding product prices, and better-input prices through market integration. The agricultural growth strategy can be summarized in the following twelve targets:

- Raising production in traditional arable farming
- Support commercial agriculture
- Expanding livestock production
- Developing water resources and irrigation
- Promoting commercial forestry while protecting the environment
- Strengthening food security
- Putting land tenure on a modern footing
- Aligning domestic prices to world prices and expanding foreign trade
- Promoting rural non-farming activities
- Providing services and input supply through the private sector
- Protecting plant and animal health\
- Establishing a monitoring and evaluation system

3. 7. Soil Fertility Initiatives (SFI)

The Government of Eritrea has constantly been concerned about the extent and severity of soil degradation and the effect this has on the economy at national, community and individual rural household levels. Combating soil degradation and improving soil fertility are important components of the country’s development strategy aimed at reducing poverty and they are enshrined in both the National Environment Management Plan and the National Action Plan to Combat Desertification.

The MoA has launched the SFI in Eritrea in mid 1998 when it set up a Soil Fertility Working Group (SFWG) to prepare a series of thematic working papers. The findings of these studies have been used as the basis for preparing the draft Concept Paper which

outlines an Eritrean strategy for a holistic and integrated approach to soil fertility improvement. The strategy is centered on the land management problems of the various rural households and communities engaged in crop production, agro pastoralism and/or pastoralism. The strategy's approach involves identifying, developing and adopting locally appropriate combinations of improved plant, soil and rainwater management practices, that together offer both production and conservation benefits.

3. 8. Energy

According to the Living Standards Measurement Survey (LSMS) carried out by the National Statistics office, the poor constitute about 66 percent of the Eritrean population, of which about two-thirds live in rural areas and the remaining one third in urban areas. Of the total urban poor, 33% fall under the extreme poor category indicating that poverty is not only a rural phenomenon.

In the Interim Poverty Reduction Strategy Paper (I- PRSP), the GoE emphasizes that access to sustainable sources of energy by the poor is a necessary and critical input for poverty alleviation and sustainable human development. Modern source of energy contributes to improved health by lowering indoor and outdoor air pollution; reduces the burden on women and young children many of whom spend hours collecting and carrying firewood; and frees up time for income generation. Energy is also a critical input for providing a host of social services, from education and health care to communications. The proposed project will address the power requirements for transforming the targeted urban, semi urban and rural areas. Other areas will benefit from Rural Electrification Fund, which will be managed based on a clear institutional and financial framework as well as eligibility criteria to ensure its sustainability.

The primary objective in the energy sector is to develop an efficient and environmentally sound and dependable energy production and supply system, capable of supporting Eritrea's growing economy in an affordable and sustainable way, thus contributing to raising the quality of life of the people. Our vision is to electrify every home, businesses and social amenities in the long-term. More specifically, our targets are as follows;

- Reduce by half, between 2005 and 2015, the proportion of urban, semi urban and rural households without access to adequate lighting;
- Reduce by half, between 2005 and 2015, the proportion of urban, semi urban and rural households reliant on cooking methods that are not sustainable; and
- By 2015 provide adequate, clean and efficient energy services to all educational, health and clean water supply facilities.

Achievement of these goals requires significant investments on energy services and scaling of grid expansion and implementation of stand alone or hybridized renewable energy systems.

3. 9. Meteorology

In Eritrea, where life is constantly threatened by recurring episodes of severe drought or flood, sustainable economic development is inconceivable without an effective ability to plan for these extreme variations in climate. Recurrent droughts expose a country to decline in food production, and have serious economic and social impacts such as relocation of population, disease outbreaks, land degradation, loss of vegetation, loss of wild life resources and even loss of human lives. To predict or prevent this adverse condition, the Meteorological Service Division of the Civil Aviation Authority (CAA), will use the following strategies and priorities:

- Ensure prevention against drought and desertification.
- Integrating effective early warning systems into the national action plans and development strategies.
- Mobilize the required funding to strengthen the capacity of the service.
- Improve the prediction of El Nino/La Nina.
- Broadening the implementation of Climate Information and Prediction Services.

4. Institutional measures taken to implement the Convention

4. 1. The National Coordination Body (NCB)

The National Coordination Body, which was established after ratification of the Convention, is still operational. The Ministry of Agriculture through its Agricultural Promotion and Development Department spread head the NCB.

4. 2. Technical committee of NAP

The technical committee of the NAP, which was established with NAP documentation process, is still functional and its main activities and responsibilities are revised and proposed in the NAP document below.

4. 3. Institutional Measures for a transitional period

An improved and agreed organizational and institutional setup for CCD/NAP planning, decision making and implementation among key stakeholders has been established with financial support from Danida under the programme ‘Danish Support for Combating Desertification’. This particularly include the clarification of the structure and membership of a national decision making body of the NAP, the role of the technical committee as well as the modalities for the National Desertification Fund (NDF)).

The institutional structure proposed reflects the requirements needed for achieving the immediate objective (the ‘steering’ nature of the technical committee as well as the capacity strengthening of the coordinating body of the CCD/NAP and the regional level). As such the structure aims at strengthening and building up on the principles of ownerships of the CCD/NAP by the key stakeholders involved.

The national management of the project is with the NAP secretariat, under the Ministry of Agriculture's Agricultural Promotion and Development Department, which has the main role to coordinate the implementation of the CCD/NAP in Eritrea. Other key bodies involved in the management and implementation of the CCD/NAP are the following:

- National Steering Committee,
- NAP Secretariat,
- Technical Committee, and
- Implementing Agencies.

The NSC mainly deals with ensuring the national commitment to the CCD/NAP, selecting criteria for approval of projects under the project profiles of the NAP; annual work plans, budgets and reports, as well as evaluate the implementation of the NAP.

The NAP secretariat mainly coordinates, facilitates and administers the CCD/NAP processes and as such operates as the project management unit.

The technical committee is mainly responsible for completing issue papers on land degradation and prepares useful project profiles for the NAP. Further more, the committee acts as the NSC to develop criteria and monitoring mechanisms for implementation of the field activities.

The implementing agencies at regional and sub-regional levels are important institutions as they are involved in capacity development events, implementation (consultation) and evaluation of the pilot field activities.

The support given to the establishment of the NAP secretariat, through capacity development programmes for its staff and the supply of equipment and other hardware for its operations have provided a significant basis for organisational sustainability of the NAP secretariat in its task to administer and facilitate the CCD/NAP process. The capacity development activities which have been carried under this programme were management training and other skills development related to maintaining and developing an organization of this kind, as well as specific CCD topic related knowledge and skills improvements.

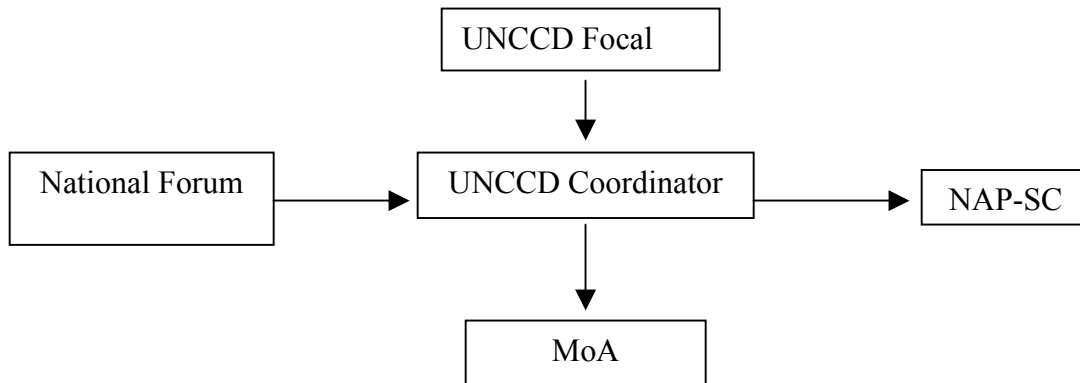
4. 4. Long term legislative and institutional framework arrangements

4.4.1 Proposed structure for implementation of the NAP

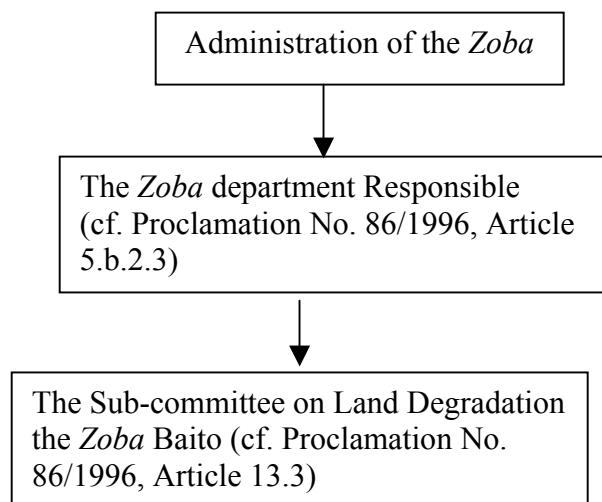
The following is a proposed structure for implementing the National Action Programme to Combat Desertification in the NAP document.

NAP at the National Level

The lead institution responsible for implementing the NAP is the Ministry of Agriculture. Because land degradation is a cross cutting issue many other institutions, particularly the Ministries of Local Government (MoLG) and the Ministry of Land, Water & Environment (MoLWE), must be actively involved in the process of implementing NAP. The structure proposed for overseeing the implementation of NAP at the National level is as follows:



NAP at the Regional Level



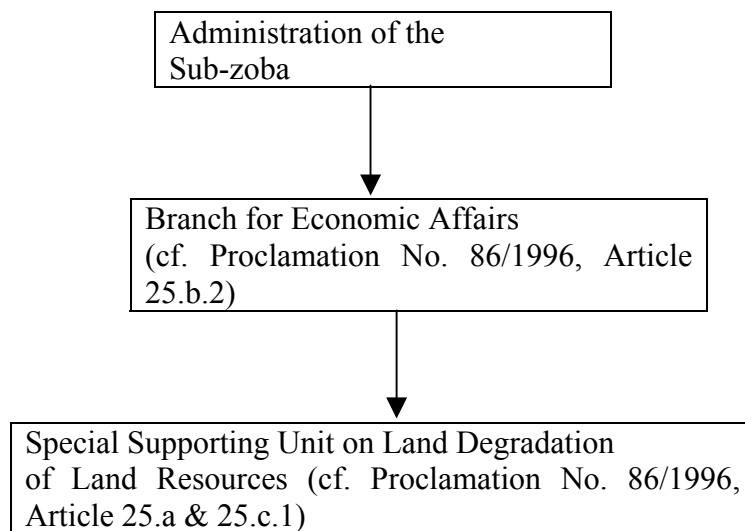
Baito (Local Assembly) Sub-committee on Land Degradation:

A key mechanism for implementing NAP at the *Zoba* level is the Sub-committee on Land Degradation of the Zoba Baito. This body is formed in accordance with the proclamation for the Establishment of Regional Administration (No. 86/1996), via which the Baito has the power to 'form various committees comprising members and non-members' of the Baito (Article 13.3).

As regards the composition of the sub-committee Art. 10(3) A of the Proclamation on Regional Administration, shall apply i.e. 30% of the membership shall be reserved for women and they shall have equal opportunity for the remaining 70% of the seats.

The Sub-Committee on land degradation of the Regional Baito shall have broad powers to deal with land degradation issues, *inter-alia*...

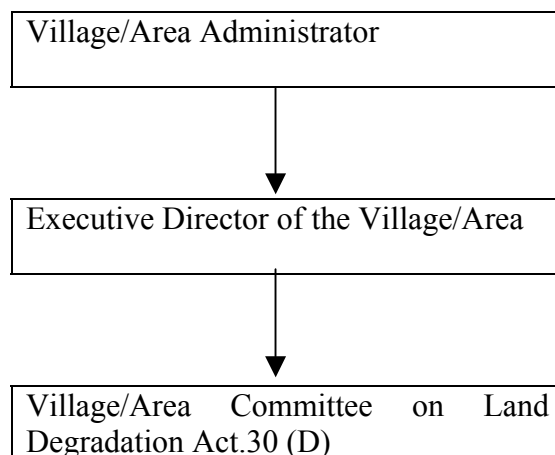
NAP at the Sub-region Level



The Proclamation for the Establishment of Regional Administration (No.86/1996) specifically empowers the *Sub-zoba* Administration to ‘take the necessary measures to conserve and develop the nation (Article 36.10). The proclamation also provides for Branches of the *sub-zoba* Administration to assume administrative responsibility for sectors including land.

NAP at the Village/Area Level

A key mechanism for implementing the NAP at the grass-root level is the Megabaaya, the free ‘Assembly’ of all Village or Area inhabitants 18 years or older. NAP is to be implemented at the Village /Area level in accordance with the following structure:



The principle actors in implementing the NAP at the grass-roots level are the village/area administrator and the Executive Director.

The powers and duties of the village/area level committee are defined in Art. 30 (D), of the proclamation for the Establishment of Regional Administration.

4.4.2 Legal measures to implement NAP

Two Government of Eritrea Proclamations provide the necessary legal basis for implementing NAP. These are:

- The Land Reform Proclamation (No. 58/1994); and
- The Proclamation for the Establishment of Regional Administrations (No. 86/1996).

At present it is considered that the two proclamations provide sufficient legal basis for implementing NAP. Additional legislation, still in draft form (*e.g.*, a Forestry & Wildlife Act) would provide added legal capacity to implement NAP, once they are adopted.

The Land Reform Proclamation (No. 58/1994):

This Proclamation has been described earlier (see, *e.g.*, Fact Sheet B.1). The Proclamation provides:

- A good basis for security of land tenure. That in turn provides an incentive for better land husbandry and for increased long-term investment in land improvement;
- An equitable and fair distribution of land resources amongst men and women; and
- Improved access to land for those groups, which had been traditionally denied such access.

The Proclamation for the Establishment of Regional Administrations (No. 86/1996):

The Proclamation provides:

- An empowering framework for action at the *Zoba*, *Sub-zoba*, and Village/Area levels;
- A clear mandate to local-level officials – especially *Zoba*, *Sub-zoba*, and Village/Area Administrators – to take action in protecting and preserving land resources; and
- A framework for the evolution of grassroots action against land degradation.

4. 5. The NAP document and National Forum of NAP

4.5.1 NAP document

The NAP document is divided into four parts:

Part A provides an overview of land degradation in Eritrea. It also presents the national vision and philosophy on land degradation and the measures to be taken to combat it.

Part B presents a comprehensive list of factors contributing to land degradation. These include both physical and socio-economic factors. Adequate recognition is given to the underlining socio-economic reasons for land degradation.

Part C describes the Action Plan”, i.e. the practical measures proposed to address land degradation. These include policy measures as well as projects and programs.

Part D presents the implementation plan. This part describes the financial, institutional and human resource required to implement the NAP. It also provides information on the sequence envisaged in implementing the NAP.

Annex 1 contains all the project profiles to be undertaken in the framework of the NAP.

4.5.2 National Forum

The NAP was discussed at a National Forum, which was held on September 2001, and its main conclusions and recommendations were endorsed. Following the forum, the government communicated with UNCCD secretariat through diplomatic channel for official adoption of the NAP. In addition to endorsing NAP document, resolutions were passed by the participants of the forum. The *key point* of the resolutions were 'considering the negative impact of the desertification on the livelihoods of our people especially on the rural poor, combating desertification has to be integrated in all sustainable development and poverty alleviation programmes and strategies on priority basis.

4. 6. Linkages and synergies with other environmental conventions and, as appropriate with national development strategies

Land degradation, biodiversity and climate change issues are very much interrelated and hence require synergy and harmony among them. It was for this reason that the Ministry of Agriculture of the State of Eritrea has hosted a workshop on 14-15 July 2003 under the theme "*National Forum for Promoting Synergies in the Implementation of Three United Nation Environmental Conventions in Eritrea - UNCCD, UNFCCC & CBD*". The forum discussed and reviewed the activities on the implementation of UNCCD, UNFCCC and CBD in Eritrea and highlighted the importance of synergy among the three environmental conventions. It is to be recalled that over the years, the Department of Environment of the Ministry of Land, Water and Environment, as the focal point for two of the three conventions concerned, has played a key role in their implementation. Thus, the department should be in a position to continue its contribution to the successful implementation of the conventions' activities. Other concerned institutions, ministries and civil societies have so far made a coordinated effort in the preparation of programmes and action plans for biodiversity, desertification, and climate change issues, and to continue these efforts in a coordinated manner.

5. Participatory process in support of the preparation and implementation of the action program

5. 1. Effective participation of actors involved in defining national priorities.

The development of Eritrea's macroeconomic and sector development policies, strategies and programmes is highly participatory, involving ministry staff at the central and local levels, members of the national assembly, and representatives of local government down to the community level. It also involves the participation of non-governmental and civil society organizations, and the private sector.

The transitional Economic Growth and Poverty Reduction Strategy is a compilation of the government's various development programmes. It is being shared in draft form with

Eritrea's development partners and the private sector with the expectation that further comments and suggestions would be forthcoming.

5. 2. Participatory processes involving civil society, non-governmental organizations and community based organizations

As it has been mentioned earlier, all stakeholders including non-governmental organizations civil society groups and community based organizations apart from their involvement in the NAP process as members of Technical Committee, they actively participated in all desertification control activities: to mention some of these efforts:

- National Union of Eritrean Women (NUEW) in collaboration with the department of energy and through its branch offices in regions and sub-regions play very significant role in the distribution of energy saving stoves to the rural community. The NUEW has several ongoing projects aimed at improving women's socio-economic situation in order for them to participate in income generation activities and employment creation skills.
- National Union of Eritrean Youth and Students made tremendous effort in mobilizing the youth to participate in various land degradation control measures. To strengthen the youth participation in combating desertification in the context of implementing the National Action Program, the Grants Committee of the UNCCD Secretariat approved a 50,000 US\$ pilot project to support the establishment of the Environment Youth Program in Eritrea. The implementation of the project will start soon.
- Local and international NGOs are working with the government in emergency and rehabilitation programmes and, various soil and water conservation activities. To mention some, the following are the most active partners and their main goals/activities:

No.	Project Name	Project goals/activities
1.	ACDI/VOCA	- Increase income of enterprise, primarily rural, with emphasis on export through Technical Assistance that will lead to an increased number of viable business plans in the horticulture sub-sector.
2.	AFRICARE	- Naro Irrigated Agricultural Project. construction of diversion weir and irrigation infrastructure to promote agricultural production and nutrition. - Improve nutritional status of households in the project area
3.	CARE International	- Ensure vulnerable farming households in the target area have access to adequate quantities of good quality seeds - Increase level of household livelihood security in women headed families in drought hit areas - Determine the level of livestock vulnerability, so that livestock feeding and other agro-pastoralist intervention can

		<p>be better targeted.</p> <ul style="list-style-type: none"> - Pilot the use of animal feed concentrates with vulnerable farm households in the drought affected project areas.
4.	CESVI	<ul style="list-style-type: none"> - Assistance to Draught-Affected population in improving livestock
5.	Concern	<ul style="list-style-type: none"> - Mitigate the impact of war and drought by improving the food security of vulnerable households - Assist farmers to restart their agricultural activities through the modern provision of agricultural inputs. - Enhance people's capacities to secure their livelihoods in a sustainable manner through the adoption of a participatory and integrated watershed and community development approach.
6.	Catholic Relief Service (CRS)	<ul style="list-style-type: none"> - Strengthen seed systems in zoba Debub & Maekel cultivated by Eritrean farmers for crops important for food security but that are currently under stress from drought.
7.	GRUPPO MISSIONI ASMARA	<ul style="list-style-type: none"> - Adari Shitel food security program - The introduction of an irrigational system - Improve farmers agricultural service - Animal distribution in the project area.
8.	Haben (local NGO)	<ul style="list-style-type: none"> - Intervene in activities that would have immediate impact on improving animals as well as crop production.
9.	International Rescue Committee (IRC)	<ul style="list-style-type: none"> - Provide seeds to drought affected zones - Assist return and host population farmers in the Gash-Barka region to combat the effects of drought through the emergency provision of seeds
10.	JEN	<ul style="list-style-type: none"> - Provision of tractors for ploughing. - Socio-economic self-reliance through poultry association for female-headed households in zoba Gash-Barka.
11.	Lutheran World Federation (LWF-ER)	<ul style="list-style-type: none"> - Empower the Hidareb and other ethnic woman and men in particular, and the communities in general, in meeting their basic needs and achieving basic rights to livelihood and living in healthy environment. - Enable committees to help community in undertaking development activities. - Increase food security & income & Improve health condition.
12.	MANI TESE	<ul style="list-style-type: none"> - Minimize erosion of land through soil and water conservation practices - Harvesting rain water for the population and their livestock - Give economic assistance to farmers in order to support restarting of agricultural activities - Improve the living condition of women through trainings & provision of livestock.
13.	Mercy Corps International	<ul style="list-style-type: none"> - Involve in five different sectors (food, nutrition, water, education and livestock)
14.	MOVIMONDO	<ul style="list-style-type: none"> - Distribution of base seed to be multiplied to farmers.

		<ul style="list-style-type: none"> - Monitoring of seed multiplication activities. - Seed collection, packing, storage and store construction. - Training to MoA extension staff and to farmers.
15.	NCA	<ul style="list-style-type: none"> - Shebah-Demas Integrated Development - Improve the quality of life of the community - Maintain and improve infrastructure works (diversion structure) used in spate irrigation - Increase the productivity of peasant agriculture - Improve water supply for domestic use and animal husbandry - Involve the local community in the design, planning and implementation of the program - Focus on the gender issue.
16.	Oxfam GB	<ul style="list-style-type: none"> - Provide seeds and tools to increase their coping mechanism for the current drought affected farmers. - Development of water points.
17.	Refugee Trust International	<ul style="list-style-type: none"> - Development & promotion of horticulture and marketing. - Enable rural dwellers to have adequate and nutritional food to lead healthy and productive live. - Seeds and agricultural tools distribution. - Promote rural development by encouraging to shift from traditional agriculture to modern farming techniques and enhancing community cooperation
18.	Self help	<ul style="list-style-type: none"> - Assist the rural people themselves in the promotion of development project, which they regard as their own, for the satisfaction of there economic and social needs. - Assist in the strengthening of the organizational, managerial and economic capacity of the rural people. - Assist in increasing the effectiveness of the local and higher government organizations to support the initiatives of rural people and to promote their active participation in self-development efforts.
19.	Tokor Integrated Community Development (TICD)	<ul style="list-style-type: none"> - Extension and crop husbandry (Horticulture) - Water resource development - Soil and water conservation - Home economics - Livestock development - Marketing and credit
20.	US Embassy self help program	<ul style="list-style-type: none"> - Development of water points borehole drilling, provision of pumps and accessories. - Construction of ponds, water reservoirs, and flood control structures.
21.	VISION Eritrea	<ul style="list-style-type: none"> - Integrated food security - Emergency assistance to drought affected population - Establishment of Afdeyu Agricultural Research Station - Procurement and distribution of high yield seeds - Provision of micro credit and saving

5. 3. Gender focus

Women have always played a significant role in the independence struggle of Eritrea. Women continue to play an equally significant role in sustainable development. Currently about 47 % of the labour force is comprised of women. Because of the important role played by women in the society and in the economy of Eritrea, the Government is fully committed to raising their status even more. Among the most important measures the government is taking is improving their access to education and productive assets, including land. The government is also actively encouraging and upholding women's rights to organize them at the village level to gain political voice and to press for their priorities. In the national and regional assemblies, 30% of seats are reserved for women. Women also run with men for the remaining 70% of seats.

5. 4. Exchange of information

Lack of sufficient acquaintance with the Convention to Combat Desertification (CCD) concepts and principles of those involved in the process of NAP; limited awareness about land degradation particularly at regional and local levels are some of the constraints encountered in the NAP process. Accordingly, a lot of efforts have been made by CCD secretariat through training and community awareness raising programmes to address the issue of land degradation.

The efforts exerted so far to increase environmental awareness at the local-community level have been encouraging. However, those efforts should continue in order to ensure sustainability. People need to be educated continuously, both formally and informally.



Community awareness raising programmes at village level

In addition, the Department of Environment is planning to launch a new Internet website to foster easy exchange of information on environmental issues among stakeholders.

6. Consultative process in support of the preparation of the NAP and the partnership agreements with the developed country parties and other interested entities

6. 1. Regional and Sub-Regional level consultations

As it has been indicated in the previous report, all stakeholders have participated in all phases of development of the National Action Programme. Through regional and sub-regional consultations, it has been tried to identify priority issues, opportunities and potential challenges for combating land degradation. In order to discuss and adopt the NAP document, a national forum was carried out on September 2001 and NAP mainstreaming into the national development framework consultation will start soon.

6. 2. Partnership agreements with the developed country parties

6.2.1 Danida supported CCD/NAP programme

According to the agreement reached between the Government of Eritrea and the Government of Denmark to support the preparation and implementation of the National Action Programme for implementation of the United Nations Convention to Combat Desertification, (UNCCD), CCD/ NAP project became operational since the beginning of January 2000. The national management of the project is with the NAP national secretariat, under the Ministry of Agriculture's Land Resources and Crops Production Department (*now named as Agricultural Promotion & Development Department*), which is assigned to play the main role to coordinate the implementation of CCD/NAP. Major activities identified for implementation during this phase of the project are:

- Strengthening of the NAP national secretariat,
- Strengthening NAP, capacity building for the NAP national secretariat,
- Sub-regional consultation, NAP regionalisation research, and
- Launching village centered development initiatives.

7. Measures taken or planned within the framework of the National Action Program (NAP).

Measures have been taken to improve the economic environment with a goal of poverty reduction such as promotion of alternative source of income and improving the agricultural production system. Equally important are measures, which have been taken to conserve natural resources such as erosion prevention and the use of alternative source of energy. The following are the measures taken by the different sectors of the country that could directly or indirectly contribute to combat desertification.

7. 1. Measures taken

7. 1. 1. Measures taken to improve the economic environment

7. 1. 1. 1. Agriculture, Forestry, Rangeland and livestock

- One of the major outcomes of the transformation process of the MoA Ministry is the establishment of the Regulatory Service Department (RSD). This is because it is realised that over time more and more responsibility for agricultural development will be devolved to the private sector, and hence the establishment of a transparent and clear regulatory framework to stimulate private sector investment in agricultural development, while protecting the interests of farmers, consumers and the society in general.
- The integrated farming system (IFS) programme that has been under taken since 1998 is continuing.
- MoA has been working hard in encouraging farmers to produce high-value crops and livestock products for export.
- It is also encouraging farmers to produce goods that can be used as raw materials for industry and high-value cash crops for domestic consumption that can substitute imports.
- Measures that the government is taking include constructing roads and water storage facilities in suitable areas, and providing information on cultivation techniques, markets and prices.
- Efforts are undertaken to increase the productivity of herds by enhancing rangeland and water resources management with the traditional pastoral system, promoting superior animal breeding systems, improving animal health and nutrition by expanding vaccination and other veterinary services, developing a peri-urban dairy industry,
- Developing higher quality animal feed and pasture through the development of crop and livestock integrated farming systems.
- The ministry is also making efforts to improve marketing of livestock by providing technical advice to producers on management and marketing, helping to create market outlets, and encouraging widespread use of refrigerated transportation services for perishables.
- In the commercial sector, the strategy involves developing the dairy industry, by training smallholder farmers in dairy husbandry, supporting dairy farmers' associations, and establishing milk collection infrastructure.

7.1.1.2. Rural credit

- MoA distributes credits worth some US\$ 2 million/year to farmers. *Around 75%* of this is medium-term (mostly for draught animals) and 25% is long-term (mostly for pumps, water pipes, or tractors).
- The most promising initiative in Eritrea is the development by the Associates for savings & loan associations, evolving into farmer-owned rural banks, in *Zoba Debub*. Owing to the careful approach used, the realistic lending rates, and the excellent repayment record (group liability), these savings & loan associations could, with appropriate further support, become self-supporting in the not too distant future.
- The micro-credit and saving activities under the financial government institutions, local and international NGO's are intended to support household assets, Copping mechanisms and income generation.

7.1.1.3. Energy

The major achievements made in the energy sector since the liberation of the country in May 1991 include the following: -

- The electricity generation capacity of the Eritrea Electric Authority (EEA) has been increased from as low as 35 MW in 1991 to over 70 MW by the end of 1995. Consequently, the per-capita electricity consumption grew from as low as 16 kWh in 1991 to 48 kWh by 1997. A number of villages around our major towns got access to electricity;
- A major project for power generation and transmission expansion has now been commissioned in March 2003. This project, besides providing an 84 MW additional generating capacity, a 70 km of 132 kV and 150 km of 66 kV transmission lines, has enabled the inclusion of seven major towns and several rural communities into the integrated grid system;
- To make the power systems more efficient and to promote energy conservation measures, feasibility studies of major projects to rehabilitate the old transmission and distribution systems in Asmara and Massawa have been finalized. The Massawa project is in the implementation process while that of Asmara (the Asmara Power Distribution component of this project) is expected to commence in 2004 with financing from the World Bank and other development partners.
- A 4 million US \$ project for wind park to feed the Assab grid and many decentralized stand alone or wind –hybrid systems in the small towns and villages in the area is just starting (2004-2007). GEF has pledged to cover 50% of this and the Government and the private sector are expected to cover the rest.

7.1. 2. Measures taken to conserve natural resources and for rehabilitation of degraded lands

7.1. 2. 1. Agriculture, Forestry, Rangeland and livestock

- MoA is implementing programs to reduce soil degradation and improve control over water in rain fed areas through the Integrated Watershed Development Program, which was initiated by DANIDA and continued by the government. Soil and water conservation activities on the major catchments through out the country are underway.
- Soil and water conservation practices have been carried out on a large scale both on farm and off farmlands, together with afforestation programmes on hillsides and enclosures.
- MoA, in collaboration with all concerned governmental and non-governmental organizations and assisted by the local community is undertaking an accelerated and sustainable afforestation program. One element of the program is to encourage communities to establish woodlots on community lands. Residents

actively participate in designing and managing the community woodlots, and the Ministry of Agriculture provides the seedlings and overall guidance. A second element is to involve young people who are part of the Summer Youth Program in building terraces, planting trees and undertaking other soil and water conservation works.

- Small village centered development initiatives, which are funded by CCD/NAP project and targeted mainly at soil and water conservation and afforestation measures, have been identified and are under implementation. Major activities that have been implemented by MoA for the last decade are summarized in Appendix 1 (table 2).

7.1.2.2. Energy

The task of developing and designing an improved *mogogo* stove for baking *injera* is one of the top priorities of the Ministry of Energy and Mines of Eritrea. Recent energy use surveys conducted by the Department of Energy show that about 50 % of the energy use by Eritrean households is for baking injera, and more than 80% bake it using wood.

Through research and development efforts by the Ministry, the efficiency of the traditional biomass *injera* cooking stove has been more than doubled from below 10% to over 20%. Artisanal women have been engaged in the design, testing and erection of such smokeless improved stoves right from the beginning. A major programme is being undertaken to disseminate such stoves to the rural areas with over 12,000 so far installed. This will be of great benefit to women as they shoulder the responsibility of fuel wood collection and cooking.



Improved Traditional Stoves 'mogogo'

7.1. 3. Measures taken to improve institutional organization

7.1. 3. 1. Agriculture, Forestry, Rangeland and livestock

- Ministry of Agriculture is going through a significant and important transformation process. This process is an outcome of the Government's strategy of having established a lean, effective and efficient public service delivery system. The functional analysis established that, given the core functions of the ministry – policy, regulations, technical support, research and human resources development -, there was a need to review the organizational structure of the ministry and the ways in which it was doing its business.
- Improving institutional setup for CCD/NAP planning and implementation is one of the major activities of the Danida funded CCD/NAP project. Accordingly, CCD national secretariat has been established staffed with a coordinator and regional CCD facilitators. In addition to this the office of CCD national secretariat has been equipped with all basic office facilities including e-mail and Internet service.
- MoA is working further to improve its institutional set up mainly aimed at devolution of power to regions. It is envisaged that regions will be autonomous in planning and implementing technical activities in their respective regions. At the same time, the central office is strengthening its core functions in policy formulations, strategic planning, agricultural statistics development, technical advisory services, applied research, regulatory development and oversight, and monitoring and evolution.
- The CCD secretariat has been appointed as board member of Eritrean Dry Land Coordinating Group (DCG) since 2001. DCG is a forum for cooperation that promotes quality assurance of development projects dealing with food security and environmental rehabilitation in the dry lands of Africa. The Norwegian NGOs responsible for running the development projects funded under Sahel – Sudan – Ethiopia (SSE) programme established DCG. Noragric, the Center for International Environmental and Development Studies at the Agricultural University of Norway, functions as a secretariat and technical advisor.

7.1. 3. 2. Energy

- An Energy Research and Training Center has been established by the MoEM in Asmara with the purpose of undertaking research and development activities on renewable energy resources and technologies (RETs); installations, repair and maintenance of RETs; training of RETs technicians and providing demonstration to the public; improvement of stoves etc;

7.1. 3. 3. Environment

The Department of Environment has given its staff, having various level of expertise, several trainings so as to fulfill its mission, mandate and functions such as:

- Provision of advocacy for environmental protection
- Ensuring cross-sectoral integration of environmental concerns and

- Ensuring the judicious use of environmental resources for sustainable development

7.1. 3. 4. Water

The following papers have been prepared for improving institutional organizations:

- Draft water resources institutional structure
- Draft water policy
- Draft water law
- Draft water quality standards
- Draft water consultancy directives
- Draft directives on water well drilling and construction
- Draft information accessibility and collection and dissemination guideline
- Hand pump standards
- Below and above ground civil work standards
- Sustainable rural water supply management guidelines

7.1. 3. 5. Land

- Networking: connection of all divisions and zobas for fast communication and dissemination of information on land related issues.
- Development of Eritrean land information system.
- Develop the database system of the land department.

7.1. 3. 6. Meteorology

Generally, all the major climatic and altitudinal zones are represented by a sufficient number of rain gauges and meteorological stations. The challenge is to make the existing network fully operational, management and its data readily available.

7.1.4. Measures taken to improve knowledge on desertification

7.1.4.1. Agriculture, Forestry, Rangeland and livestock

- Aimed at upgrading the skill of the CCD and MoA staff in monitoring and evaluation for Action Programmes to Combat Desertification, a three-day training workshop was organized by IGAD, from 6-8 April 2004 in Djibouti and attended by NAP/CCD National Coordinator and one MoA staff.
- Various types of trainings mainly aimed at upgrading the knowledge of MoA staff and farmers in fields of integrated watershed management, soil and water conservation practices, forest conservation and management, improved livestock production and range land management system, and improved crop production and protection were planned and implemented.
- To raise awareness on the land degradation and effects of drought various articles have been prepared and published/broadcasted through local media.
- The MoA hosted and organized a workshop on 14-15 July 2003 under the theme ‘ National forum for promoting synergies for the implementation of the three

international environmental conventions in Eritrea – UNCCD, UNFCCC & UNCBD. International, local NGO's, project managers, advisors, implementers and other stakeholders attended the event. Towards the end of the workshop, participants presented their group work findings & passed specific and general recommendations.

- In order to support Eritrea in mainstreaming its NAP into the national development framework and to organise a donors meeting (round table) to mobilise for NAP implementation, a 75,000 US\$ grant fund is approved through the Global Mechanism (GMUNCCD).

7. 1. 4. 2. Energy

The strategic objectives are to develop an economically and environmentally sound power sector through the application of appropriate technology of energy production, pricing, conservation and usage optimisation and diversifying the sources of electricity and developing indigenous resources and other measures.

The implementation of the above strategic objectives requires policy reforms, major investments and capacity building.

7. 1. 4. 3. Environment

- The Department of Environment being the focal point of UNFCCC and UNCBD integrates and synergies desertification and land degradation issues in the strategies and action plans of these conventions.
- A workshop on Eritrea's Initial National Communication under the United Nations Framework Convention on Climate Change was held in Asmara to sensitize the various stakeholders about climate change issues in Eritrea through the presentation of various papers having different climate change themes.
- A large number of articles produced by the staffs of Department of Environment, which are designed to raise the awareness on environmental issues, have been widely disseminated through the national media.

7. 1. 4. 4. Water

- More hydro-meteorological stations have been proposed to be established for more information
- Soil and water conservation program has increased the knowledge on the impact of desertification
- Proper resources management system is being introduced in order to protect the resources from mismanagement

7. 1. 4. 5 Land

All governmental & private development projects and town expansions should be carried out after they are approved by land use section of the department. This helps to protect misuse of land & future degradation of land.

7. 1. 4. 6. Meteorology

There have been notable droughts in Eritrea throughout human history. Previous droughts and the frequency of rainfall deviation from the average suggest that every 3-5 and 6-8 years droughts in the country occur. This implies that new areas will be prone to drought.

7. 1. 5. Measures taken to monitor and assess the effects of drought and early warning systems for mitigating the effects of drought

7. 1. 5. 1. Agriculture, Forestry, Rangeland and Livestock, Crop Production

- Early warning and food information unit of MoA is consistently carrying out food production assessment. This system is helpful in indicating the food situation of the country. It also provides a timely recognition of problems and timely transfer of information to the decision-makers.
- The Agricultural Promotion and Development Department of MoA also carries out crop yield assessment every year in a systemic way.
- The Government of Eritrea has given clear support to the Eritrean Grain Board (EGB) in its mandate to establish a national strategic food reserve. The EGB in collaboration with others concerned agencies undertakes yearly crop assessment surveys in order to monitor the grain production prospects for Eritrea.

7. 1. 5. 2. Environment

The DoE has undertaken several researches pertinent to assessment and monitoring of drought and has made contributions to the early warning system in view of mitigating the effects of drought and desertification. Effort has been made to collect and establish database for long-term climate data of various parameters to fill the data gaps. The Initial National Climate Communication also recognised this issue as an important capacity gap to be addressed to enable Eritrea to materialise its commitments under the UNFCCC.

7. 1. 5. 3. Water

Water Resources Department, in collaboration with Water Sectoral Group has conducted drought monitoring and risk management activities at quarterly bases mainly using hydro-meteorological information.

7. 2. Measures planned

7. 2. 1. Measures planned to improve the economic environment

7. 2.1. 1. Agriculture, Forestry, Rangeland and livestock

- Continuing the Integrated Farming System programmes with wide participation of farmers,

- Increasing land under cultivation through designation of areas for settlement and provide infrastructure, essential services, access to credit and farm inputs, and secure rights of access to individuals and groups,
- Developing small scale irrigation with the existing dams,
- Developing more lands under large scale irrigation programme in the coming years,
- Developing surface and underground water by constructing new dams coupled with sound catchments treatment programmes,
- Encouraging production of high value horticultural crops and ornamentals,
- Distributing more and better animal breeds to farmers, expand vaccination and other veterinary services, and improve the quality and availability of animal feed,
- Improve marketing of livestock by providing advice to producers on management and marketing, helping to create market outlets and encouraging widespread use of refrigerated transportation services for perishables,
- Develop and implement proper range land management plans and strategies, and
- Provide forest seedlings and guidance to communities that wish to establish woodlands.

7. 2. 1. 2. Energy

- Expand national electrification programmes through the consolidation and expansion of the power grid system and generation capacities; increase the share of electricity in the national energy market;
- Conduct and expand rural electrification program and establish Rural Electrification Revolving Fund to this effect.
- Develop power generation systems from the indigenous and cleaner sources of energy, gas, wind, solar, geothermal, modern biomass;

7. 2. 1. 3. Environment

- Use of environmental good practice methods and technology where possible to avoid introduction of inappropriate technology that fails to meet international recognized standards of environmental performance, whenever alternative exist at equivalent cost.
- Maximizing potential for recovery and recycling in waste management
- Avoiding long-term decline in project performance by assessing likely environmental changes over an extended timeframe and
- Enhancing worker productivity through provision of cleaner working environment

7. 2. 1. 4. Water

- Water tariff is covered in water resources development strategy and policy paper and planned to introduce the tariff system for all water supply systems
- The Department of Water has plans and strategies to introduce cost effective and environmentally friendly water technologies and

- The Department has plans to introduce sustainable water supply management systems

7. 2. 1. 5. Land

Use of environmental friendly approaches in land classification system, where possible to avoid Agricultural land encroachments and further land degradation.

7. 2. 1. 6. Meteorology

- Development of research on climate prediction for application to different sectors
- Creation of environmental, meteorological, hydrological, agronomic, biological...etc databases at the national and regional levels.
- Foster remote sensing methods to monitor the dust transport during the dry season.

7. 2. 1. 7. Major groups (women, youth, workers, private sector,)

- Support for the establishment of the Environment Youth Program in the context of implementing the National Action Program to combat desertification.
- Encourage the involvement of young people who participate in the Summer Youth programme in building terraces, planting trees and undertaking other soil and water conservation works,
- Awareness raising and encourage the involvement of women to use energy efficient stoves, and
- Continue to encourage women's full participation in the civil service.

7. 2. 2. Measures planned to conserve natural resources

7. 2. 2. 1. Agriculture, Forestry, Rangeland and livestock

- One of the major outcomes of the transformation process of the MoA is the establishment of the Regulatory Service Department (RSD). RSD is mandated to develop and enforce standards and regulations within the agricultural sector.
- Continue work to reduce soil erosion and improve water control in rain fed areas through the Integrated Watershed Development Programme and the Land Productivity Management Initiatives,
- Strengthening national campaigns on natural resources conservation and their sustainable utilization.
- Continuing the roadside plantation along the main roads which interconnect major towns of Eritrea,
- Strengthening individual/ community tree planting schemes,
- Expanding enclosures in degraded areas to encourage natural regeneration, and
- Conserving farmland with properly designed farmland terraces.

7. 2. 2. 2. Energy

- A 4 million US \$ project for wind park to feed the Assab grid and many decentralized stand alone or wind –hybrid systems in the small towns and villages in the area is just starting (2004-2007). GEF has pledged to cover 50% of this and the Government and the private sector are expected to cover the rest.
- Petroleum law and regulations have been promulgated and three concessions for oil prospecting awarded to a consortium of foreign private companies;
- Negotiation is going on to revitalize and expand the Assab Refinery with interested private companies;
- Formulation of new energy laws, regulations and standards is now finalised and has already become public through the two Proclamations, namely, Electricity Proclamation No 141/2004 and the Proclamation for Corporitising EEA, No 142/2004. The intention is to reform and deregulate the sector so as to encourage competition and efficiency, to avoid any form of subsidy, to promote private investments, to protect the environment and to ensure public safety etc.
- Implementation of the GEF funded project working on wind energy application in coastal regions of Eritrea.

7. 2. 2. 3. Environment

- Implement the National Biodiversity Strategy and Action Plan (NBSAP, and
- Fully implement the National Environmental Management Plan of Eritrea (NEMP).

7. 2. 2. 4. Land

- Fully implement the land proclamation law

7. 2. 2. 5. Water

7. 2. 2. 6. Major groups (women, youth, workers, private sector,)

7. 2. 3. Measures planned to improve institutional organization

7. 2. 3. 1. Agriculture, Forestry, Rangeland and livestock

- Ministry of Agriculture is going through a significant and important transformation process. This process is an outcome of the Government's strategy of having established a lean, effective and efficient public service delivery system. The functional analysis established that, given the core functions of the Ministry – policy, regulations, technical support, research and human resources development Monitoring and Evaluation -, the key task function is to translate its role and mandate into efficient and effective operational policies and guidelines.
- Design principles that are responsive to the needs of the agricultural sector namely:

1. The Ministry should be a ‘one-stop-shop’ for farmers, extension workers and other clients
2. In a liberalized economy, setting and enforcing standards must be given high priority
3. The roles of promoting and controlling/ regulating the sector should be clearly integrated.
4. Agricultural research should be demand-driven and responsive to the needs of the farming community-gradually on a cost recovery basis.

7. 2. 3. 2. Energy

The key elements of the reform agenda that will be strengthened or conducted in the Power Sector reforms for which consultants will be engaged including:

- Establishing the Eritrean Electric Corporation as an autonomous electric utility through Proclamation to operate on commercial principles, with clear rules for the responsibilities and accountabilities of the owner, the board, and the management;
- Electricity Proclamation has been enacted whose central objective is to promote efficiency, safety, environmental protection and private sector involvement in the power sector. It provides State Regulations for the establishment and operations of power plants and electrical networks, tariffs and fare trade of electricity.
- Carry out restructuring of EEA's financial accounts to realistically reflect the company's revenue earning assets and liabilities, make it financially self-sufficient, and to increase fiscal transparency;
- Segment EEA's accounts into rural and urban businesses to clearly separate EEA's commercial activities from the rural electrification activities, which EEA will implement with Government subsidy financing;
- Establish a clear selection criteria and transparent rules for the implementation and financing of rural electrification, as this activity is not commercially viable for EEC to undertake from its own funds;
- Establish a transparent mechanism for tariff setting;
- Establish operational and financial performance targets for both the urban and rural businesses of EEC;
- Carry out a corporate restructuring of EEC to enable it to fulfill its obligations under the newly enacted Electricity Proclamation, increase efficiency, and meet its performance targets and
- Establish a Regulatory Function for the power sector as stipulated in the Electricity Proclamation.

7. 2. 3. 3. Environment

- An initial assessment across the thematic areas of biodiversity, land degradation and climate change has determined capacity need assessment as a crosscutting issue in the department.
- Establishment of an environment information network in Eritrea with regional and global linkages, and

- Broadening the understanding and use of EIA as both planning and regulatory tool through production of sectoral guidelines, ensuring that ministries produce timely and high quality EIA reports, training EIA procedures, and developing a certification programme in EIA.

7. 2. 3. 4. Water

The department has a plan to approve and implement the following issues:

- Draft water resources institutional structure
- Draft water policy
- Draft water law
- Draft water quality standards
- Draft water consultancy directives
- Draft directives on water well drilling and construction
- Draft information accessibility and collection and dissemination guideline
- Hand pump standards
- Below and above ground civil work standards
- Sustainable rural water supply management guidelines

7. 2. 3. 5. Meteorology

- Establishment of National Meteorological Service
- Develop the existing capacity of the Meteorological Service
- Coordination and collaboration among different agencies in the monitoring and dissemination of climate information
- Strengthening the existing national meteorological monitoring networks and data processing capabilities.

7. 2. 4. Measures planned to improve knowledge of desertification

7. 2. 4. 1. Agriculture, Forestry, Rangeland and livestock

- Support for the establishment of the Environment Youth Program in the context of implementing the National Action Program to combat desertification.
- Completing water resource study to assess potential for irrigation
- National woody biomass survey,
- Inventory on Semenawi and Debubawi Bahri forests,
- Assessment of the mangrove species in the red sea coast, and
- Developing guidelines for silvicultural systems for the existing plantations and natural forests

7. 2. 4. 2. Energy

- Explore potential hydro, solar wind power geothermal and biogas energy through studies.

7. 2. 4. 3. Environment

- Create an Internet website on environment and make it accessible for all stakeholders.
- Studies on database on key environmental parameters, and
- Production of the country's first 'state of the environment document'.

7. 2.4. 4. Water

- Carryout assessment of water resources and specify options for its development and management

7. 2. 4. 5. Meteorology

- Broadening the implementation of Climate Information and Prediction Services

7. 2. 4. 5. Major groups (women, youth, workers, and private sector)

- Strengthen the National NGOs Coordinating Committee on Desertification (NCCD).

7. 3. Ongoing Interventions

The following are some of the projects that are being implemented by concerned ministries for arresting land degradation.

7. 3.1. Agriculture, Forestry, Rangeland and livestock

- *Eastern Lowlands Wadi Development Project*: main activities promote a major expansion of smallholder production in Sheib and Labka,, through raised efficiency of water control, better agricultural service and input supply, road improvement and better domestic water supply and strengthen the capacity of MoA..



Wadi-labka spate irrigation structure

- *Central High Land Horticultural Development Project*: This project is involved in the construction of micro-dams, well digging and provision of motor pumps, input supply such as pesticides and training as well as fruit seedling production and distribution.
- *Shebah - Demas Integrated Development Project*: Shebah-demas project is involved in construction of embankment, gabions and gully treatment, establishment of a tree nursery site, input supply, construction of water troughs for animals at water points.
- *Toker Land Husbandry Project*: The project is involved in integrated soil and water conservation activities since 1995. Its main activities are construction of terraces tree planting, training of farmers in basic agriculture, area closure, and provision of farm tools. The project is progressing well.
- *National Seed Development Project*: Its main activity is to establish seed act and national quality seed standard systems, establish seed production farms, and train farmers on seed handling.
- *Special Program on Food Production*: Its main activity is demonstration of improved varieties and multiplication of improved seeds on farmers' plots to increase food security, and input supply
- *Rangeland Development Project*: This is a project working in two sites (Gahro, Southern Red Sea Zone & Duluk, in Gash-Barka Zone) for rehabilitating and developing rangelands.

7. 3. 2. Energy

- The European Union is funding a project to *rehabilitate the Massawa area power distribution*. An agreement has just been concluded between the GoE and the World Bank to finance the 'Asmara Power Distribution and Rural Electrification'.
- *A pilot wind energy applications project* is launched with 50% contribution by the GoE and by the Global Environment Facility (GEF).
- SIDA has financed the *wind and solar resource assessment project*, preparation of Regulatory Framework for the energy sector and in the electrification of many rural and semi-urban villages.
- *Coastal area wind energy application project*: This is a project funded jointly by the government and GEF for introduction of wind energy in the coastal areas of Eritrea where it is proved as potential area for wind energy application.

7. 3. 3. Environment

- National Adaptation Program of Action (NAPA) to the adverse effects of climate change.
- Intensify the use of the National Environmental Assessment produces and guideline (NEAPG)
- Assessment of the status of Mangrove trees in the coastal areas
- Preparation of vegetation maps for environmental management

7. 3. 4. Water

- Central eastern escarpment water resources potential study project
- Establishment of National ground water monitoring network project
- Establishment of National Hydro-meteorological station network project
- Gash –Barka region four towns water supply project
- Agricultural and domestic water point inventory project
- Alla Valley ground water study project

7. 3. 5. Land

- Land classification of zoba meakel (central zoba): Use for further planning activities and resources assessment.

7. 4. Linkage achieved with sub-regional and regional action programs (SRAP & RAP)

Eritrea as a member of Intergovernmental Authority for Drought and Development (IGAD), works with the IGAD secretariat in all phases of preparation of the sub-regional programme (SRAP), which mainly focused on transboundary natural resource management issues. It has actively participated in the development of IGAD sub-region environmental education and training programme aimed at incorporating environmental education in the government education system and development of appropriate school curricula in environment. Areas of co-operation under IGAD-SRAP are the following:

1. Arrangements for the development and management of transboundary natural resources

- Formulation of an IGAD Hydrological Cycles Observation System (IGAD-HYCOS)
- A Pilot Project on Water Harvesting in Dry lands of the IGAD region formulated and being implemented
- Capacity Building in Integrated Water Resources Management and Household Energy

2. Provision of an enabling environment for the implementation of the Convention; particularly in legal, institutional, economic and policy matters

- IGAD SRAP Business Plan developed
- IGAD Sub-regional Support Facility (SSF) created
- Conflict Early Warning and Response Mechanism Network (CEWARN) developed and being implemented with the support of Germany and USAID
- A Gender Desk created at IGAD Secretariat with the support of UNIFEM.

3. Information collection, analysis and exchange in accordance with the SRAP

4. Researches and Development (R&D)

5. Educations and Public Awareness
6. Co-ordination of programmes to develop alternative energy sources
7. Co-operation in the management and control of pests, weeds, human and animal disease vectors, plant and animal diseases
8. Early warning systems and joint planning for mitigating the effects of drought
9. Capacity building

MoA is also closely working with Regional Land Management Unit (RELMA), a programme based in Nairobi, mainly in fields of soil and water conservation.

8. Financial allocations from national budgets in support of implementation as well as financial assistance & technical cooperation.

The government allocates significant amount of money every year for anti-desertification measures carried out by different sectors. Since the beginning of 2002, the government has started parliamentary approved budgetary system for all government sponsored development programmes. In 2003/2004, a significant share of this budget was allocated for agricultural development and resource conservation programmes.

Since 1994 the government has allocated significant amount of funds for summer student and national development campaigns, mainly engaged in building terraces, tree planting and undertaking other soil and water conservation activities.

Moreover, the government through its World Bank assisted programme of Eritrean Community Development Fund (ECDF), carried out various activities related to agricultural development and natural resource conservation schemes.

It is clear that some financial resources will be mobilised from the different stakeholders themselves, either as part of their budgetary allocation or else raised by them from other sources, both domestic and external.

In addition to the Government budget allocated for the implementation of conservation activities, International non-governmental organizations and bilateral donors fund several projects. Some of the existing funding sources include: UNDP, FAO, IGAD, World Bank, ADB, GEF, GM and UNCCD. The governments of Saudi Fund, Kuwait Fund, Arab Development Bank, Abu Dhabi Fund, OPEC and the Government of Italy. Other sources of fund include EU, World Bank, GEF and SIDA support different programs, which focus mainly on improving power-generating capacity of the country. As biomass fuel is most widely used source of household energy in Eritrea, this programme contributes significantly in reducing degradation of our forest resources.

As to the funding of the 23 proposed Project Profiles (PPs), it is suggested that a total of US\$ 37.890 million will be needed for their implementation, of which US\$ 3.815 million

(10%) is to come from local sources, and the remaining US\$ 34.075 million (90%) from external sources.

8. 1. Adopted Financial Mechanisms

The National Action Programme (NAP) will in time propose concrete actions addressing each of the issues mentioned in the NAP document.

As the NAP process becomes more and more institutionalised, each ministry or other government agency will have begun to report on the portion of its financial resources allocated to land-degradation issues. The NAP National Forum on Land Degradation will provide an appropriate opportunity to hear and discuss the financial reports of all the stakeholders. The UNCCD Co-coordinator's office will be required to present a consolidated analytical report analysing what resources each ministry allocate to land-degradation issues.

The MoA as the National Focal Point for CCD matters is interested to arrange for the creation of the Eritrean National Desertification Fund (ENDF). The ENDF is the principle mechanism, which will be used to channel financial resources rapidly and efficiently to the local level. As a national focal point for CCD matters, MoA has set in motion for development of the modalities for establishing the ENDF. The process for the consultancy work for establishing ENDF has already started and the consultancy will be done very soon.

- ENDF is the primary financial mechanism for supporting community-level anti-desertification and drought-mitigation activities;
- ENDF may be linked to the Eritrean Community Development Fund (ECDF), either formally or informally. The modalities for such a linkage are still to be determined by appropriate legislation; and
- Notwithstanding its possible link with ECDF, ENDF shall have a Board of its own, to be composed of representatives from MoA, from MoLG, and from each of the six *Zoba Baitos*.

Although ENDF is being created by Government decree and is to be linked to a Government structure, it will have a governing body of its own that will have members from all the stakeholders, particularly from the local communities. ENDF may receive some funding from the Government, but its main source of funds is to be external to the central Government Treasury. Thus, ENDF may receive funds from:

- The GoE National Treasury,
- International multilateral or bilateral sources, including nongovernmental organisations (NGOs), and
- Any other voluntary organisation.

8. 2. Mobilization of National Resources

Community participation in the choice and execution of development interventions is the essential condition for achieving sustainable development. The main idea behind the need for participation – *i.e.*, in terms of labour, materials, and cash – is to increase the effectiveness and sustainability of development interventions. With community participation, programmes are based on better information. Local people are more likely to contribute to the programme and sustain it after outside support has been phased out. In fact, it has now become the general consensus that grassroots participation in development is a necessary pre-condition for communities to be able to manage their affairs, control their environment, and enhance their well-being.

In Eritrea, the prevailing local frameworks or grassroots organisations – the Council (*Baito*) at the Regional (*Zoba*) level and the Assembly (*Megebaaya*) at the Village level – serve to bolster community participation. Indeed, the *Baitos*, NUEW, and NUEYS are some of the most precious heritages to have emerged from our 30 years liberation struggle, having proved most worthy in the ongoing post-war development process. Similarly, their role in environmental protection and management is also becoming significant. These community organisations are facilitating participation by the local people, mobilising their efforts and resources. Owing to their crucial roles in ensuring community participation, the need has become essential for strengthening the administrative capacities of Local Governments, NUEW, and NUEYS, as well as their capacity for implementing and managing environmental projects.

Since 1994, Eritrean students throughout the country have been participating in afforestation and soil-conservation campaigns during their school vacations, during *Kremti* (June-September), organised by the Ministry of Education (MoE) with the Ministry of Agriculture. Most of the work goes into combating desertification through participation in environmental conservation and development activities. The ninth round of the summer campaign is being undertaken in all concerns of the country. The major achievements accomplished in the last 9 rounds of the summer student campaign are summarized in Appendix 1 (table 1).

As an integral part of the country's development plan, the Ministry of Agriculture in collaboration with all stakeholders and wide participation of local community has accomplished impressive works. The first round of a National Development Campaign was organised on May 1998 with wide participation and financing by the Eritrean population. In 2003 the Government of Eritrea launched an operation for economic growth '*Warsay-Yikalo development campaign*' with massive local community participation and a new Ministry of National Development was established to coordinate all sectoral activities in the country. Most of the work of the '*Warsay-Yikalo development campaign*' goes into combating desertification through participation in environmental conservation and development activities. A major activity that has been accomplished for the last 10 years is summarized in Appendix 1 (table 2).

8. 3. Mobilization of Technical Cooperation

Fostering bilateral partnerships with countries that have had successful experiences in combating land degradation is essential. An international bilateral and multilateral partnership agreement with developed countries is also very essential for implementing UNCCD.

Eritrea acceded to the 1973 Convention on International Trade in Endangered Species of Wild Fauna & Flora [UNTS 14537] (CITES) on 22 January 1995 and approved the 1992 Convention on Biological Diversity [UNTS 30619] (CBD) in March 1996, it also acceded the United Nations Framework Convention on climate change in 1996 and it ratified the UNCCD in 1996. It also hopes to establish relations with other nature conservation agencies. With Eritrea's natural resource situation being as it is, that is to say, desperate, international co-operation with respect to technical assistance, scientific research, and financial support is essential.

To tackle the problems of soil degradation, of the fuel wood and construction-wood crisis, and of protecting the natural heritage and terrestrial biological diversity at an acceptable level, Eritrea will have to work in collaboration with regional and international organisations. Some of the international governmental and non-governmental organisations (NGOs) that could actively participate in Eritrea's afforestation and soil-conservation efforts, or continue to do so, include: FAO, EU, Kr2, Concern (Irish), Lutheran World Federation (LWF-ER), Toker Integrated Community Development (TICD). The MoA Forestry Research sector is also working in collaboration with international organisations such as the International Centre for Research in Agro-forestry (ICRAF), and the Danish Forest Seed Centre (DFSC).

Since desertification is a global problem, monitoring and the exchange of information and data should be carried out regularly on a worldwide basis. This could be achieved through direct linkages with international offices and organisations, *e.g.*, with the Regional Office for Mapping & Remote Sensing (RMRS) in Nairobi, which serves central, eastern, and southern African countries. Among other services, RMRS provides member states with satellite maps. Both RMRS and IGAD could provide satellite information on the changes in plant cover, soil type, and water conditions of the regional dry land ecosystems. However, the information obtained from satellite maps should be checked on the ground.

9. Review of benchmarks and indicators utilized to measure progress and an assessment thereof.

Benchmarks and indicators, which were indicated in the second national report, remain unchanged, except minor modifications as listed below:

9. 1. Benchmarks

- To reduce rain-fed crop land loss,
- To reduce irrigated crop land loss,
- To reduce range land loss,

- To reduce forest and wood land loss,
- To reduce soil erosion by wind and water particularly erosion from crop land,
- To reduce soil salinization (concentration of salt and sodium)
- To reduce soil compaction (loss of soil's stability of aggregates)
- To reduce loss of nutrients and organic matter from the soil
- To reduce soil pollution (concentration of 'certain' toxic elements, and
- To reduce loss of natural vegetation.

9. 2. Indicators

Established indicators for the benchmarks or targets:

- The rate of reduction of rain-fed cropland loss,
- The rate of reduction of irrigated crop land loss,
- The rate of reduction of range land loss,
- The rate of reduction of forest and wood land loss,
- The rate of reduction of soil erosion from crop land,
- The rate of reduction of soil salinization (concentration of salt and sodium)
- The rate of reduction of soil compaction (loss of soil's stability of aggregates)
- The rate of reduction of loss of nutrients and organic matter from the soil
- The rate of reduction of soil pollution (concentration of 'certain' toxic elements), and
- The rate of reduction of natural vegetation loss.

9. 3. Access by affected country parties, particularly affected developing country parties, to appropriate technology, knowledge and know how

Several measures have been taken 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 MoA and the training and research department of ministry of energy and mining put a lot of efforts in developing and disseminating improved production techniques and improved energy saving stoves, respectively.

Human resource deficiency has been the greatest bottleneck in Eritrea's development efforts. The Government is taking the problem by importing foreign experts on temporary basis but the long-term solution lies in a concerted national effort aimed at increasing educational and skill development opportunities. Accordingly, the government through its World Bank funded Human Resource Development (HRD) project is executing short term and long-term undergraduate and postgraduate training programmes since 1998. On the coming academic year, University of Asmara will start giving postgraduate course in the field of environmental science and agriculture. This may eventually reduce the human capacity deficit in the country.

ANNEX 1

Activities	Units	Total Achievement
1. Hillside terrace construction	Hectare	1,521.01
2. Hillside terrace maintenance	>>	1,605.5
3. Check dam construction	M ³	411,622
4. Check dam maintenance	M ³	47,750
5. Micro basin construction	No	107,881
6. Micro basin maintenance	No	93,266
7. Pitting for seedlings	No	106,461,121
8. Planting & Replanting	No	151,514,023

Table 1: Summary of major soil & water conservation activities implemented for the last 10 years.

Activities	Units	Total Achievement
1. Hillside terrace construction	Hectare	1,102.9
2. Hillside terrace maintenance	>>	1,509.7
3. Check dam construction	M ³	453,385
4. Check dam maintenance	M ³	53,049
5. Micro basin construction	No	148,603
6. Micro basin maintenance	No	93,266
7. Pitting for seedlings	No	11,713,617
8. Planting & Replanting	No	15,871,419

Table 2: Summary of major achievement of the summer student campaign (1994-2004).

UNCCD COUNTRY PROFILE (Eritrea)

This UNCCD country profile has been provide by: Redae Teclai

Name of focal point institution/ministry/office: Ministry of Agriculture

Date: 30/09/2004

Mailing address: P. O. Box 1048 Asmara, Eritrea

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Biophysical indicators relating to desertification and drought

1. Climate

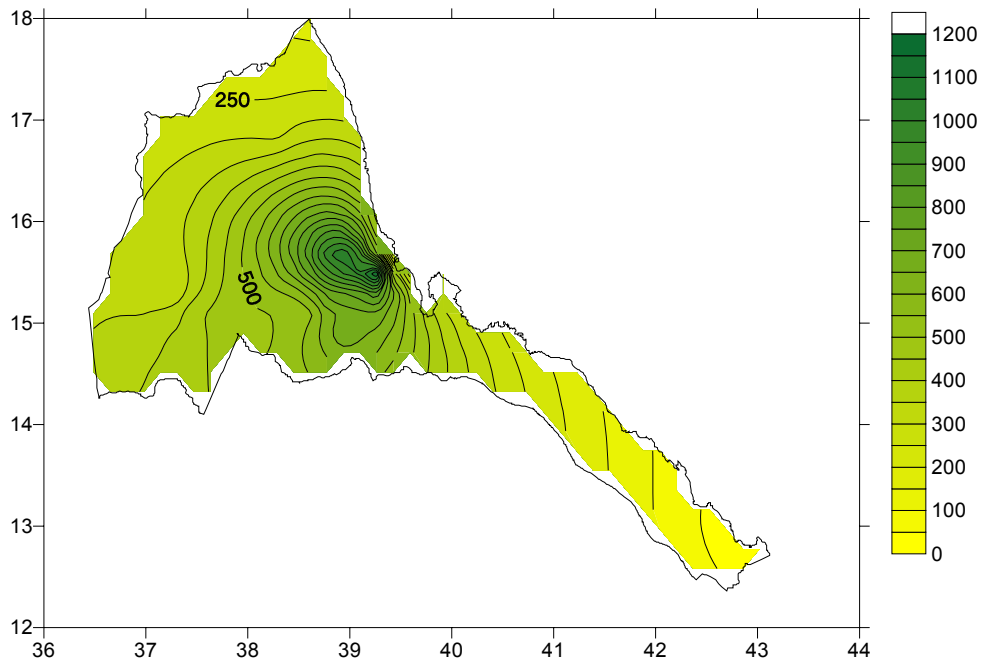
1.1 Index of aridity¹ by Zoba

Zoba	Aridity Index	Climate
Maekel	0.50 – 0.65	Dry sub-humid
Debub	0.50 – 0.65	Dry sub-humid
Gash-Barka	0.20 – 0.50	Semi-arid
Anseba	0.20 – 0.65	Semi-arid
Semenawi Keyih Bahri	0.20 – 0.65	Semi-arid
Debubawi Keyih Bahri	0.05 – 0.20	Arid

Due to lack of evapotranspiration data there was a need for the extrapolation from neighboring countries having similar condition, (NAP, 2002)

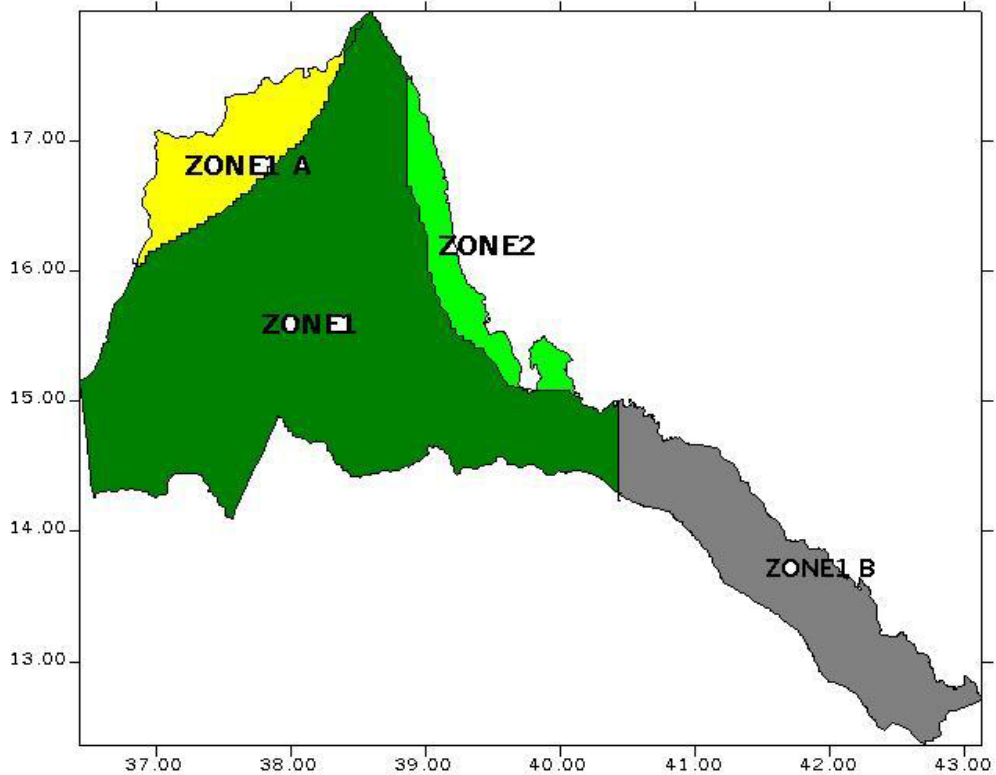
1.2 Precipitation

MEAN ANNUAL RAINFALL OVER ERITREA



1.3 Climate zones

ERITREA CLIMATE ZONES



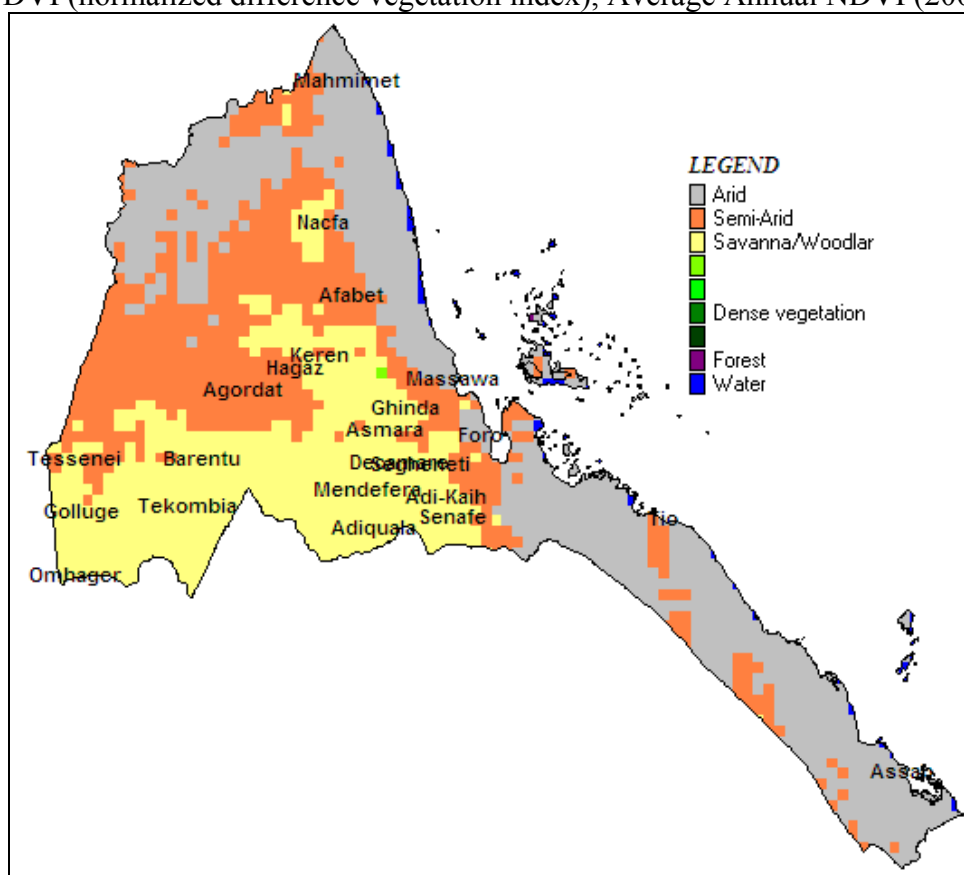
Legend:

Zone 1: High lands and Semi-high ground with a short rainy season (March to beginning

- of June) and a long rainy season (July to September)
- Zone 1A: Northwestern lowland, hot and relatively wet July to September rainy season with rainfall amounts less than in Zone 1
- Zone 1B: Coastal south eastern low land: very hot and dry with less than 200mm annual rainfall
- Zone 2: Coastal eastern low land: hot and very humid with less than 1000mm annual rainfall

2. Vegetation and land use

1.1 NDVI (normalized difference vegetation index), Average Annual NDVI (2003)



1.2 Vegetation cover (% of total land area)

- 1.2.1 High land forest -----0.8%
- 1.2.2 Forest & woodland (riverine forest & mangroves) -----13.7%

1.3 Land use (percent of total area)

Land use		1990 - 1999	2000 – 2003 (1000 ha)
Arable cropland		Not available	439
	Irrigated	>>	(22)

	Rainfed	>>	(417)
Pasture		>>	7,000
Forest and woodland		>>	737
Other land (Urban & Barren Land)		>>	4,256

2.4 Surface albedo: is not available.

¹ The index of aridity is the ratio P/PET; P=precipitation, PET=potential evapotranspiration.

3. Water resources

- 3.1 Fresh water availability (million m³) -----about 10,000
3.2 Fresh water resources per capita (m³) ----- >> 3,125
3.3 Agricultural water use (million (m³) ----- >>550
3.4 Industrial water use (million (m³) ----- >>0.9

4. Energy

Consumption

- 4.1 Energy use per capita (kg oil equivalent, that of 2002) ----- 202
4.2 Agricultural energy use per hectare (million of BTU)

Production

- 4.3 Energy from renewable excluding combustible renewable
and waste (% of total supply)

N.B. Negligible (600 KW 'Solar' mostly for community benefits)

Petroleum consumption by sector, that of 2002

- 4.4 Total ('000 tons) -----229.43
4.5 Transport ('000 tons) -----93
4.6 Industry/manufacturing ('000 tons) -----64.74
4.7 Residential ('000 tons) -----22.65
4.8 Commercial ('000 tons) -----49.04

5. Types of land degradation

Type of degradation	1990 - 1999		2000 - 2003	
	Million ha	% of total area	Million ha	% of total area
Soil degradation	Not available	Not available	Not available	Not available
Vegetation degradation	>>	>>	>>	>>
Biodiversity degradation	>>	>>	>>	>>
Water degradation	>>	>>	>>	>>
Climate deterioration	>>	>>	>>	>>
Land Conversion	>>	>>	>>	>>

Due to lack of monitoring mechanisms the data was not available for the above table. Therefore, there is a need to set up these mechanisms for future accurate monitoring.

6. Rehabilitation

Land under rehabilitation	1990 - 1999	As of 2003
Rehabilitation of degraded crop land (ha)	13,557	
Rehabilitation of degraded rangeland (ha)	Not available	Not available
Rehabilitation of degraded forest (ha)	191,787	226,525

Socio-economic indicators related to desertification and drought

7. People and economy

7.1 Population (total) -----	3.6 million
• Population: urban (percent of total) -----	37.8
• Population: rural (percent of total) -----	62.2
7.2 Population growth (annual %) -----	2.8
7.3 Life expectancy (years)	
• Male -----	51
• Female -----	54
7.4 Infant mortality rate (per 1,000 live births) -----	47.7
7.5 GDP (current US\$) -----	650
7.6 GNP per capita (current US\$) -----	200
7.7 National poverty rate (% of population) -----	69
7.8 Crop production (metric tons)	
• Cereals -----	105,944
• Pulses -----	2,380
• Oilseeds -----	7,067
7.9 Livestock production/population (TLU)-----	5,605,822
(Excluding poultry)	

8. People and economy

8.1 Primary education completion rate (% age group)	
• Male -----	62.8
• Female -----	59.4
8.2 Number of women in rural development (total number) -----	
8.3 Unemployment (% of total)	
• Male -----	16.2
• Female -----	64.8
8.4 Youth unemployment rate (age 15-24)	
Female	
• (15 – 19 age) -----	47
• (20 – 24 age) -----	69.5

Male	
• (15 – 19 age) -----	13.4
• (20 – 24 age) -----	11.4
8.5 Illiteracy total (% age 15 and above) -----	45.8
8.6 Illiteracy male (% age 15 and above) -----	39.1
8.7 Illiteracy female (% age 15 and above) -----	52.4

9. Science and technology

9.1 Number of scientific institutions engaged in desertification-related work (total number) -----	4
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10. Data sources

- *Agricultural Promotion & Development Department, MoA*
- *Civil Aviation Authority, MoTC*
- *Department of Energy, MoEM*
- *Department of Land, MoLWE*
- *Department of Water, MoLWE*
- *Department of Environment, MoLWE*
- *National Action Programme, NAP 2002*
- *Eritrean Demographic and Health Survey Report 2002.*
- *Planning & Statistics office, MoA*
- *Regulatory Service Department, MoA*
- *Soil fertility initiative –Draft Concept paper, MoA, 2001*
- *UN Country Profile Eritrea 2003.*
- *World Bank, Agricultural Sector Review 1996*
- *IGAD Climate Prediction and Applications Center, Nairobi*

Note: Most of the information for the country profile was not detailed or updated as required, either due to lack of human resources capability, funding and organized databases, hence a need to enhance the capacity of the country for better data & information management.

ANNEX 3

REFERENCES

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ANNEX 4

LIST OF ACRONYMS

ACDI/VOCA:	Agricultural Cooperation Development International/Volunteers Overseas
ADB:	African Development Bank
ADF:	African Development Fund
APDD:	Agricultural Promotion and Development Department
APSO:	Agency for Personnel Services Overseas
ASSP:	Agricultural Sector Support Programme
BFTW:	Bread for the world
CARE:	Cooperative for Assistance & Relief Everywhere
CEB:	Catholic Eparchy of Barentu
CEN-SAD:	Community of Sahel-Sahara state
CESVI:	Cooperazione E Sviluppo
COP:	Conference of the Parties
CRS:	Catholic Relief Service
DCI:	Development Cooperation Ireland
DoE:	Department of Environment
EEA:	Eritrean Electric Authority
EED:	Evangelischer Entwicklungsdienst
EGB:	Eritrean Grain Board
FAO:	United Nations Food & Agricultural Organization
GEF:	Global Environmental Facility
GHG:	Level of greenhouse gases
GIS:	Geographic Information System
GM:	Global Mechanism
GoE:	Government of Eritrea
IGAD:	Inter-governmental Authority on Development
IRC:	International Rescue Committee
JEN:	Japan Emergency NGOs (JEN Asmara)

LWF:	Lutheran World Federation
MoA:	Ministry of Agriculture.
MoE:	Ministry of Education
MoEM:	Ministry of Energy & Mining
MoLG:	Ministry of Local Government
MoLWE:	Ministry of Land, Water and Environment
MoTC:	Ministry of Transport & Communication
NAP:	National Action Program
NBSAP:	National Biodiversity Strategy and Action Plan
NCA:	Norwegian Church Aid
NCB:	National Coordination Body
NCEW:	National Confederation of Eritrean Workers
NDF:	National Desertification Fund
NEPAD:	New Partnership for Africa's Development
NEMP-E:	National Environmental Management Plan - Eritrea
NFP:	National Focal Point
NGO:	Non-Governmental Organization
NUEYS:	National Union of Eritrean Youth and Students
NUEW:	National Union of Eritrean Women
OPEC:	Oil Producing Country
PRS:	Poverty Reduction Strategy
RSD:	Regulatory Service Department
SHDI:	Self-Help Development International
SIDA:	Swedish International Development Authority
SRL:	Sub-regional level
TICD:	Toker Integrated Community Development
UNCBD:	United Nations Convention on Biodiversity
UNCCD:	United Nations Convention to Combat Desertification
UNDP:	United Nations Development Program
UNFCCC:	United Nations Framework Convention on Climate Change