



THE REPUBLIC OF UGANDA

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

**REPORT OF THE NATIONAL CAPACITY SELF ASSESSMENT
FOR IMPLEMENTATION OF THE MULTILATERAL
ENVIRONMENT AGREEMENTS (CBD, UNFCCC, CCD AND
INTERNATIONAL WATERS) IN UGANDA**

MINISTRY OF WATER, LANDS AND ENVIRONMENT

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FOREWARD

Uganda has signed and ratified a number of Conventions and protocols on environment, including CBD, UNCCD, UNFCCC and IWs, which were the focus of the National Capacity Self Assessment (NCSA) project.

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

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

The implementation of the recommendations contained in this report requires involvement and participation of everyone. It provides an opportunity to enhance implementation of the MEAs in Uganda for the benefit of the present and future generations.

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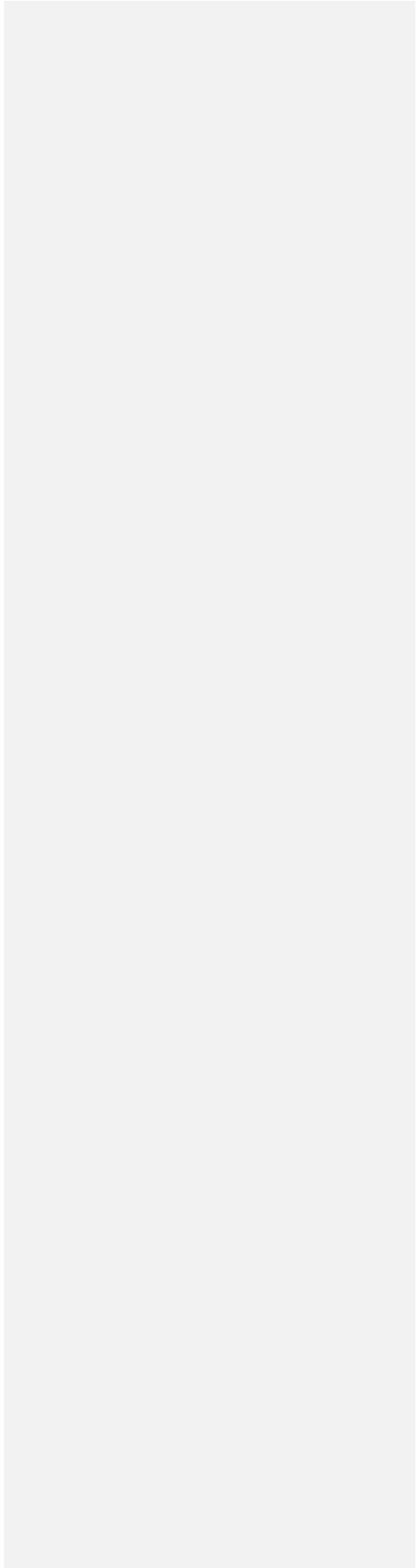
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LIST OF ACRONYMS

ARDCs	-	Agriculture Research and Development Centers
CBD	-	Convention on Biological Diversity
CBOs	-	Community Based Organizations
CDI	-	Capacity Development Initiative
COPs	-	Conference of the Parties
CSOs	-	Civil Society Organizations
DDPs	-	District Development Plans
DEAPs	-	District Environment Action Plans
DWD	-	Department for Water Development
EAC	-	East African Community
ECOTRUST	-	Environmental Conservation Trust of Uganda
EIAs	-	Environment Impact Assessments
EMCBP	-	Environment Management Capacity Building Project
ENR	-	Environment and Natural Resources
FAO	-	Food and Agriculture Organization
GDP	-	Gross Domestic Product
GEF	-	Global Environment Facility
GHGs	-	Green House Gases
GIS	-	Geographic Information Systems
GMOs	-	Genetically Modified Organisms
ICT	-	Information and Communication Technology
IDDP	-	Integrated Drylands Development Program
IGAD	-	Inter-Governmental Authority on Development
IT	-	Information Technology
IUCN	-	International Union for Conservation of Nature
IWs	-	International Waters
LCs	-	Local Councils
LGDP	-	Local Government Development Program
LSSP	-	Land Sector Strategic Plan
LVEMP	-	Lake Victoria Environmental Management Project
LVFO	-	Lake Victoria Fisheries Organization
M&E	-	Monitoring and Evaluation
MAAIF	-	Ministry of Agriculture, Animal Industry and Fisheries
MEAs	-	Multilateral Environment Agreements
MEMD	-	Ministry of Energy and Mineral Development
MoFPED	-	Ministry of Finance, Planning and Economic Development
MoES	-	Ministry of Education and Sports
MoLG	-	Ministry of Local Government
MTTI	-	Ministry of Tourism, Trade and Industry
MUENR	-	Makerere University Institute of Environment and Natural
MUK	-	Makerere University, Kampala
MWLE	-	Ministry of Water, Lands and Environment
NAADS	-	National Agriculture Advisory Services
NAP	-	National Action Program
NAPA	-	National Adaptation Plan of Action
NARO	-	National Agriculture Research Organization

NARS	-	National Agriculture Research Systems
NBI	-	Nile Basin Initiative
NBSAP	-	National Biodiversity Strategy and Action Plan
NCBs	-	National Coordinating Bodies
NCCD	-	National NGO Coordinating Committee on Desertification
NCSA	-	National Capacity Needs Self Assessment
NEA	-	National Environment Act (Cap 153)
NEAP	-	National Environment Action Plan
NELSAP	-	Nile Equatorial Lakes Subsidiary Action Plan
NEMA	-	National Environment Management Authority
NEMP	-	National Environment Management Policy
NEPAD	-	New Partnership for Africa's Development
NGOs	-	Non Government Organizations
NSC	-	National Steering Committee
NUSAF	-	Northern Uganda Social Action Fund
PAF	-	Poverty Action Fund
PEAP	-	Poverty Eradication Action Plan
PMA	-	Plan for the Modernization of Agriculture
SLM	-	Sustainable Land Management
SWAPs	-	Sector-Wide Approach to Planning
SWGs	-	Sector Working Groups
SWOT	-	Strengths, Weaknesses, Opportunities and Threats
UBOS	-	Uganda Bureau of Statistics
UNCCD	-	United Nations Convention to Combat Desertification
UNCST	-	Uganda National Council for Science and Technology
UNDP	-	United Nations Development Program
UNEP	-	United Nations Environment Program
UNESCO	-	United Nations Educational, Scientific and Cultural Organization
UNFCCC	-	United Nations Framework Convention on Climate Change
UPE	-	Universal Primary Education
UWA	-	Uganda Wildlife Authority
WID	-	Wetlands Inspection Division
WMO	-	World Meteorological Organization
WSSD	-	World Summit on Sustainable Development
WSSP	-	Wetlands Sector Strategic Plan
WWF	-	World Wide Fund for Nature

EXECUTIVE SUMMARY

Introduction

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

Uganda is a signatory to these MEAs and is, accordingly, required to implement the commitments of these agreements, but has limited human and institutional capacities. The MEAs provide an opportunity to achieve national development objectives through promotion of partnerships, technology transfer and capacity building for sustainable natural resource management. This is important since the national economy and people's livelihood largely depend on NRs. This is coupled with the need to conserve the critical biodiversity and deal with vulnerability issues associated with drought and other related disasters. Through GEF's support, Uganda undertook a capacity needs assessment for the implementation of the MEAs under the NCSA project. The objectives of the NCSA project were to (a) identify gaps and priority areas for capacity building at various levels; (b) identify gaps and overlaps across the activities to enhance synergies; and (c) generate an action plan for implementation of capacity building activities for management of the global environment.

Methodology

The NCSA project was implemented in three phases, namely: (i) thematic situation analysis and capacity needs identification, (ii) identification of synergies among the MEAs, and (iii) the NCSA action plan process. The process was operationalized by GEF committees, namely, a steering committee responsible for overall guidance, and a sub-committee which provided technical backstopping. The latter worked closely with the Project Coordinator in the implementation process. The process was re-enforced by four task forces, one for each thematic area. The implementation of the NCSA process was preceded by an inception workshop during which the project was launched.

In order to identify priority capacity needs objectively, ranking was done based on agreed criteria, which depended on the scale of the problem, level of concern, inability to address the problem and relevance of the problem to the poverty eradication. These priority capacity needs formed the pillars of the Action Plan, which was drawn

collectively by the members of the task forces. The action plan development process identified strategies for resource mobilization.

Thematic profiles

Uganda's commitment to implementation of the MEAs is rooted in the signing and ratification of these instruments. Additionally, Uganda is committed to a number of important international and regional agreements on integrated water resources management. Besides signing and ratifying the MEAs, Uganda has taken a number of measures to implement them. Under the CBD, key activities include preparation of the National Biodiversity Strategy and Action Plan (NBSAP), regulations on access to biological resources, regional and global projects on biodiversity conservation.

Under UNCCD, key activities include production of National Action Program (NAP), formulated the Integrated Drylands Development Program (IDDP), generation of a Road Map for NAP resource mobilization, and mainstreaming CCD issues into national and local plans and budgets. Under UNFCCC, national inventory on sources and sinks of greenhouse gases (GHGs) has been compiled; vulnerability, adaptation and mitigation measures assessed; and is currently preparing the National Adaptation Plan of Action (NAPA). Regarding the International Waters, key regional projects under implementation include the Lake Victoria Environment Management Project (LVEMP), Lake Victoria Fisheries Organisation (LVFO), and Nile Basin Initiative (NBI), among others.

A number of challenges have been incurred in the implementation of MEAs in Uganda. The major ones include (i) low levels of awareness, particularly due to inadequate circulation and complex language of the information materials, (ii) weak articulation of the MEAs issues in national development frameworks, particularly the PEAP, (iii) weak institutional coordination, and (iv) the inconsistencies in policies relevant to implementation of MEAs.

Constraints and opportunities for capacity building for the MEAs implementation

The major constraints identified by the NCSA process were entirely cross-cutting for the four thematic areas and, therefore, merit a synergistic intervention approach. They include:

- (i) Weak inter-institutional coordination
- (ii) Weak policy and legal framework for addressing MEAs
- (iii) Low awareness of MEAs issues
- (iv) Lack of data and information
- (v) Unsustainable land management practices
- (vi) Inadequate technical capacity to implement the MEAs
- (vii) Poor infrastructure
- (viii) Inadequate funding
- (ix) Inadequate Monitoring and Evaluation (M&E) mechanisms
- (x) Limited research

Cross-cutting opportunities for the above constraints include:

- (a) Existing supportive institutions
- (b) Supportive legal and policy frameworks
- (c) Conducive environment for awareness and education
- (d) Existence of structures to support community level initiatives
- (e) Available policies, institutions and networks supporting data and information exchange
- (f) Existing research institutions and networks
- (g) Potential institutions to provide technical and managerial skills
- (h) Potential for mainstreaming and tapping global resources

NCSA Action plan

The NCSA action plan was developed based on 8 intervention areas derived from the interventions identified during the synergies study. The action plan is summarized in Table 1 and detailed in Table 2.

Table 1. Summary of the NCSA Action Plan

Capacity building intervention areas	Actions
Synergistic intervention areas and actions	
Institutional strengthening	Establish and strengthen inter-institutional collaboration framework
	Strengthen executing institutions
Legal, policy and enabling frameworks	Formulate national and district development plans that integrate MEAs issues
	Formulate coherent laws, policies, regulations and standards relevant to MEAs
Public awareness and education	Sensitize policy and decision makers, local communities and other actors on MEAs
	Train extension service providers on MEAs
	Integrate MEAs issues in curricula of schools and other institutions
Sustainable Land Management (SLM)	Prepare and implement sustainable land use plans by Local Governments
Data and information collection, dissemination and monitoring	Strengthen MEAs data collection, analysis and dissemination
	Establish mechanisms and protocols for data/ information exchange
	Monitor and evaluate implementation of MEAs
Research and technology development	Strengthen integrated research on MEAs
	Strengthen mechanisms for disseminating and exchanging research findings on MEAs
	Develop appropriate technologies
Technical and managerial capacity	Develop and strengthen capacity of local training institutions to train on MEAs issues
	Create and/or strengthen technical and managerial capacity to address MEAs issues
Resource	Integrate MEAs issues into national, sectoral and district plans

mobilization	Strengthen capacity of national and district actors to mobilize resources for MEAs programs
Convention-specific intervention areas and actions	
Biodiversity	Develop guidelines and regulations for conservation and management of biodiversity
	Train professionals in biodiversity conservation and management
	Conduct studies on biodiversity recovery and invasive species
	Strengthen institutional capacity to conserve biodiversity
Desertification	Sustainably manage rangelands
	Improve resilience/ coping mechanisms for dryland communities
Climate change	Expand climate change knowledge base
	Formulate climate change implementation programs
	Strengthen institutional capacity to implement the UNFCCC
International waters	Promote sustainable management and utilization of international waters
	Formulate/ review regional/ sub regional agreements and policies on utilization and management of IWs

Monitoring and evaluation of the NCSA action plan

This will involve a wide range of stakeholders and will be conducted at all levels (national, district and community levels). At the national level, NEMA will spearhead M&E of the action plan, in collaboration with other actors. At the district level, the District Production and Environment Committee will be responsible for the M&E spearheaded by the Local Environment Committees.

CHAPTER 1. BACKGROUND

1.1 Introduction

Implementation of sustainable natural resource management strategies is highly constrained by absence or inadequacy of human and infrastructural capacities in developing countries and those with economies in the transition to the developed category (UNDP, 1999). Moreover, it is in these countries that natural resource degradation is impacting most, the survival of mankind and the environment in general. Striking examples of natural resource degradation in developing countries include the mismanagement of some vital natural resource components (like forests), leading to climate change and eventually speeding up desertification, particularly in Sub-Saharan Africa. This has simultaneously caused biodiversity degradation, interfered with water cycle and systems, thus diminishing the welfare of the affected communities and beyond.

The most strategic entry-point for addressing the capacity needs is by firstly understanding the magnitude of the problem. In light of this, the GEF at its May 1999 Council Meeting, recognized the need to support the assessment of capacities of countries signatory to the MEAs (UNDP, 1999), the latter of which are centered around the Rio Conventions, namely, CBD, UNCCD and UNFCCC. These are later referred to interchangeably as thematic areas.

Uganda, together with other African countries, is a signatory to the three Rio Conventions and is, hence, committed to their implementation. As such, it is required to fully comply with the obligations of the conventions. Unfortunately, it is also constrained by insufficiency of the required implementation capacities. In addition to the three conventions above, Uganda considers compliance with regional and international agreements related to other crucial natural resources. Among the major agreements are those related to integrated management of water resources of international importance (NBI, 2001a & b). Fundamentally, the required capacities for implementation of this agreement are equally a major hindrance.

Uganda, in a bid to address the implementation capacity shortfalls, benefited from the GEF support for National Capacity Self-Assessment (NCSA) for protection of the global environments. In the case of Uganda, this effort catered for the three conventions as well as the international waters agreements. This report presents the outcome of this exercise in terms of capacity needs, proposed interventions and the required resources. These are presented according to conventions as well as the international waters agreements. Also presented are the prioritized forms of the capacity needs as well as the screened synergistic strategies that can be jointly implemented by the conventions for effective resource utilization, among other benefits.

The report also presents systematically, the methodological procedures used to culminate into the outcomes of this report. The sequence of activities were: (i) a situation analysis to establish baseline information on the status of MEAs implementation in Uganda; (ii) capacity needs assessment and prioritization; (iii) identification of synergistic

interventions across conventions, and (iv) drawing up of an action plan for implementation of the interventions. These, along with relevant information, are systematically presented in this report. Furthermore, profiles of the proposed projects of each convention as well as synergistic areas are also presented.

1.2 Objectives and outputs

1.2.1 Objectives

The main objective of the NCSA was to identify, through a consultative process, priority capacity building needs to protect the global environment. The specific objectives were to:

- Identify gaps and priority areas for capacity building at various levels;
- Identify gaps and overlaps across the activities to enhance synergies; and
- Generate an action plan for implementation of capacity building activities for management for the global environment.

1.2.2 Outputs

The NCSA focused on identifying areas for capacity building to implement the MEAs at national and local levels. The main project outputs included:

- Thematic situation assessment reports;
- Thematic profiles identifying priority capacity needs for implementation of the MEAs;
- Areas of synergies for enhanced implementation of the MEAs; and
- An action plan for implementation of capacity building activities.

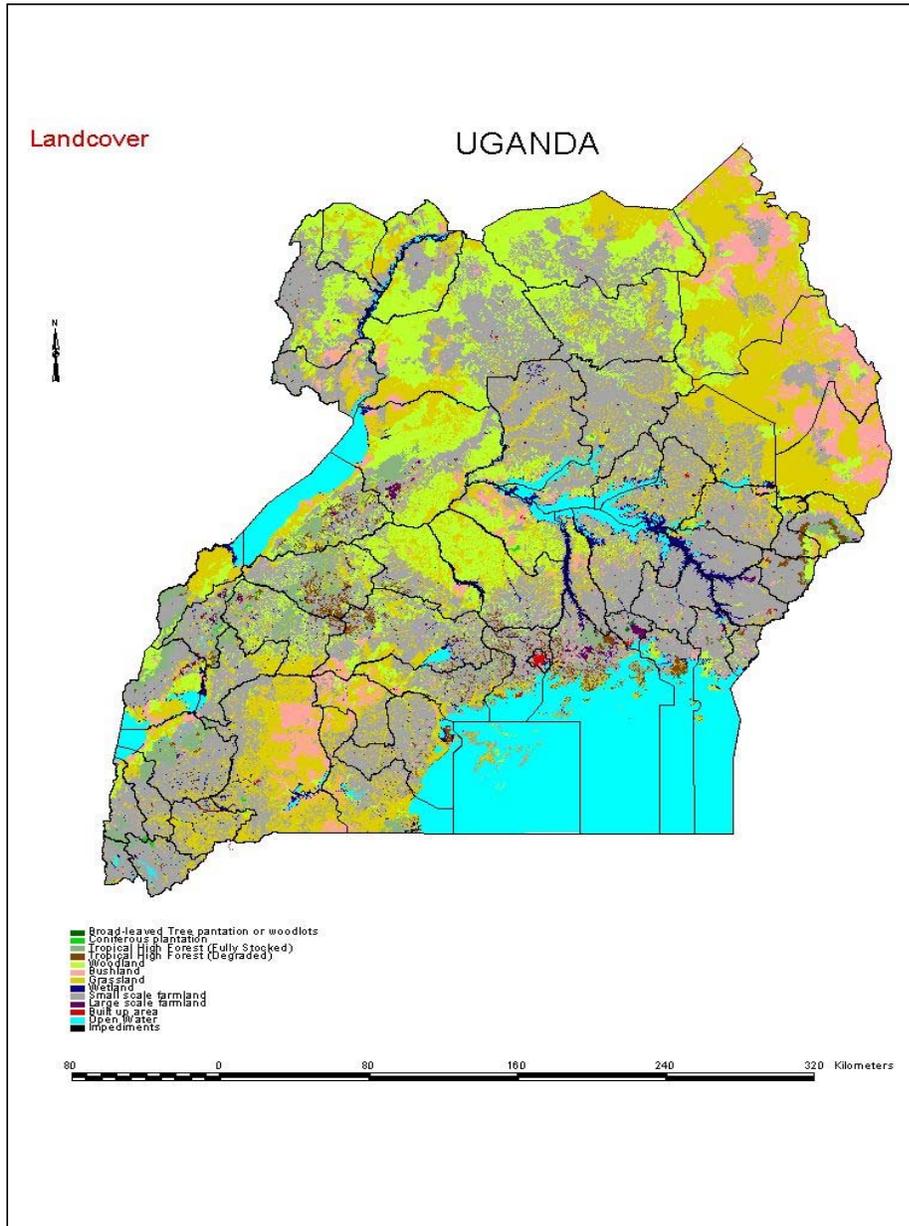
The detailed scope of work for the entire process is presented in Annex 1.

1.3 Biophysical and socio-economic aspects of Uganda

1.3.1 Geographic location and land area

Uganda lies within 4°N and 1°S and 29.5° and 35°W. It is bordered by Sudan in the north, Democratic Republic of Congo in the west, Tanzania and Rwanda in the south, and Kenya in the east. The country occupies 241,038 Km², comprising of 70% arable land, 14% open water, 6.5% national parks, 6.3% forest reserves and 3.2% permanent wetlands (NEMA, 1996). Most of the country lies on a plateau with an altitude range of 900 – 1,500 metres above sea level. Along the western border of the country runs the famous Western Rift Valley, within which lie Lakes Albert, George and Edward, as well as Mt. Rwenzori. On the eastern border lie Mt. Elgon and Mt. Moroto. Other water bodies of great importance include Lakes Victoria and Kyoga, in the south and central parts of the country, respectively, and River Nile which streams from Lake Victoria, through Lake Kyoga to the Sudan, forming what is currently referred to as the Nile Basin.

Figure 1. Map of Uganda showing the major natural resources



1.3.2 Climate and climate change

Uganda experiences a range of climatic conditions depending on topography, local relief and geographical location. Its annual rainfall figures vary widely following the above parameters, with a range of 500-2200 mm. The drier areas receive barely 500-1,000 mm annually, most of which is erratic in frequency and distribution (MWLE, 2001). This phenomenon is raising concern especially in terms of food security, poverty levels, and general environmental degradation (MAAIF, 1993). The southern part of the country receives two rainy seasons, namely, March-May and September-November as long and short rains, respectively. The northern part receives one long rainy season during June-October.

Most of the country is characterized by mean annual maximum temperatures of 18-35 °C, and minimum temperatures of 8-23 °C. Relative humidity 70-100%, which is rated high (NEMA, 1996). Mean monthly evaporation rates range from 125-200 mm.

Uganda, like other countries in the world, is experiencing climate change. This is manifested mainly in the form of rising temperatures, erratic and unpredictable rainfall, increased frequency and spread of droughts, and reduced water volumes in various water systems in the country. Although the causes might be of global origin, it is important that measures are put in place at national level to mitigate some of the local causes and effects. Details on this are presented under the climate change thematic area in Chapter Three.

1.3.3 Socio-economic issues

Human population. By 2002, the human population of Uganda was estimated to be 24.7 million, of whom 51.2 and 48.8% are female and male, respectively (UBOS, 2004). Moreover, the rate of population growth is 3.3% annually, which is one of the highest worldwide. Perhaps the most striking is that 47.3% of the country's population is less than 15 years old, while 3.3% is more than 64 years. Recent trends present massive youth population migration into urban areas, a factor that has posed a challenge for urban authorities, while depopulating rural areas of the most needed labour force, especially for the agricultural sector.

Gender issues are emphasized in all natural resource-related sectors, particularly the intra-household relations for agricultural productivity. The discriminatory legislation is being reviewed. In addition, the pattern of usage of services by gender is being examined in various sectors.

Over the last 10 years, Government has invested heavily in education, though introduction of the Universal Primary Education (UPE). This has had an affect of increasing the human literacy levels. The national literacy level rose from 65% in 1999/2000 to 70% in 2002/2003. HIV/AIDS prevalence has fallen over the past three years from 6.8% to 6.2%. Currently, Uganda ranks at 150th position, with a Human Development Index of 0.444 (UNDP, 2002). However, the on-going insurgency in

northern Uganda is responsible for the increased prevalence in that region, hence vigorous awareness campaigns need to be mounted in those areas.

National economic features. Uganda has experienced strong economic growth over the past decade, averaging 6.5% per *annum* since 1990/1991. Economic growth has slowed down over the past five years, averaging 6.0% for the period between 1998/1999 and 2002/2003 (MFPED, 2004). By 2003, Uganda's Gross Domestic Product (GDP) stood at US\$ 330 per *capita* (MTTI and MEMD, 2003). Although agriculture still contributes the greatest share of the GDP, production has nonetheless been shifting slowly towards services and industry, as growth in these sectors has overridden agricultural growth. Agriculture accounted for 39.2% of the GDP in 2002/2003, as compared to 51% in 1991/1992, as subsistence agriculture declined by 10% of the GDP over the same period. The Service sector increased the share of GDP from 36.6% in 1990/1991 to 41.2% in 2002/2003, and industrial production rose from 12.4% to 19.6% over the same period (MoFPED, 2004). During the 1990s, income poverty fell dramatically. The population of Uganda living below the poverty line (with expenditure below US \$ 1 per day) reduced from 56% in 1992 to 44% in 1997/98, and even further to 34% in 2000. On the other hand, income inequality was steady from 1992 to 1997, but increased thereafter. Since 2000, income poverty increased from 34% to 38% between 2000 and 2003 (MoFPED, 2004).

Land and Land-use. Land ownership in Uganda falls under four categories, namely, freehold, leasehold, customary and public land. Government passed the Land Act in 1998 to reorganize land ownership in Uganda. This is operationalized by the 2001-2010 Land Sector Strategic Plan. This plan focuses on protecting land rights of the poor, improved access to land and tenure security. One of the major benefits of this process is the improved security of land ownership. This enables the land owners to make long term investments on their land, including soil fertility improvement and soil and water conservation measures.

In Uganda, land resources are used for a variety of functions, however; only those relevant to this report are described below.

(a) Agriculture

Agriculture is the backbone of Uganda's economy. It contributes over 90% of export earnings and employs over 80% of the labor force. In Uganda agriculture is generally subsistent and rain fed. The major factors, which influence agricultural production include: soils, climate, agricultural implements, management practices and access to markets (both domestic and international). The decline in agricultural production in 1999/2000 is partly explained by the 1999/2000 drought. Non-traditional crops such as maize, sesame and soya beans have gained value in the last ten years; this has enabled farmers to make choice on type of crop to grow depending on demand. Thus improving their incomes. Agricultural performance fluctuates with climate variability and climate change and is also adversely affected by rudimentary means of production, poor markets and storage facilities.

(b) Forestry

Forests and forestry products in Uganda provide an annual economic value of \$ 360 million, of which only \$ 112 million is captured in official statistics. Forests cover 24% of the total land area, 70% of which is located on private and customary land. The sub-sector directly employs over 100,000 people and over 750,000 working as subsistence workers in the sector.

Trees provide 90% of the energy requirements and are still projected to be the major energy source in the near future. Forests provide a number of ecological services, including biodiversity, climate moderation, soil and water conservation and nutrient recycling. However, forests are threatened by degradation through encroachment, conversion to other uses, urbanization, unsustainable harvesting and institutional failures. Urgent interventions are, therefore, necessary to halt deforestation as well as promote afforestation and reforestation. In line with this, the National Forestry Authority was established and is responsible for assurance of sustainable forest utilization in the country.

(c) Biodiversity

Biodiversity, which includes the wide range of fauna and flora, substantially contributes to Uganda's sustainable development and poverty eradication objectives. Since Uganda's economy is natural resource based, biodiversity plays a major role in the country's socio-economic development, contributing over US \$ 546.6 million to the national coffers annually (Emerton and Muramira, 1999).

Biodiversity conservation also maintains a diverse pool of genetic resources available for future developments and applications, some of which may not be known now. These may contribute to the further development of tourism and leisure activities, and the use of biological resources for a wide variety of agricultural, industrial, pharmaceutical and medicinal applications (NEMA 2002). In spite of these important values biodiversity, has continued to come under threat, particularly through deforestation, bush burning, wetlands encroachment and conversion, over-consumption and introduction of alien species, among others. Therefore, biodiversity degradation and loss would lead to erosion of the economic production base and slowed national economic growth. A detailed discussion of biodiversity resources in Uganda is discussed under section 3.2 of Chapter Three.

(d) Water

Uganda has abundant water resources although its distribution is not even, particularly in the semi-arid areas of the country. Up to 14% of Uganda's total area is covered with water, 80% of which is accounted for by Lake Victoria. In addition Uganda has good mean annual rainfall ranging from 700 mm in the drier areas to about 1500 mm in the humid areas. The rainfall in good years, therefore, offsets the water distribution problem

particularly during the rain season. A large proportion of the population depends on streams, which tend to dry up during droughts thus causing serious water stress for large proportion of the rural communities. The scarcity of water in these areas has resulted in movements into neighboring districts in search for pasture and water. These movements have frequently led to ethnic conflicts and disruption of production. This has affected development of these communities. The water scarcity in the dry lands areas is likely to worsen with climate change.

In light of the above scenarios, it is imperative that issues related to water availability are addressed in order to achieve meaningful national development, and both human and infrastructural capacity enhancement is by and large the best entry point.

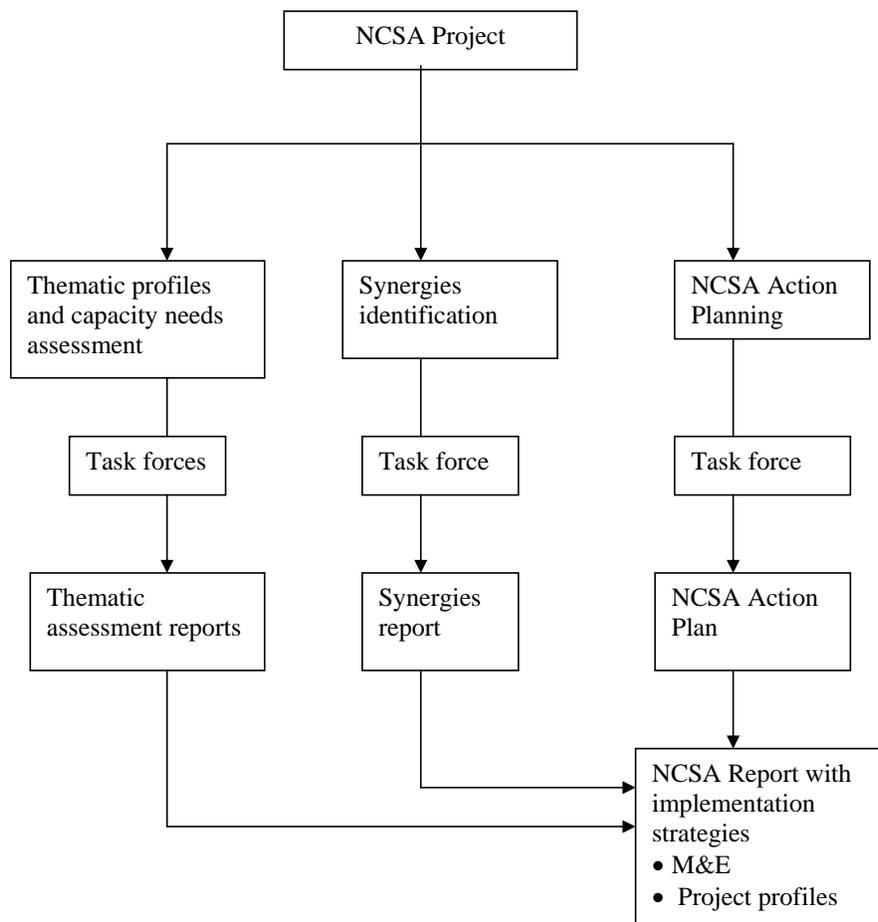
(e) Energy

Energy supply is critical to enhancing production and incomes of local people. Power plays an important role in rural and urban development and is functional in activities such as wet coffee processing, fish preservation, lighting, and reducing drudgery (especially among women), among others. However, only 3% of rural and 22% of urban populations have access to grid electricity, with the rest depending on biomass energy (MFPED, 2004). This has wide ranging implications in terms of degradation of forestry resources, land degradation, loss of forest biodiversity, climate change and water catchment degradation. Nevertheless, government has put considerable effort in promoting rural electrification through the Uganda Photovoltaic Pilot Project for Rural Electrification and the Energy for Rural Transformation Program. This programmed aims to extend electricity supply to cover 10% of the country. This will mainly be through grid extension, independent power producers and solar (renewable) energy. A rural electrification fund has been set up to hasten the process of rural electrification. This effort will reduce over-dependency of the rural population on biomass energy, and will consequently reduce the rate of degradation of NRs. It will in the long run contribute to conservation of forest biodiversity, reducing land degradation, mitigate climate change and improve conservation of water catchments.

CHAPTER 2. METHODOLOGY

The NCSA project was implemented in four phases. These are (i) inception phase, (ii) thematic situation analyses and capacity needs identification, (iii) identification of synergies among the MEAs, and (iv) the NCSA action plan process. These phases are summarized in Figure 2 below.

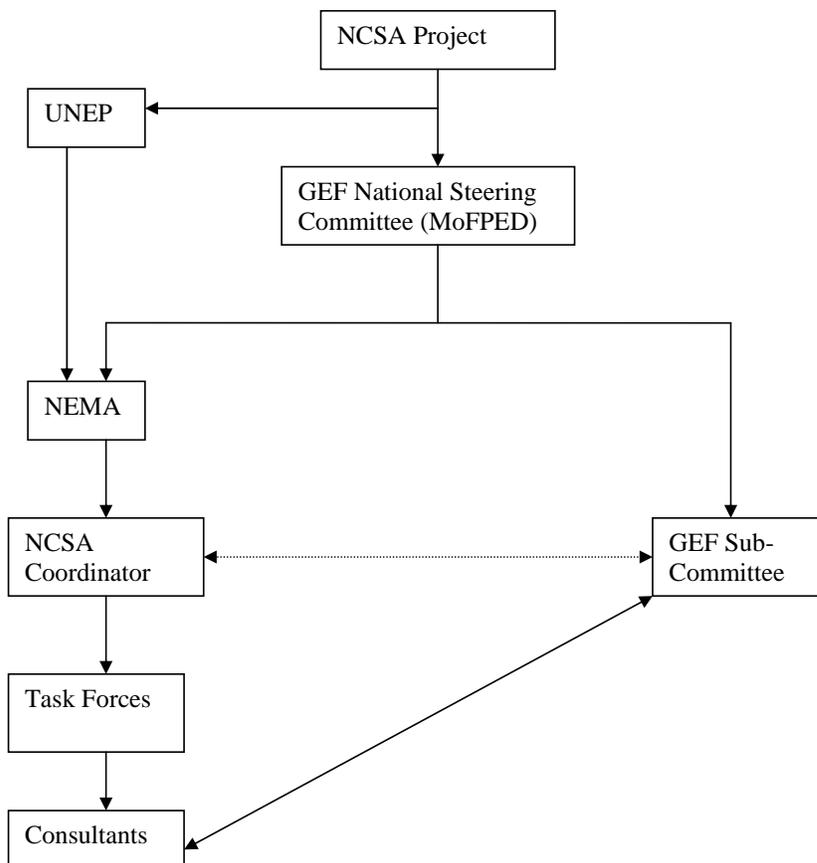
Figure 2. Flow diagram of the phases and linkages in the NCSA process



2.1 Inception Phase

This phase involved setting up of the NCSA management and implementation structures (Figure 3). The coordination mechanism comprised of a GEF steering committee and sub committee (Annex 10(a)), NEMA and a full time coordinator. The **GEF steering committee** was responsible for the overall guidance as well as providing policy support for implementation of the project. The **GEF sub-committee** was charged with driving the NCSA process forward and providing technical backstopping. Members of this committee were also part of the GEF steering committee; hence, participated in proposal development, and provided overall technical guidance to the project through review of draft reports and work plans. They also participated in organizing project activities and defining tasks for the consultants. The committee was composed of representatives from relevant government ministries, research institutions and convention focal points.

Figure 3. NCSA institutional and management structures



NEMA housed the project and was charged with overseeing the day-to-day project activities, tendering consultancies and supervising the Coordinator, in collaboration with MoFPED. The **Project Coordinator** was responsible for management of the day-to-day activities of the project. She supervised the Consultants, organized project related meetings and workshops, and managed the project's finances. The coordinator worked jointly with **Thematic Task Forces** to generate inputs to the consultants' reports through a participatory process, which involved holding periodic retreats to produce the required information. The Consultants who were involved in project implementation reported directly to the Coordinator. The coordinator, in turn, reported to members of the GEF committee and sub committee, the Executive Director-NEMA, and UNEP.

An inception workshop was organized to launch the project. It was attended by 65 participants from central and local Government institutions and departments, NGOs, academic and research institutions, the private sector and development partners. This workshop laid the ground for the project implementation.

2.2 Thematic situation analyses and capacity needs identification

This phase involved carrying out thematic situational analyses and capacity needs assessment for implementation of the four MEAs in Uganda. Four consultants (See Annex 10(b)) were hired to conduct the studies for the four thematic areas, each consultant being assisted by a Task Force of 8 experts per thematic area. Each consultant was initially tasked to prepare an inception report describing how they intended to undertake the consultancy and also interpret how they understood the Terms of Reference (ToRs). These reports were presented to the four task force groups at a one-day meeting. At this meeting, consensus was reached on the process, and the ToRs for the consultants were finalized. The consultants then embarked on the situation analysis for each thematic area. They reviewed secondary information from various reports, which included the National Biodiversity Strategy and Action Plan (NBSAP), National Action Plan (NAP) to combat desertification, Water Action Plan and many other national and international reports related to implementation of the four environmental instruments. Through this literature review, the consultants identified the major issues affecting implementation of the MEAs in Uganda and established the policy, legal and other regulatory frameworks affecting implementation of the MEAs in Uganda. A stakeholder analysis, which included consultation with national and district level actors, revealed the major actors involved in implementation of the MEAs.

A synthesis of the information garnered enabled the consultants to generate a number of areas for capacity building, capacity issues as well as possible interventions to address the identified issues. The consultants ranked the capacity issues with assistance of a task force per thematic area. The Consultants prepared thematic situational analysis reports outlining the key areas for capacity building as well as proposed interventions to address the identified constraints.

Capacity needs assessment involved three steps, namely (i) prioritization of issues (ii) identifying root causes and capacity constraints analysis (iii) identifying opportunities,

interventions and bottlenecks. The four task forces supervised the consultants to ensure articulation of the issues for each thematic area. A three day-retreat was jointly held for the task forces to review the consultants' work, make a collective analysis of issues and prioritize the capacity needs for implementation of the four MEAs. The four task forces held thematic group discussions and analyzed the issues, which were eventually presented to and discussed by the plenary. Prioritization of the issues was carried out for each thematic area to select key issues from the long list generated during the situation analysis. The prioritization exercise based on the following benchmarks:

- (i) Scale of the problem – This denotes the geographic level at which a given issue manifests itself. It could be national, sub-national or local problem
- (ii) Level of concern – This reflects the urgency needed to address a given issues with respect to the need for capacity building. It could be high, moderate or low.
- (iii) Ability to address the problem – Issues with high chances of success and likely adoption rate of results were given high priority.
- (iv) Relevancy to the Poverty Eradication Action Plan (PEAP) – This related to the relevancy of a given issue to the national development priorities. Very pertinent issues were ranked high while non-pertinent issues were ranked low.

For each criteria, classification of issues was done by scoring between 1 and 3 for critical, moderate and less important issues, respectively, and summing up scores. The lowest total scores (those with a total of 5 and 6) were ranked as priority issues for each thematic area, and hence selected for further analysis.

A problem tree analysis was then used to identify the cause-effect relationship among the identified capacity constraints. This was followed by identification of capacity constraints, their levels of occurrence (individual, institutional or systemic), and proposed opportunities and interventions to address these constraints. Finally, lead institutions and bottlenecks to implementation of these interventions were also identified (Annex 2). At the end of the assignment, each consultant produced a draft thematic assessment report on implementation of the MEAs in Uganda. The drafts were discussed at an umbrella stakeholders workshop that was attended by national and district level actors. The participants gave their input through thematic group discussions, which was incorporated into the report. The consultants finalized the capacity needs identification process and submitted their reports to the coordinator.

2.3 Identification of synergies among the MEAs

One of the four consultants who participated in the thematic assessments carried out the study to establish existing synergies among the priority capacity issues identified under the NCSA project. Again, the consultant was supervised by a team of 28 experts drawn from the four thematic task forces (Annex 10c). A critical analysis of the thematic assessment reports was conducted and basing on the outcomes of the analysis, the consultant identified inter-phasing (Annex 3) as well as stand alone issues, constraints and interventions for MEAs implementation. He also established the opportunities for

integration of the synergistic capacity building interventions into the existing policies and plans (Annex 4). The consultant presented his findings to the taskforce at a retreat held at Mukono. As done in earlier retreats, the taskforce re-prioritized the synergistic capacity building issues, constraints and interventions basing on the earlier agreed criteria. At the end of this retreat, the stakeholders validated the synergistic capacity building issues and interventions.

2.4 The NCSA action planning process

After identification of the priority synergistic and convention specific capacity building interventions, the consultant prepared an action plan to implement these interventions (Annexes 5(a&b)). The task force engaged during the synergies process was again utilized to guide the consultant to ensure proper articulation of the action plan. Another retreat was organized during which the task force, working in groups, evaluated the activities and corresponding outputs suggested by the consultant. Furthermore, the task force assisted the consultant to prepare implementation (Annex 6(a&b)) and resource mobilization (Annex 7(a&b)) strategies for the action plan.

The task force, still working in groups, carried out a SWOT analysis on each of the proposed outputs both for the synergistic (Annex 8(a)) and stand-alone (Annex 8(b)) intervention areas and identified elements where the country has comparative advantages and weaknesses in implementation of the identified capacity building interventions.

Finally, as part of the action plan preparation process, the task force formulated project profiles on each capacity building intervention area for synergistic interventions (Annex 9(a)), as well as for the stand-alone issues (Annex 9(b)). The consultant, with support of the task force, went further to establish monitoring and evaluation strategies and also proposed budget estimates and inputs required to implement the identified capacity building interventions.

CHAPTER 3. THEMATIC ASSESSMENTS

The thematic assessments for the four MEAs provided the current situation and identified priority capacity needs for sustainable environmental management in Uganda. These assessments started with preparation of profiles for the four thematic areas. The profiling process, among other things, involved a review of various reports related to biodiversity conservation, land degradation, climate change and integrated water resources management in Uganda, and how they relate to national development frameworks. The thematic assessment objectives were to:

- Establish the current situation of ENR management in Uganda and its management concerns, including its role in national development;
- Identify specific issues that need to be addressed in order to enhance this role in national development and propose potential interventions for these roles;
- Establish the complementary role the MEAs can play in the socio-economic development of Uganda including current activities, capacity levels and gaps; and
- Identify any obstacles to implementation of the MEAs in Uganda and make recommendations on potential solutions to the obstacles.

3.1 Cross-cutting MEAs areas

A number of areas are cross-cutting across the four MEAs. These include the national development frameworks, laws and policies, as well as stakeholders in MEAs implementation. These are presented in subsequent sections.

3.1.1 National development frameworks relevant to MEAs

The PEAP is Uganda Government's main national strategic planning and development framework. The 2004 – 2006 PEAP version has five pillars, namely:

Pillar 1 - Strong economic management;

Pillar 2 - Enhancing production, competitiveness and incomes;

Pillar 3 - Strengthening security, conflict resolution and disaster management;

Pillar 4 - Strengthening governance; and

Pillar 5 - Strengthening human development.

The Plan for Modernization of Agriculture (PMA) is a medium-term strategic framework drawing from pillar 2 of the PEAP. The PMA aims at transforming subsistence agriculture to commercial or market oriented farming. It is of particular importance to the MEAs as it stresses sustainable ENR management and conservation, which includes conservation and management of biodiversity, wetlands and forest resources; land tenure reforms; sustainable land management (SLM); climate and weather monitoring; and watershed management. The PMA has seven intervention areas, namely, research and technology development; agricultural advisory services; agricultural education; rural financing; agro-processing and marketing; natural resource management and utilization; and supportive infrastructure. These areas are important to sustainable ENR management,

hence, significantly contribute to the attainment of the objectives of the MEAs. Likewise, the National Agriculture Advisory Services (NAADS) promotes a decentralized, farmer owned and private sector serviced extension system contributing to the realization of the development objectives of the agriculture and NR sectors. Therefore, the NAADS also contributes to MEAs implementation in Uganda.

Furthermore, the National Environment Action Plan (NEAP) promotes environmental information management, *in situ* and *ex situ* conservation of biological diversity, sustainable land use practices, wetlands conservation and management, water quality and pollution, and Environmental Impact Assessments (EIA) of projects and programmes. In doing so, the NEAP contributes to achievement of the objectives of the MEAs. Other relevant plans include, the Rural Electrification Strategy and Action Plan; Wetlands Sector Strategic Plan; Land Sector Strategic Plan; NAROs Medium Term Plan; Meat Master Plan; and District Environment Action Plans.

These frameworks should however integrate more strongly issues of the MEAs. This should be reflected in both the plans and budgeting frameworks to ensure prioritization and sustainable funding for their implementation.

3.1.2 Legal and policy frameworks supporting MEAs implementation

Over the years, Government has put in place a number of legal and policy frameworks for sustainable natural resource management. These laws and policies contribute to the achievement of national sustainable development and poverty alleviation goals, and also provide the basis for MEAs implementation in Uganda. These are: the Constitution of Uganda (1995); the National Environment Act (Cap 153); National Forestry and Tree Planting Act (2003); Local Government Act (1997); Decentralization Policy (1994); Land Act (Cap 227); Agriculture Policy; National Soils Policy (1999); Uganda Food and Nutrition Policy (2003); National Water Act (Cap 152); NAADS Act (2001); and National Energy Policy (2002). Others include National Wetlands Policy (1995); National Policy on Internally Displaced Persons; Disaster Preparedness and Management Policy; National Gender Policy (1997); and National Forestry Policy (2001).

While these laws and policies are in place and address environment issues in general terms, they do not specifically make reference to the MEAs. Implementation of these frameworks is further constrained by the low level of awareness and capacity inadequacies at national, district and community levels. These challenges are compounded by the insufficient financial resources, weak coordination and harmonisation, inadequate physical and communication infrastructure, and restructuring of the relevant institutions. Most of these frameworks should be reviewed to take into account the realities of the day and ensure a more participatory approach to their implementation.

3.1.3 Stakeholders involved in MEAs implementation

The major stakeholders involved in MEAs implementation are summarized in a matrix in Table 2 below.

Table 2. Stakeholder matrix showing strategic institutions relevant to natural resources management in drylands

Institution	Mandate	Roles and interests
Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)	Support, promote and guide the production of crops, livestock and fish, in order to ensure improved quality and increased quantity of agricultural produce and products for local consumption, food security and export	<ul style="list-style-type: none"> • Provide technical assistance to districts on sustainable agricultural management • Formulate and review relevant agricultural policies, standards and guidelines • House the focal point for UNCCD, and report to the Conference of Parties • Collaborate with other sector institutions and programs in implementation of NAP to combat desertification • Control and manage crop and animal epidemics, and diseases affecting production • Promote sustainable utilisation of NRs for agricultural production • Provide technical advice and supervision in agricultural advisory services and entomology • Train and build capacity in agriculture extension, vector and vermin control for local governments • Design and develop national information base on drylands • Monitor private veterinary and agricultural service providers to ensure provision of quality services
National Environment Management Authority (NEMA)	Coordinate, monitor and supervise all matters of environment in the country	<ul style="list-style-type: none"> • Awareness raising on ENR management • Influence policy development to reflect management of fragile ecosystems • Monitor environment management, including EIAs • Coordinate institutions and individuals to ensure harmony in management of NRs
Ministry of Water, Lands and Environment (MWLE) – Directorate of Water Development	To manage and conserve water resources for the present and future generations	<ul style="list-style-type: none"> • Initiate national policies, set standards and priorities for water resources management in the country • Develop national plans for promotion of agricultural production through providing water for livestock, irrigation, aquaculture and rural industry • Make assessment for water for production • Develop surface water reservoirs e.g. dams and valley tanks for livestock production in the cattle corridor • Rehabilitation of existing dilapidated dams • Develop and disseminate small-scale irrigation technologies • Promote small-scale aquaculture in ponds and existing reservoirs • Provide technical assistance to local governments and other stakeholders in design, construction and management of water for production infrastructure • Promote sustainable management of water sheds
MWLE – National Forestry Authority	Manage and coordinate sustainable management and utilization of all	<ul style="list-style-type: none"> • Coordinate sustainable management and utilization of all forestry resources • Ensure compliancy with the national development strategy on poverty eradication

	forestry resources	<ul style="list-style-type: none"> • Advise on afforestation and reforestation • Provide policy guidelines for collaborative management • Provide guidelines for sustainable energy use and production from biomass
MWLE (Department of Meteorology)	Monitor and predict climate over Uganda and produce information to support socio-economic development	<ul style="list-style-type: none"> • Collect and disseminate climate information to support NR management, economic activities (e.g. construction) and social services • Provide early warning signals related to climate variability
Ministry of Finance, Planning and Economic Development	Formulate macro-economic policies and mobilize and allocate financial resources for management of natural resources	<ul style="list-style-type: none"> • Formulate relevant macro-economic policies • Allocate funds, general mobilisation of funding and coordination of donor inputs into management of NRs • Provide economic and financial incentives and disincentives for MEAs implementation
Ministry of Energy and Mineral Development	Establish, promote the development, strategically manage and safeguard the rational and sustainable exploitation and utilization of energy and mineral resources for social and economic development	<ul style="list-style-type: none"> • Formulate appropriate energy policies • Ensure effective development, exploitation and management of energy and mineral resources • Promote rural electrification • Explore alternative and renewable sources of energy • Develop and disseminate energy conservation technologies
Ministry of Trade, Tourism and Industry	Promote trade, industry and tourism, wildlife and cultural resources	<ul style="list-style-type: none"> • Formulate appropriate trade, tourism and industry policies • Gazetting conservation areas for wildlife and cultural resources • Provide data on new and potential markets for NR related products • Procure small scale technologies relevant to NR management
Ministry of Local Government	Guide, harmonize, mentor and advocate for all Local Governments	<ul style="list-style-type: none"> • Build capacity of Local Governments (human and physical) for efficient service delivery, including NR management • Adhere to other national policies on ENR management • Promote decentralized management of NRs
Ministry of Works, Housing and Communication	Plan, develop and maintain adequate and effective infrastructure, to facilitate of safe and efficient transport services by road, water, rail and air; Promote an efficient communications system throughout the country; Promote and foster sustainable human settlements; and Manage works on Government buildings	<ul style="list-style-type: none"> • Open-up rural roads to ease trade and movement of inputs and commodities • Promote information and communication technology to enhance NRs information and data collection and dissemination • Macro planning, coordination, monitoring and setting standards • Liaison with donors and MFPED to monitor donor and Poverty Action Fund programmes in the sub-sector • Support the district and urban councils in procurement and maintenance of their plants and equipment • Organizing training and capacity building programmes
Ministry of Education and	Provide for, support, guide, coordinate,	<ul style="list-style-type: none"> • Formulate national policies on education and sports

Sports	regulate and promote quality education and sports to all persons in Uganda for national integration, individual and national development	<ul style="list-style-type: none"> • Planning for the sector's development • Develop human resources to address MEAs issues • Promote agriculture education • Promote adult literacy, formal and informal education • Give technical guidance, coordination and mentoring • Monitoring and evaluation • Inspection and regulation
Ministry of Gender and Social Development	Coordinate, monitor and review the formulation of gender responsive policies and their implementation within sectors	<ul style="list-style-type: none"> • Gender policy formulation • Sensitization on gender issues at all levels • Ensuring that gender issues are reflected in NR management policies • Coordinating gender integration in socio-economic development • Technical guidance on mainstreaming gender in development • Mobilizing communities in resource management
Uganda National Council for Science and Technology	Develop and implement strategies for integration of science and technology in national development and advise government on formulation of policies that enhance and foster integration of science and technology in the national economic development	<ul style="list-style-type: none"> • Formulate policies for use of science and technology in national development • Develop guidelines for integrating science and technology into sectoral development policies • Support research on new technologies • Provide information on technology development and promotion
National agriculture Research Organisation (NARO)	Undertake, promote and coordinate research and technology transfer in all aspects of crop, livestock, fisheries and forestry.	<ul style="list-style-type: none"> • Develop agricultural, livestock, and fodder technologies • Disseminate the above technologies to agricultural and pastoral communities • Develop and disseminate appropriate post-harvest technologies
Uganda Wildlife Authority	Manage wildlife and wildlife protected areas of Uganda	<ul style="list-style-type: none"> • Formulate relevant policy guidelines for community participation in tourism • Ensuring ecosystem health of wildlife protected areas • Prepare guidelines for sustainable management of wildlife resources • Promote sustainable alternative sources of livelihoods from wildlife resources
Prime Minister's Office (Department of Pacification and Development)	Ensure peace, reconciliation, conflict resolution, rehabilitation and development in Karamoja, northern Uganda and Luwero Triangle	<ul style="list-style-type: none"> • Give early warning on disasters e.g. famine and drought • Formulate policies and plans for disaster preparedness and management • Coordinate sectoral activities with regard to livestock development in Karamoja region
Prime Minister's Office (Department of Disaster Preparedness and Refugees)	To manage the response to refugees by assuring their welfare and protection within the framework of national policy, international laws and	<ul style="list-style-type: none"> • Coordinate implementation of government policies on disaster management • Alleviate suffering and rehabilitate disaster victims • Creating local capacity to plan, implement and monitor disaster management programmes

	standards, while safeguarding the local and national interests	<ul style="list-style-type: none"> • Contribute to poverty eradication by ensuring minimum production of disaster victims • Develop and operate disaster early warning systems • Provides for preparation of local, district and national disaster management plans
Uganda Electricity Distribution Company	To strengthen, enlarge and make efficient power supply in order to enable the provision of adequate and reliable energy to meet national economic and social development needs	<ul style="list-style-type: none"> • Provide appropriate tariff structure to motivate a shift from biomass to electricity as a source of energy • Provide energy funds, as incentives to be accessed by local communities for rural electrification
NGOs	Effective participation in activities addressing land degradation, desertification, environmental conservation and mitigating effects of Drought in Uganda	<ul style="list-style-type: none"> • Community mobilisation • Create awareness on ENR issues in Uganda • Awareness and training of CBOs and local people on MEAs issues • Lobby and advocate for MEAs issues
Academic Institutions	Provide quality teaching, research and offer professional services to meet the changing needs of society	<ul style="list-style-type: none"> • Research on MEAs issues • Training man power • Outreach programmes
National Level	Mandate	Potential role
Environment and Natural Resources Sector Working Group	Ensure sustainable use and management of the environment and natural resources	<ul style="list-style-type: none"> • Review the ENR sector • Prepare and monitor sector plans • Review ENR indicators in PMA and M&E framework
Private Sector	Promote and coordinate private sector involvement in national development	<ul style="list-style-type: none"> • Develop infrastructure relevant to MEAs • Invest in technologies relevant to MEAs • Create alternative employment opportunities
National Agricultural Advisory Services	To develop a demand driven, farmer-led agricultural service delivery system targeting the poor subsistence farmers, with emphasis on women, youth and people with disabilities	<ul style="list-style-type: none"> • Provide support for advisory and information services to farmers • Develop agricultural technologies and link farmers to markets • Ensure quality by regulation and technical auditing of service providers • Strengthen private sector institutions to provide quality extension services • Establish a programme management and monitoring system
PMA Secretariat	Eradicate poverty by transforming subsistence agriculture to commercial agriculture	<ul style="list-style-type: none"> • Promote research and develop technologies on MEAs • Promote privatization of agricultural advisory services • Promote rural financial services • Promote agricultural marketing and processing • Promote agriculture education • Sustainable use and management of NRs

District level	Mandate	Potential role
		<ul style="list-style-type: none"> • Develop infrastructure
Department of Production and Environment	Ensure sustainable management of the environment and natural resources	<ul style="list-style-type: none"> • Prepare the District Environment Action Plan • Coordinate and monitor ENR management in districts • Sensitise local people on environmental management • Implement policies on environment management in the districts
Department of Agriculture	Provision of agriculture advisory services to enhance food security and increase farmers' incomes	<ul style="list-style-type: none"> • Provide agriculture advisory services to farmers and pastoralists • Implement agricultural policies in the districts • Promote sustainable land husbandry technologies
Department of veterinary services	Promote qualitative and quantitative production of livestock and livestock products in an environmentally sustainable manner	<ul style="list-style-type: none"> • Training pastoralists in livestock management • Promoting pasture management and conservation • Address livestock overstocking • Promote livestock improvement
Department of fisheries	Contribute to sustainable alleviation of poverty and food insecurity in the districts	<ul style="list-style-type: none"> • Ensure sustainable utilization of fisheries resources in the districts • Implement policies for sustainable fisheries management • Train fishermen in sustainable fisheries harvesting methods
Department of Water	Promotion and management of water resources in the districts	<ul style="list-style-type: none"> • Implement policies on water development and management in the districts • Implement water resources management plans and strategies at the local level • Contract private sector organizations to develop water resources in the districts • Disseminate small scale irrigation and water harvesting technologies • Ensure sustainable utilization and management of water catchments • Supervise construction of water dams, ponds and reservoirs in the district
District Technical Planning Committee	Plan all development activities in the districts	<ul style="list-style-type: none"> • Formulate the district development plan • Monitor implementation of sectoral policies and plans in the districts
Regional level	Mandate	Potential role
IGAD Secretariat	Facilitate and coordinate implementation of the IGAD Sub-Regional Action Plan to combat desertification	<ul style="list-style-type: none"> • Coordinate implementation of the IGAD SRAP • Support synergistic NAP implementation • Facilitate the identification, formulation and implementation of programmes/ projects addressing issues of trans-boundary ecosystems management • Promote partnership and capacity building for resource mobilisation to support NAP and SRAP implementation processes • Mobilize resources for implementation of the IGAD SRAP
IGAD Climate Prediction and Application Centre	Monitor drought in a timely manner with respect to its intensity, geographical extent, duration and	<ul style="list-style-type: none"> • Develop regional and national controlled climate data banks • Data processing including development of basic climatological statistics • Timely acquisition of near real time climate data

	impact upon agricultural production and to give early warning for the formulation of appropriate strategies to combat its adverse effects	<ul style="list-style-type: none"> • Monitor space-time evolutions of weather and climate extremes over the region • Capacity building in climate monitoring, modeling and prediction services • Delineation of risk zones of extreme climatic events • Assessment of impacts of extreme conditions of various socio-economic activities • Timely dissemination of early warning products • Conduct public awareness and education of users of meteorological products • Organisation of climate outlook for the Greater Horn of Africa countries
The Global Mechanism	To promote actions leading to the mobilisation and channeling of substantial financial resources, including for the transfer of technology, on a grant basis, and/or on concessional or other terms, to affected developing country parties	<ul style="list-style-type: none"> • Promoting partnership building among stakeholders • Marketing and creating awareness of the UNCCD to stakeholders • Mobilizing and channeling catalytic financial resources to prepare NAPs and accrued projects and programmes • Brokerage for UNCCD implementation • Analyzing and advising on funding for UNCCD implementation upon request • Collecting and disseminating information and technologies relevant to UNCCD implementation
International NGO Network on Desertification (RIOD)	To promote action to combat desertification and to give NGOs and CBOs an effective role in the preparation, implementation and review of NAPs	<ul style="list-style-type: none"> • Raise awareness on desertification in the North and South • Lobby for NGO participation in CCD implementation at international level • Promote North – South and South – South cooperation and exchange of experiences in combating desertification among NGOs and CBOs • Contribute to planning, implementation, monitoring and evaluation of elements of the UNCCD referring to participation of NGOs and CBOs • Facilitate global information sharing among NGOs in their efforts to combat desertification

3.2 Convention specific areas

3.2.1 The Convention on Biological Diversity

Background

Uganda signed and ratified the CBD on 12th June 1992 and 8th September 1993, respectively. The objective of the CBD is to promote the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of biological resources.

Uganda's obligations to implement the CBD

As a Party to the CBD, Uganda is obliged to implement the various Articles of the Convention, COP Decision as well as CBD Work Programs and Guidelines. In this regard, Uganda has put in place a number of measures, which include the following:

- A National Environment Action Plan (NEAP), which provides a framework for review of existing institutional arrangements for conservation of Uganda's biological resources;
- Put in place institutions for monitoring biodiversity conservation, including NEMA, which coordinates and monitors implementation of the CBD; Uganda Wildlife Authority, which is responsible for management and conservation of wildlife resources and the National Agriculture research Organization (NARO), among others;
- A number of protected areas have been gazetted for purposes of conserving biodiversity, and these include forest reserves, national parks and wildlife reserves, among others;
- Policies and laws have been put in place for the conservation of biodiversity, which include the National Environment Management policy, The national Environment act, the Wildlife Act, the National forestry and Tree Planting Act, etc.
- Preparation of the NBSAP;
- Regulations on access to genetic resources and benefit sharing have been prepared and under implementation;
- Signed and ratified the Cartagena Protocol;
- Preparation and submission of National Biodiversity Reports to the CBD Secretariat (First and Second reports submitted in March 1998 and April 2001, respectively); and
- A policy on Biosafety and Biotechnology is under preparation.

Levels of biodiversity

These occur at ecosystems, species and genetic levels. Biodiversity at the ecosystems level includes forests, woodlands/ savannah, wetlands, open water resources and soil biodiversity. At the species level, biodiversity is mainly found in protected areas, outside

protected areas and in agricultural systems. There is little information on soil and genetic biodiversity in Uganda. However, a number of breeding experiments are on-going at research institutes and Makerere University Institute of Environment and Natural Resources (MUIENR) to establish genetic diversity in Uganda. Furthermore, the on-going GEF supported project on below ground biodiversity at Makerere University is expected to contribute to establishment of the status of biodiversity in agricultural and forestry systems in Uganda.

Threats to biodiversity conservation also occur at ecosystem, species and genetic levels. At the ecosystem level, threats include deforestation; population growth and migration; uncontrolled bush burning; insecure land/resource tenure; unsustainable use of wetlands, including encroachment and conversion; and conversion of fragile ecosystems. At the species level, threats include unsustainable consumptive uses, encroachment, changing agriculture practices, and introduction of alien species. Genetically, the major threat is the introduction of Genetically Modified Organisms (GMOs).

Examples of projects relevant to CBD implementation

A number of projects have been implemented whose lessons could be use to support capacity building for CBD implementation in Uganda. Some of these projects are:

- The Environment Management Capacity Building Project;
- The East Africa Cross-Border Biodiversity Project, which is aimed at reducing biodiversity loss at cross border sites in East Africa;
- Lake Victoria Environmental Management Project;
- Eco-tourism Development in Bwindi Mgahinga;
- International Gorilla conservation Program in Mgahinga and Bwindi Impenetrable National Parks;
- Protected Area Management and Sustainable Use Project; and
- Global Environment Facility/Small Grants Program (GEF/SGP).

Assessment of district capacities to conserve biodiversity

Districts play a major role in biodiversity conservation. The major strengths are in areas of public education and awareness; *in situ* conservation; developing district state of environment reports and environmental action planning; rehabilitation of degraded areas; and reducing adverse impacts on biological resources.

On the other hand, districts have weaknesses in biodiversity conservation in areas of research and training; inventory and monitoring of biodiversity; participatory impact assessments; allocation of financial resources for biodiversity conservation; biotechnology; intellectual property protection; and indigenous knowledge and facilities for *ex situ* conservation.

Capacity issues for biodiversity conservation

The following were highlighted during the profiling process as the key capacity building issues for biodiversity conservation in Uganda:

- Limited capacity to manage agricultural biodiversity;
- Inadequate public education and awareness of the CBD;
- Limited national funding for biodiversity conservation;
- Weak inter-institutional coordination in biodiversity conservation;
- Inadequate implementation of legislation, policies and guidelines for CBD;
- Inadequate capacity to manage biodiversity in and out side protected areas;
- Inadequate use of community institutions and traditional knowledge and practices for conservation of biological diversity;
- Inadequate research infrastructure for biodiversity conservation and management;
- Limited access and management of information technology;
- Weak regional and multilateral cooperation;
- Inadequate training in data management;
- Inadequate capacity to undertake economic valuation of biodiversity;
- Limited capacity to undertake comprehensive biodiversity inventories;
- Inadequate capacity for adaptation of imported technologies;
- Lack of information on available technologies; and
- Lack of awareness on intellectual property rights.

Priority capacity needs for biodiversity conservation

Identification of capacity needs for biodiversity conservation was conducted in a stepwise manner, involving a task force of key actors in the thematic area. The first step involved ranking of capacity needs, giving scores depending on scale of the problem, level of concern, inability to address the problem, and its relevancy to the PEAP. A root cause analysis was carried out to establish a cause-effect relationship for each of the identified issues. Finally, the level of occurrence, opportunities and interventions measures for each issue were identified. At the end of this process, the following priority capacity needs for enhancing biodiversity conservation in Uganda were identified:

- Agricultural biodiversity conservation and management;
- Public education and awareness of the CBD;
- Funding for biodiversity conservation and management;
- Inter-institutional coordination in biodiversity conservation and management;
- Implementation of legislation, policies and guidelines for CBD;
- Management of biodiversity in and out side protected areas;
- Traditional knowledge and practices for biodiversity conservation;
- Infrastructure for research in biodiversity conservation and management;
- Access to and management of information technology;
- Regional and multilateral cooperation; and
- Adaptation of imported technologies.

3.2.2 The United Nations Convention to Combat Desertification

Background

The Government of Uganda signed the UNCCD in June 1994 and ratified it in September 1997. The objective of the UNCCD is to combat desertification and mitigate the effects of drought in those countries experiencing serious drought and/ or desertification, particularly in Africa, so as to achieve sustainable development.

Uganda's obligations to implement the UNCCD

The Government of Uganda, like other country parties, is required to fulfill a number of obligations, which include, among others to:

- Adopt an integrated approach addressing the biophysical and socio-economic aspects of desertification and drought (Article 4 (2a));
- Integrate strategies for poverty eradication into efforts to address land degradation and drought (Article 4 (2c));
- Give priority and demonstrate relevant commitment to combating desertification through allocating adequate financial resources to implement the NAP to combat desertification in Uganda (Article 5a);
- Integrate the NAP into strategies for sustainable development and cooperation frameworks, such as poverty reduction strategies (Article 5b);
- Give priority to addressing the root causes of desertification with due emphasis on the socio-economic factors contributing to desertification;
- Create an enabling environment for UNCCD implementation through strengthening existing legislation and enacting new laws, policies and plans (Article 5e); and
- Facilitate and strengthen awareness and national capacities among all stakeholders to effectively play their roles in UNCCD implementation (Article 19).

National efforts to implement the UNCCD

Government has undertaken a series of activities to implement the UNCCD in Uganda. A NAP to combat desertification was elaborated in 1998 and the following activities have been implemented in order to operationalize NAP implementation:

- Preparation of a Road-map for resource mobilization for NAP implementation;
- Formulation of an Integrated Drylands Development Programme (IDDP) to operationalise NAP implementation at community level;
- Mainstreaming of dryland issues into national development frameworks – Poverty Eradication Action Plan (PEAP), Sectoral and District Plans; and
- Put in place legal, policy and institutional frameworks to tackle poverty and environmental conservation.

Economic significance of drylands in national development

The cattle corridor accounts for over 90% of the national cattle herd and livestock production contributes 7.5% to the national Gross Domestic Product (GDP) and 17% to the agricultural GDP. Exports of hides and skins generated US\$ 19m in 2001/02, fourth after fish (US\$ 88m), coffee (US\$ 85m), and maize (US\$ 20m). A study conducted in the pastoral districts of Kotido, Sembabule and Nakasongola revealed that district revenues from sale of livestock and their products account for 60, 65, and 50% of total revenues, respectively.

Key issues affecting development of Uganda's drylands

A number of issues affect development of drylands in Uganda. The major ones include: depletion of vegetation cover, declining soil productivity, recurrent droughts, unsustainable agricultural practices and precarious water supply. Other issues include nomadic livelihoods, inappropriate land tenure systems, conflict over natural resources, inadequate information and data, and weak laws and policies. In addition, over-dependency on fuel wood for energy, lack of access to lucrative markets, poor social and economic infrastructure, weak negotiating capacity to articulate UNCCD issues, misconception of desertification, ineffective coordination and partnerships, weak scientific and technological base, and inadequate investment in drylands also affect drylands development.

Assessment of District Capacities to Implement the UNCCD

In the districts, the departments directly relevant to CCD implementation are: environment, agriculture, forestry, veterinary, fisheries and water. Conclusions drawn from the assessment of district capacities to implement the UNCCD are:

- The human resource capacity in the relevant departments is generally weak in terms of numbers and level of training;
- There is clearly lack of personnel with soils management background; and
- There is need for retooling of the existing personnel in the various disciplines to reorient them towards CCD objectives.

Examples of projects relevant to management of drylands in Uganda

The following projects were identified, whose lessons could be integrated into future capacity building initiatives:

- Uganda Land Management Project;
- Uganda Photovoltaic Pilot Project for Rural Electrification;
- Sustainable Energy Use in Households and Industry;
- Promoting Farmer Innovations to Land Management;
- Nalukonge Local Level Community Initiative to Combat desertification;

- Small-Scale Irrigation Development in Support of the Special Programme on Food Security;
- Mt Elgon Bee Farming Project; and
- Enhancing information dissemination at local level through Radio and Internet.

Capacity issues for combating desertification

The following were highlighted during the situation analysis as the key capacity building issues for UNCCD implementation in Uganda:

- Weak institutional capacity to implement the UNCCD;
- Inadequate policy, legal and enabling frameworks;
- Unsustainable management of land resources;
- Unsustainable management of water resources;
- Poor infrastructure;
- Limited public education and awareness of UNCCD issues;
- Unsustainable management of energy resources;
- Limited integrated research in dryland issues;
- Inadequate monitoring of land degradation;
- Lack of drought and other disaster management plans;
- Lack of integrated plans for management of rangelands;
- Limited private sector investment in drylands;
- Insufficient opportunities for alternative livelihood systems;
- Limited markets for dryland products; and
- Inadequate information and data collection, analysis and dissemination.

Priority capacity needs to combat desertification

Capacity needs identification process involved ranking of the identified capacity needs by a task force of experts in land management – basing on the scale of the problem, level of concern, inability to address the problem and relevancy to the PEAP. As in the case of the previous thematic assessment, a problem-tree analysis was used to establish the cause-effect relationship for the identified issues. Lastly, the level of occurrence, available opportunities and potential interventions were proposed for each issue. The following emerged as priority capacity issues for UNCCD implementation in Uganda:

- Institutional development for implementation of the UNCCD;
- Implementation of laws and policies;
- Sustainable management of land resources;
- Sustainable management of water resources;
- Relevant infrastructure;
- Public education and awareness of UNCCD issues; and
- Sustainable management of energy resources.

3.2.3 The United Nations Framework Convention on Climate Change

Background

Uganda signed the UNFCCC on 13th June 1992 and ratified it on 8th September 1993. The UNFCCC came into force on 21st March 1994. The objective of the UNFCCC is to achieve, in accordance with the relevant provisions of the Convention, stabilization of Greenhouse Gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.

A number of manifestations of climate change have been observed in many instances. Some of the documented locally occurring cases of climate change include the following:

- (i) Retreating glaciers including the melting of the ice caps on the Rwenzori Mountains and Mount Kilimanjaro;
- (ii) Twice as many droughts in the thirty-year period of 1970-2000 as there were in the fifty-year period of 1920-1970;
- (iii) Expansion of malaria belts to colder regions - in Uganda for instance malaria is now being experienced in Kabale and other highland areas; and
- (iv) Increased intensities and frequency of heavy rains, floods and landslides in the highland areas.

Uganda's obligations to implement the UNFCCC

As a signatory to the UNFCCC, Uganda has a number of mandatory obligations to implement the climate change framework convention, which include to:

- a) Develop a national inventory of sources and sinks of anthropogenic emissions of GHGs (Article 12);
- b) Formulate national/regional programmes to mitigate anthropogenic emissions of GHGs (Article 4);
- c) Promote and cooperate in the development, application and diffusion of technologies that limit anthropogenic emissions of GHGs (Article 4);
- d) Promote sustainable management, conservation and enhancement of sinks and reservoirs of GHGs (Article 4);
- e) Cooperate in preparing for adaptation to adverse effects of climate change (4);
- f) Promote and cooperate in exchange of relevant information related to climate change and public awareness (Articles 6 and 7.2(b)); and
- g) Take climate change into account in national development planning (Article 4(b)).

National efforts to implement the UNFCCC

Uganda has so far carried out a number of activities in support of UNFCCC implementation. These include:

- Signing and ratification of both the UNFCCC and the Kyoto Protocol;

- Designating of the Department of Meteorology as the UNFCCC Focal Point;
- Compiling a national Inventory of sources and sinks of Greenhouse Gases;
- Carrying out Vulnerability, Adaptation and Mitigation assessments;
- Carrying out Capacity Building activities on the UNFCCC in general and Clean Development Mechanism in particular;
- Compilation and submission to the COP the First National Communication; and
- Carrying out several public awareness activities.

Key issues affecting implementation of the UNFCCC and the Kyoto Protocol

Several issues affecting implementation of the UNFCCC and Kyoto Protocol in Uganda have been identified. These include, among others:

- Inadequate capacity in terms of human resources;
- Inadequate and obsolete climate infrastructure;
- Limited awareness on climate change issues;
- Lack of knowledge of information on indigenous knowledge and technologies;
- Lack of capacity to adapt to new and appropriate technologies for mitigate climate change;
- Strengthening climate and climate change monitoring;
- Development of a long-term adaptation action plan;
- Application of participatory and consultative approaches; and
- Establishing institutional, legal and regulatory frameworks.

Opportunities for mitigating and adapting to climate change

The economic sectors relevant to climate change mitigation and adaptation include:

- **Transport sector** – The UNFCCC emphasizes shifting from mini-buses to larger capacity (mass transit) buses within the major cities; switching from road transport to rail transport (using trams in cities); and improving traffic flow in major cities through redesigning of roads, including junctions and introducing traffic lights and one-way streets.
- **Energy sector** – Under this sector, the climate change framework convention stresses (a) promotion of solar energy use to reduce on the consumption of wood-fuel and diesel by generators; (b) introduction of small hydro-power generators in areas where electricity is currently produced by diesel generators; and (c) promotion of energy efficiency projects like ethanol blending, sustainable energy use in households and industries and co-generation in industries which produce a lot of bio-mass waste.
- **Agriculture and waste management sector** – For this sector, emphasis is on harvesting methane from landfills for use as a source of household energy; and

reducing methane emissions from animals decreasing the number of animals and using high quality feeds.

- **Forestry sector** – In this sector, the forest conservation and reforestation and afforestation are of major importance in addressing climate change.

Capacity issues for addressing climate change

A number of capacity issues related to climate change were identified during the situation analysis. These include:

- Inadequate capacity in line ministries to implement the UNFCCC;
- Limited structure of the Department of Meteorology;
- Poor climate data base development and management;
- Inadequate capacity adapt to new technologies;
- Inadequate capacity to mitigate and adapt to effects of climate change;
- Limited climate change related research
- Limited public awareness of climate change issues;
- Weak networking and role-playing synchronization;
- Inadequate legal and policy formulation, and mainstreaming;
- Limited funding of climate change programmes;
- Weak infrastructure for climate database development and management;
- Limited capacity of the UNFCCC Focal Point;
- Weak climate change early warning systems;
- Weak inter-institutional collaboration among climate change actors;
- Lack of inventories of GHG emissions;
- Lack of comprehensive climate change mitigation and adaptation plans.

Priority capacity needs to address climate change

As for the two previous thematic assessments, identification of capacity needs for addressing climate change issues was carried out using a problem tree analysis. Ranking of issues was again done basing on the scale of the problem, level of concern, inability to address the problem and its relevancy to the PEAP. The root cause analysis established the cause-effect relationship for each issue. The task force for the UNFCCC finally identified the level of occurrence, opportunities for mainstreaming, as well as proposed interventions for implementation of climate change issues. The following priority capacity issues were identified:

- Personnel and facilities in line ministries to implement the UNFCCC;
- Full establishment of the Department of Meteorology;
- Infrastructure for data base development and management;
- Adaptation to new technologies;
- Mitigation and adaptation to effects of climate change;
- Research personnel and facilities

- Public awareness and education of climate change issues;
- Implementation of laws and policies; and
- Funding of climate change programmes.

3.2.4 Agreements on integrated management of water resources in Uganda

Background

The majority of water resources (surface and groundwater) in Uganda are of international importance because virtually the entire catchment of the country lies within the Nile River Basin. The concept of International Waters, therefore, places Uganda in a multinational partnership of riparian states upstream and downstream of her portion of the shared water resources of the Nile Basin. Uganda's upstream riparian parties are Burundi, Rwanda, Democratic Republic of Congo, Tanzania and Kenya and downstream lie Sudan, Egypt, Ethiopia and Eritrea. Successful integrated water resources management in Uganda, therefore, includes major international aspects.

Key issues affecting integrated water resources management and development

Technical constraints to integrated management and development of international waters in Uganda are evaluated with respect to the status of assessment and monitoring of rainfall, groundwater and surface water resources. The key issues are:

- Inadequate capacity to monitor rainfall;
- Inadequate capacity to monitor ground water;
- Surface water quantity;
- Surface water quality;
- Provision and management of water for production ;
- Management of ecosystem water reserves;
- Degradation of catchments forests;
- Soil erosion and sedimentation;
- Nutrient enrichment and eutrophication;
- Management of municipal sewage and industrial pollution;
- Sustainable utilization of wetland resources; and
- Proliferation of invasive species.

Economic significance of water resources in national socio-economic development

Water resources play vital role in the livelihoods of all people through providing the following: (a) domestic water supply; (b) water for rainfed agriculture, irrigation and aquaculture; (c) water for livestock production; (d) water for sewage treatment and disposal; (e) water transport; (f) water for industry; (g) hydropower generation; and (h) water for ecosystems maintenance.

International and regional treaties relevant to integrated management of water resources in Uganda

The major international and regional agreements on integrated water resources management in Uganda include: The Nile Waters Agreement between Egypt and the United Kingdom (1929); The Agreement for the Full Utilization of the Nile between Egypt and Sudan (1959); The Helsinki Rules (1966); The UN Convention on the Law of the Non-Navigational uses of International Watercourses (1997); The Kagera Basin Agreement (1977) (repealed 2004); The Convention for establishment of the Lake Victoria Fisheries Organization (1994); The Treaty for establishment of the East African Community (1999); and The Protocol for sustainable development of Lake Victoria Basin (2003) (yet to be ratified by all the parties).

These are also a number of project agreements, which were signed between participating countries to achieve specific project outputs. Such agreements include the Hydromet Agreement (1967); the TECCONILE Agreement (1992); the Tripartite agreement on the preparation of an Environmental Management Program for Lake Victoria; and the agreement for the establishment of the Nile Basin Initiative (1999). These agreements contributed to international confidence building and collaboration mainly among the research community. Secondly, the Hydromet Project (1967 – 1992) contributed a lot of data regarding the hydrology and meteorology of the Nile Equatorial lakes (Victoria, Kyoga and Albert).

Examples of projects relevant to integrated management of water resources

Several projects were identified as relevant to integrated water resources management in Uganda. Examples of these include the following:

- Lake Victoria Environment Management Project
- Lake Victoria Fisheries Organization Project
- Nile Basin Initiative

Assessment of district capacities for integrated water resources management

An assessment of district capacities to implement integrated water resources management programs revealed limited capacity among the local institutions to carry out this role. This was largely due to:

- Lack of a defined mandate on water resources management at districts;
- Lack of official cross-border options (e.g. effective channels of communication) to promote integrated water resources management in Uganda;
- High levels of degradation of central forestry reserves, forests on private land, wetland resources, fishery resources and biodiversity;
- Meager resource allocation to NR management issues (e.g. soil and water conservation, wetlands and forest management);

- Insufficient staff (one environmental officer per district) to address the available needs for environmental awareness and education;
- Inadequate attention to wetland resources (no official establishment at districts, insufficient training arrangements, linkage with WID often indirect via NEMA);
- Inadequate training and awareness for technical staff on NR management; and
- Insufficient partnership with CSOs on water resources management.

It was concluded that there is urgent need for capacity building efforts to address these limitations so as to boost the ability of these community level institutions to participate in water resources management. This is of significance in that on-ground activities are implemented at the community level, hence, a need to strengthen management structures at this level.

Capacity issues for management of international waters

The following capacity issues for international waters management were highlighted during the situation analysis:

- Lack of harmonized legal instruments;
- Inadequate regional institutional arrangements;
- Inadequate national policy guidelines and institutional arrangements on IWs;
- Inadequate harmonization of stakeholder interests in management of IWs;
- Insufficient capacity to forecast and assess rainfall;
- Insufficient capacity to assess, monitor and develop groundwater;
- Insufficient capacity to assess and monitor surface water;
- Inadequate provision and management of water for production (irrigation; livestock; industry; fish farming);
- Water quality degradation;
- Inadequate management of ecosystem water reserves;
- Inadequate devolution of water resources management to district level;
- Inadequately human resource development;
- Inadequate information sharing and exchange;
- Weak databases on water resources;
- Lack of basin-wide institutional arrangements;
- Lack of compliance with international laws; and
- Lack of partnerships in the management of water resources.

Priority capacity building needs

Identification of capacity needs for integrated water resources management was done in a similar manner to the previous thematic assessment profiles. At the end of the prioritization exercise, the following emerged as the priority capacity needs:

- Harmonization of national laws, policies and institutional arrangements on IWs;
- Regional level policy and institutional arrangements;

- Harmonization of stakeholder interests in management of IWs.
- Personnel and facilities for forecasting, monitoring and assessment of rainfall, ground and surface waters;
- Water for production (irrigation, livestock, industry, and fish farming);
- Water quality degradation;
- Sustainable management of ecosystem water reserves;
- Devolution of water resources management to district and lower levels;
- Human resource development; and
- Information and data generation, sharing and exchange.

CHAPTER 4: SYNERGISTIC CONSTRAINTS AND OPPORTUNITIES FOR CAPACITY BUILDING

This chapter presents the constraints and opportunities for implementation of synergistic capacity building efforts to implement the MEAs. As alluded to in the thematic assessment reports, the following capacity constraints were arrived at through a stepwise analysis, which involved prioritizing and establishing a cause-effect relationship among the issues using a problem tree analysis.

4.1 Synergistic capacity constraints

The following were identified as the key capacity constraints to synergistic implementation of the MEAs:

4.1.1 Weak inter-institutional coordination

Coordination and collaboration among institutions involved in MEAs implementation is generally weak. Ineffective inter-institutional coordination mechanisms, hosting of various ENR sub-sectors in different ministries, unharmonized institutional interests and the weak vertical and horizontal information flow between them and local governments are some of the causes of weak inter-institutional collaboration in implementation of MEAs. Furthermore, inadequate functional environmental structures, weak traditional institutions and lack of environmental management plans at the local level, hinder rational planning in natural resource management.

4.1.2 Weak policy and legal frameworks for addressing MEAs

The lack of enabling laws to strengthen national commitment and harmonization in implementation of MEAs and their integration into national laws and policies is a key constraint in this respect. In addition, weak inter-institutional collaboration in formulation of policies and laws as well as their implementation leads to divergence in approaches, duplication, and intensification of conflict of interests in natural resource management. For example, the Energy Policy discourages excessive tree cutting for charcoal and firewood, yet electricity tariffs are on the increase. Such inconsistencies lead to ineffective enforcement of the laws. Furthermore, many of the natural resource related laws being applied e.g. Grazing Act (1964), Soil and Water Conservation Act (1964) and Prohibition of Burning Act (1964), are not in harmony with the current social and economic conditions and therefore, cannot be implemented successfully.

Laws and policies on natural resource management do not adequately address issues of MEAs, largely because most of the existing laws were in place before these instruments came into existence. No deliberate effort has hitherto been taken to either review existing laws and policies to integrate or enact specific laws addressing MEA issues. It is only in a few instances where guidelines and best practices for implementation of MEAs have been prepared e.g. for biodiversity and SLM.

Failure to translate many of the existing laws and policies into by-laws and ordinances by local governments due to limited technical capacity makes monitoring, implementation and enforcement of these instruments difficult at the local level. To a great extent, local governments have given priority to implementation of natural resource related laws and policies whose enforcement results into increased tax base e.g. marketing of livestock and crops. On the other hand, laws on soil and water conservation, fire management and grazing are not emphasized.

4.1.3 Low awareness of MEAs issues

The complexity of available information materials and the few media practitioners involved in ENR contribute to low public awareness of the MEAs. Awareness materials on MEAs are scarce at national level and almost absent at local level. Equally, awareness programs on MEAs are inadequate. This is further complicated by the lack of a communication strategy for MEAs resulting into erratic awareness programs that are usually ineffective. Furthermore, inadequate integration of MEA and other ENR issues into formal education programs and curricular limits public appreciation of MEAs issues. Public awareness programs that are not followed by concrete actions or demonstrations attract less interest from the public and decision makers.

4.1.4 Lack of data and information

Modern data storage facilities and human resources to develop and maintain data bases on MEAs are generally lacking in the key institutions dealing with natural resource management. In addition, natural resource monitoring stations e.g. weather, water and soil degradation are inadequate and ill equipped. Weak ENR monitoring mechanisms and absence of clear monitoring indicators limit the use of available databases for decision-making functions. There is a general lack of skills for proper packaging of information on MEAs to ease understanding and interpretation by policy and decision makers. Information and data exchange between key sectors responsible for MEAs and their Focal Points is still weak owing to lack of strong information networks, differences in database formats and a weak policy on data access and exchange. The low coverage and slow spread of ICT especially in local governments is a constraint to information flow at that level.

4.1.5 Unsustainable land management practices

Poor returns to agricultural production associated with global trade disparities leads to under-valuation of land and inability to invest in SLM practices. The dominant use of primitive and labor-intensive production tools for cultivating the land does not provide the incentive for soil and water conservation at farm level. The high interest rates of lending institutions also discourage borrowing and therefore investment in land improvement systems. In addition, inappropriate land tenure, especially under the *communal* and *mailo* land systems in northern and central Uganda respectively, undermine investment in SLM. Policies and legislation for land management are generally weak and many of them outdated, making their implementation difficult. This

is further complicated by the lack of strong institutional mechanisms at local government level to put in place and enforce by-laws and ordinances on SLM.

4.1.6 Inadequate technical capacity to implement the MEAs

The most critical constraint affecting implementation of MEAs is the limited managerial and technical capacity of the human resources in the relevant areas of MEAs. The staffing and facilities of existing training institutions are limited and cannot adequately provide the diverse skills required, given the broad nature of environmental issues. Budget constraints experienced by government departments and institutions responsible for environmental management affect their ability to train available manpower. Stringent control of national expenditure continues to restrict recruitment of new manpower in all government sectors, and has more often resulted into further reduction of the available trained manpower.

4.1.7 Poor infrastructure

Overall, infrastructure to support implementation of MEAs is very poor, yet it is vital in ensuring sustainable use of natural resources. In particular, infrastructure for marketing, social services, administration, research, communication, and data and information collection is generally lacking, particularly in the rural areas where environmental degradation is most evident and poverty is intensifying. The low human population in some fragile areas, such as rangelands, coupled with the population-based development policy linking population numbers to investment in infrastructure has alienated these areas in terms of infrastructure development.

4.1.8 Inadequate funding

Although the past decade saw environmental issues rise on the global agenda, financial resources for implementation of programs and projects were limited as development partners did not live to their expectation and commitment made to finance them, particularly in the developing countries. In Uganda, environmental issues have not been given high priority in terms of financial allocation, understandably due to other more pressing and urgent concerns, such as health and education, which have to be addressed with the limited resource basket. Accessing available resources at the global level has equally been affected by the inability of relevant sectors to prepare timely and acceptable proposals using guidelines provided by funding agencies. Secondly, stringent budget controls especially under the Medium Term Expenditure Framework (MTEF) have restricted the level of resource inflow in order to achieve macro economic stability.

4.1.9 Inadequate monitoring and evaluation mechanisms

Monitoring of environmental management is weak and unable to provide timely information for actors to make appropriate decisions. The lack of baseline data and measurable indicators on key parameters relevant to implementation of MEAs make

M&E less valuable to decision makers. Furthermore, poor integration of M&E in environmental programs has affected performance.

4.1.10 Limited research

Low priority given to environmental issues in the national research policy and strategic plans, and inadequate infrastructure and facilities for research in specific MEA issues, such as climate change, GMOs and Persistent Organic Pollutants, affect the capacity of relevant institutions to conduct related research. In addition, manpower for research has also been affected by the government policy of scaling down expenditure to maintain macroeconomic stability. Furthermore, the poor research-extension linkage, as well as weak mechanisms for technology dissemination has led to limited application of research findings.

4.2 Opportunities for synergistic capacity building for implementation of MEAs

4.2.1 Existing supportive institutions

Existence of NEMA as the principal government agency on environment matters with a role to coordinate, supervise and monitor all matters of environmental management provides a good institutional foundation for synergistic implementation of the MEAs. Having different lead agencies for the MEAs (i.e. Meteorology Department for Climate Change, MAAIF for desertification, NEMA for biodiversity, and DWD for international waters) strengthens the integrated approach and enlists active participation and concrete responsibility of various departments, which is necessary for the synergistic implementation of MEAs.

Furthermore, the existence of District Environment Officers and established environmental committees from district to local level facilitates the development of strong local environmental management institutions and promotes participatory planning and monitoring environmental changes. It also provides entry point for demonstrating synergistic implementation of MEAs at the local level. The recently established National Convention Coordination Group (NCCG), under the GEF project on “Capacity Building for Synergistic Implementation of MEAs”, brings together Focal Points and key actors in environment to prepare and implement joint programs and pilot initiatives at local level in support of synergies. In addition, the GEF Steering Committee established under MoFPED provides a platform for strengthening formulation of synergistic projects addressing environmental issues.

4.2.2 Supportive legal and policy frameworks

The Local Government Act (1998) and the National Environment Act (Cap 153) are fundamental in ensuring decentralized management of natural resources, and are consistent with the participatory principles of most of the MEAs. Uganda’s national development objective (poverty eradication) is closely related with the objectives of the MEAs. As such, mainstreaming of MEAs issues into national development plans is

possible. The periodic review of national development policies and the annual budgeting process provide yet another opportunity for integration of MEAs into these frameworks. Continuous dialogue on MEAs is inclining towards synergistic and integrated approach consistent with government's desire to avoid duplication of efforts and rationalize use of available resources. Although most of the existing natural resource management related laws and policies do not specifically mention MEAs, they outline measures necessary for implementation of MEAs issues and could be reviewed to strengthen implementation of MEAs.

4.2.3 Conducive environment for awareness and education

The existence of the School of Journalism and the growing number of mass media houses, particularly radio and television, should be made use of to promote synergistic implementation of MEAs. The National Curriculum Development Center and the National Council for Higher Institutions can be instrumental in encouraging the integration of MEA issues into curricula and training programs of primary, secondary and tertiary institutions. The UPE program also provides an opportunity to educate the public, particularly the youth on issues of natural resource management, particularly on MEAs.

4.2.4 Existence of structures to support community level initiatives

The NAADS, which is a farmer owned and private sector serviced extension system, supports provision of agricultural advisory services at the community level, including promoting sustainable natural resource management. It should, therefore, be used to pilot community initiatives on MEAs. The existence of a decentralized governance system with local councils up to village level provides structures through which communities can be organized to undertake initiatives to implement MEAs. Furthermore, the existence of a common environmental planning framework at district level (District Environment Action Plan - DEAP) through which synergistic community projects on MEAs could be developed and implemented. Additionally, the NGOs and CBOs working on NR management and microfinance activities are available to support and facilitate synergistic implementation of MEAs at community level.

4.2.5 Available policies, institutions and networks supporting data and information exchange

Government instituted a conducive policy on ICT that waived taxes on equipment and technologies. Besides, there are a number of institutions, such as Uganda Bureau of Statistics (UBOS), NEMA, Lands and Surveys, Biomass Centre and MUIENR, which are engaged in collecting data relevant to MEAs. These provide a starting point to strengthen national reporting, development of country profiles and harmonization of databases. In addition, there exists a number of information networks on NR management themes, such as Environment Information System on the Internet (EISI) and ENR Sector Working Group Network. These and other regional data centres and networks such as the Drought Monitoring Centre, IGAD's Grain Marketing Information System should be taken advantage of to strengthen information exchange and dissemination.

4.2.6 Existing research institutions and networks

The NARO's outreach policy with greater focus on NR management, and the existence of regional ARDCs provide a starting point for promoting MEAs related research and technology development and transfer in close collaboration with resource users. Furthermore, NAADS integration of natural resource management issues is favorable for transfer of technologies relating to MEAs at grassroot level. In addition, the UNCST provides a basis for strengthening integration of MEAs related technologies into national development. Therefore, the roles of these institutions in implementation of MEAs should be enhanced by mainstreaming MEAs issues into their policy and planning frameworks. In addition, existence of national and regional research networks relevant to MEAs, such as the Soil Science Society of East Africa and Uganda Pasture Network, can be used to promote research and technology development to address MEAs related issues.

4.2.7 Potential institutions to provide technical and managerial skills

The number of Universities and other institutions of higher learning has increased in recent years from one national University in 1986 to over 10 currently. In addition, the existence of a National Council for Higher Education and the Curriculum Development Center, and the frequent review of training programs and curricula of both schools and tertiary training institutions could be used as a spring board to integrate the required technical and managerial training programs to support implementation of MEAs.

4.2.8 Potential for mainstreaming and tapping global resources

Periodic review of national and district development frameworks and the annual budgeting process are participatory and allow integration of emerging issues and priorities. This is conducive for mainstreaming and prioritizing MEAs issues in national planning and budgeting processes in order to enhance resource allocation for their implementation. In addition, the decentralized management of development programs adopted by government enables more financial resources to reach targeted areas and populations, thus enhancing effective use of the available resources. At the global level, designation of land degradation and deforestation as a new GEF focal area has increased the possibility for mobilizing additional resources to address synergistic issues of MEAs.

4.3 Opportunities for synergistic capacity building approaches

Several approaches can offer opportunities for synergistic capacity building to enhance implementation of the global environment issues in Uganda. These include:

- Holding annual national planning forum on sustainable development;
- Mainstreaming MEA issues into Sector-Wide Action Plans (SWAPs);
- Mainstreaming MEA issues into District Development Plans (DDPs); and
- Mainstreaming MEA issues into NGOs and civil society plans.

4.3.1 Holding annual national planning forum on sustainable development

One of the approaches for synergistic capacity building is through holding an annual national planning forum to address issues of sustainable development, particularly the global environment concerns pointed out in the various MEAs ratified by Uganda. Such a forum should be multisectoral and involve participation of a broad range of stakeholders, including representatives from relevant sectors and national institutions, local governments, NGOs, CBOs, research and training institutions, the private sector and development partners. NEMA, as the institution mandated to coordinate, supervise and monitor environmental management in Uganda, should spearhead organization of such a forum.

The forum would, among other things, prepare a plan of action that articulates global environmental concerns, and also facilitate sensitization of policy makers, planners and other actors to enhance their involvement in addressing the global environmental issues.

4.3.2 Mainstreaming MEA issues into Sector-Wide Action Plans

The SWAPs identify and analyze issues within sectors and prepares costed implementation plans. Integration of global environment concerns into SWAPs also offers an opportunity to address MEAs issues by the relevant sectors. This would be more attractive if the integration can demonstrate the ecological, economic, social as well as political benefits associated with global environment management. Then the MEAs issues would be reflected in the budget framework paper and have resources allocated for their implementation. Detailed analysis of the opportunities for integrating synergistic capacity interventions into sectoral plans is presented in Annex 2.

4.3.3 Mainstreaming MEA issues into District Development Plans

The DEAP is the main entry point in mainstreaming environmental issues into DDPs. The process of DEAP preparation starts at the parish level, with preparation of the Parish Environment Action Plans. The parish planning process involves a wide range of stakeholders, including local communities, parish environment committee, parish chief, NGOs, CBOs, and traditional and opinion leaders. During the meetings, environmental issues are identified, prioritized, work plans prepared and a M&E system developed.

The output of this process is the Parish Environment Action Plan. Elements of the plan, for which the parish has capacity and resources to implement, are addressed at that level. The other issues are mainstreamed into the sub-county environment action plan, which is prepared through a similar planning process. Likewise, issues that are better addressed at the sub-county level are done so at that level and the rest are passed on to the district level, where the DEAP is prepared through a similar planning process. The priority elements of the DEAP are integrated into the DDP, which feeds into the national budgeting process through sector working groups and local government consultations.

Resources for DEAP's implementation are mobilized from a number of sources. The major ones are:

- Budget allocation from the sub-county and district development plans;
- Developing a separate resource mobilization strategy to implement the DEAP;
- Developing partnerships with NGOs, the private sector and development agencies.

4.3.4 Mainstreaming MEA issues into NGOs and civil society plans

Most NGOs, universities and the private sector have their own work plans, which also provide opportunity for mainstreaming MEAs into their plans. However, this integration requires adequate knowledge and understanding of the global environment issues among these institutions so as to be analyzed and articulated.

CHAPTER 5. NCSA ACTION PLAN AND FOLLOW UP STEPS

The approach used to develop the NCSA Action Plan involved analyzing the proposed capacity intervention areas identified by the four thematic assessment reports (Annex 3). The interventions were divided into synergistic and convention specific capacity intervention areas. These capacity intervention areas were re-prioritized taking into account the existing opportunities, their relevance to PEAP, inability to be addressed, scale and level of concern of the problem they are addressing. Eight synergistic capacity building intervention areas and a number of convention-specific intervention areas were identified as priorities to be implemented in the short, medium and long term horizons (i.e. short term is 1 year, medium term is 2-3 years, and long term is 3-5 years). The following are the 8 synergistic capacity building intervention areas identified:

1. Institutional strengthening;
2. Legal, policy and enabling frameworks;
3. Public awareness and education;
4. Sustainable land management;
5. Data and information collection, dissemination and monitoring;
6. Research and technology development;
7. Technical and managerial capacity; and
8. Resource mobilisation.

5.1 Action Plan for Synergistic Interventions for the NCSA Project

5.1.1 Institutional strengthening

Lack of coherent and effective institutional coordination as well as limited trained manpower, physical infrastructure and facilities are the major capacity constraints limiting institutional performance in addressing cross cutting issues on MEAs. Strong coordination between institutions and adoption of an integrated approach are fundamental in ensuring synergistic implementation of the MEAs. This can be achieved by establishment and strengthening collaboration between institutions through formation of relevant committees and networks, development of guidelines for joint actions and mainstreaming of MEAs into planning processes. In addition, strengthening man power in the relevant fields of institutional development through recruitment and training, as well as improvement of the available physical infrastructure and facilities to facilitate coordination at national and district and lower administrative levels.

The above-mentioned interventions will result into establishment and strengthening of inter-institutional collaboration frameworks as well as strengthened executing institutions for the MEAs. Achieving this will require the active participation of key agencies, which include MWLE, MAAIF, NEMA, MEMD, MoLG, MoFPED, NGOs, private sector and tertiary training institutions. MWLE and NEMA will provide the lead role in implementing the above interventions. The indicative budget to facilitate the above-mentioned activities will require US \$ 850,000 over 5-year period. For a start, these activities are partly being integrated under the four-year project on capacity building for

synergistic implementation of the MEAs supported by Belgium through UNEP, with a total funding of US \$ 338,000.

5.1.2 Legal, policy and enabling frameworks

Inadequate integration of MEAs issues in sectoral policies and plans as well as the weak implementation and enforcement of policies and laws for natural resource management are key constraints to sustainable utilization of these resources. The close linkages between MEAs and the national development objective (poverty eradication) provides a convergence for integration of MEAs into national development policies and plans. Furthermore, the relevancy of most natural resource management laws and policies to all the MEAs calls for a joint action in enhancing the implementation and enforcement of natural resource management laws as well as integration of MEAs into them. Accordingly, the action plan should focus on putting in place guidelines for integration of MEAs issues into national and district development plans and policies.

A review of existing laws and policies to give due emphasis and priority to integration of issues of MEAs and where necessary formulate new policies and laws e.g. on rangelands management, pastoralism, land use, biodiversity, climate, research, employment, energy, disaster preparedness and natural resource. Furthermore, actions to promote increased public awareness of laws and policies on natural resource management should be enhanced. Measures should also be taken to promote participatory implementation and enforcement of laws and policies on natural resources through strengthening the role of local communities in monitoring natural resource management. It is expected that the above interventions will lead to stronger integration of MEAs issues into national and district legal, policy and regulatory frameworks. In addition, this will strengthen human and institutional capacity to implement and enforce laws and policies for natural resource management. This will build on the on-going project “Strengthening Environment Policy and Management Capacity as a means of poverty eradication and sustainable development in Africa”, supported by Norway through UNEP with initial funding of US \$ 200,000.

5.1.3 Public awareness and education

The complexity of information on MEAs, fewer media practitioners involved in ENR areas and inadequate integration of MEA issues into formal education curricular have contributed to the low public awareness of MEAs issues. The growing mass media presents an opportunity to raise public awareness on MEAs. A number of training institutions for journalists exist and could be used to enhance environmental reporting. The UPE program provides an opportunity to educate the public, particularly the youth on issues of natural resource management, including MEAs. The periodic review of teaching curricula for both primary and tertiary institutions provides the opportunity to integrate MEAs issues into educational programs.

In order to strengthen public education and awareness of the MEAs, it necessitates simplification and translation of information and key documents on MEAs into the main

local languages and sensitization workshops for key stakeholders, particularly the policy and decision makers. Capacity to effectively undertake public awareness on MEAs will require training programmes for mass media practitioners/ reporters as well as public education programs. Furthermore, strengthening public education on MEAs will require review of curriculum, production of education/ teaching materials and orientation of teachers towards MEAs issues. Implementation of the above-mentioned interventions will go a long way in creating public education and awareness of the MEAs as well as integrating these issues into educational programs of schools and tertiary institutions.

5.1.4 Sustainable land management

Poor returns from agricultural production and the use of primitive production tools which are labour intensive, as well as inappropriate land tenure, weak policies and enforcement of laws relating to SLM are major capacity constraints in this area. Under the Land Act (1998) and the LSSP, a national land use policy and district land use policies and bylaws are being formulated with a view to improve SLM. In addition, NAADS strengthened focus on natural resource management enables land users to improve their land management practices as part of enterprise development and production enhancement.

Building on the above on-going efforts, guidelines for sustainable land use planning that integrate MEA issues should be developed and made available to land planners in all sectors and users. Capacity to prepare land use plans and monitor land management under different ecosystems, in particular to make use of Information and Communication Technologies (ICTs), such as GIS and Remote Sensing and the use of the landscape approach and other modern land use planning tools should be integrated in all sectors through targeted training programs. An integrated approach to SLM that incorporates MEA issues, particularly weather and climate information, early warning and disaster preparedness, should be developed and adopted by land use planners. This is particularly critical for the agriculture, energy, water, environment and natural resources sectors and local governments. A Block A Project Development Facility (PDF A) proposal on Overcoming Land Degradation through Targeted Capacity Building initiatives with an estimated budget of US \$2.1 million submitted to GEF earmarks some of the above activities.

5.1.5 Data and information collection, dissemination and monitoring

Weak policy on access to data and information exchange, low spread of ICT, inadequate and ill equipped monitoring stations and absence of clear monitoring indicators and improper packaging of information for policy and decision makers are constraints to effective collection, dissemination and monitoring of data and information related to MEAs. The existence of a conducive ICT policy that has waived taxes on equipment and technologies, existence of data collection centres and networks specifically on ENR as well as the supportive regional data centres and networks such as the Drought Monitoring Centre, IGAD's Grain Marketing Information System should be taken advantage of to strengthen information exchange and dissemination.

Steps should be taken to standardize data collection and analysis formats and tools in order to facilitate easy data exchange and use by a wide section of users. This will also require development of protocols and guidelines on data and information exchange between generators and users. There is need to enhance data and information exchange by digitizing available data sets, expanding access to and making cost effective the use of ICT by promoting wireless internet use especially for rural based planners and actors. Efficiency in data collection, analysis and management should be improved through upgrading data collection facilities with a view to make them less labour intensive especially in rural areas where skilled man power is scarce.

In order to achieve the above, training programs in data management and ICT use is required. The capacity to network and facilitate electronic exchange of data among generators and users should be strengthened through frequent networking meetings to determine data and information needs and bridging technology gaps. In addition, capacity to package information on natural resource management should be improved to make it easily understood, interpreted and used by policy and decision makers. Monitoring of ENR will require establishing and strengthening monitoring stations and networks (for example on water, bushfires, land degradation and markets). Existing guidelines for monitoring ENR should be reviewed to integrate more strongly monitoring of MEAs implementation.

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

5.1.6 Research and technology development

Low priority given to environmental issues in the national research policy, absence of essential infrastructure and facilities, inadequate skilled manpower to undertake research, poor research-extension linkage, as well as weak mechanisms for dissemination of technologies are the main constraints affecting research and technology development relating to MEAs in Uganda. The NARO's outreach policy and the network of regional Agricultural Research and Development Centers (ARDCs) provides a starting point for promoting MEAs related research and technology development and transfer in close collaboration with resources users. Furthermore, increased integration of natural resource management issues by NAADS is favorable to the transfer of technologies relating to MEAs at grassroot level. In addition, the UNCST provides a basis for strengthening integration of MEAs related technologies into national development. For example, the roles of these institutions in implementation of MEAs can be enhanced by mainstreaming issues of MEAs into their policy and planning frameworks.

In order to strengthen research related to MEAs and technology development/ transfer, a comprehensive assessment of the capacity needs of the research institutions and centers of excellence should be conducted. These institutions should be equipped with relevant facilities and trained manpower in required competences to enable them conduct resource valuation and impact of environmental degradation studies. It is also essential to promote

exchange of MEAs related research findings and technologies by establishing and strengthening research and technology networks and supporting their activities such as electronic information networks, workshops, conferences as well as journals and publications. Furthermore, actors involved in technology transfer such as NGOs, extension workers and the private sector should be equipped with skills to evaluate and market technologies. The bond between actor in technology dissemination and research and technology development centres should be strengthened by developing an efficient feedback mechanism involving regular fora, information system and incentives that promote feed back between the two. In promoting research related to MEAs and technology transfer, NARO should take the lead working through its ARDCs and in doing so, should closely collaborate with line ministries, NAADS, UNCST, NGOs, the private sector, and centres of excellences such as universities.

5.1.7 Technical and managerial capacity

The most critical constraint affecting implementation of MEAs is the limited managerial and technical capacity of the human resources in the relevant areas of MEAs. The capacity of existing training institutions is limited and not adequately equipped to provide for the diverse skills required, given the broad nature of environmental issues. However, in the recent past, the number of Universities and other centres of excellence has increased from one national University in 1986 to over ten. The increasing integration of environmental issues into training programs of both schools and tertiary training institutions, as well as the increasing global appreciation of the linkage between natural resource degradation and poverty and the limited actions on MEAs provides an opportunity for the integration of MEAs into training programs.

While there are diverse fields and interventions required to build technical and managerial capacity, the action plan will focus on those that are relevant across the four MEAs and facilitate a synergistic approach to implementation of MEAs. These include: review of institutional curricula to integrate MEAs issues; preparation of training materials on MEAs basing on identified needs; training key actors in implementation of MEAs in the following fields: negotiation skills, conflict resolution and management, gender responsive policy and law development and analysis, integrated planning and assessment, monitoring and evaluation, SLM, biotechnology, ICT, ecosystem and data management, and designing incentives and entrepreneurship related to MEAs. In addition, training needs assessment of key actors in implementation of MEAs should be carried out to assess the training needs under each of the MEAs. The MoES, through the National Curriculum Development Centre and the National Council for Higher Education should play a leading role in integrating training needs for implementation of MEAs into programs and curricula of schools and tertiary institutions. The MoES should also work hand in hand with the Ministry of Public Services and other relevant line ministries in supporting relevant skills development in the appropriate institutions and national and local government levels.

5.1.8 Resource mobilisation

The dismal global commitment to fund MEAs issues, the low priority accorded to MEAs issues at national and district levels, and limited capacity of institutions to prepare timely and acceptable proposals are serious constraints to resource mobilization for implementation of MEAs. This is further constrained by the stringent and very low MTEF budget ceilings for the key sectors of ENR and agriculture. On the other hand, a number of opportunities for resource mobilization and mainstreaming of MEAs exist. These include the periodic review of national and district development plans, the annual budgeting process, the decentralized finance flows for development programs, and the expanded GEF portfolio that includes land degradation and deforestation as focal areas.

In order to enhance national capacity for mobilizing resources, action should be taken to train actors in preparation of multidisciplinary proposals, and management and sharing of information on availability and means of accessing both domestic and external resources. Furthermore, specific measures should be taken to promote partnerships with a view to mobilize resources from various actors. Such measures should include training in negotiation skills, development of guidelines for mainstreaming MEAs in both national and district development and budgeting frameworks, organizing partnership fora, increased advocacy for MEA issues and sensitization of the private sector on their role in implementation of MEAs and the possible sources of funds (e.g. carbon funds). It is expected that these measures will enhance the integration of MEAs into national development plans and improve the capacity of key actors in mobilizing resources for programmes on MEAs.

5.2 Action Plan for Convention Specific Interventions for the NCSA Project

5.2.1 Biodiversity

The limited knowledge, lack of facilities, inadequate expertise in species identification, and poor means of monitoring trends in biodiversity resources are the major constraints affecting conservation of biological diversity in Uganda. Presently, the Institute of Environment and Natural Resources and the Department of Botany at Makerere University are providing training in management of biodiversity resources and have a few facilities such as a herbarium.

However, there is need to develop guidelines and regulations for conservation of biodiversity, especially of endangered species and train professionals in identification, assessment and use of new technologies for biodiversity conservation, including a Clearing House Mechanism, in order to increase knowledge of Uganda's biological resources. In addition, existing training institutions should be equipped with herbaria and the national herbarium and natural history museum should as well be upgraded and modernized. Studies should also be conducted on species and habitat recovery, trends of invasive species and their potential adverse effects. Similarly, community based initiatives for *in-situ* conservation should be identified and implemented and capacity for

ex-situ conservation (such as Uganda Wildlife Education Center) should be strengthened. The integration of NGOs and private sector in biodiversity conservation should also be enhanced. These interventions will contribute to strengthened institutional capacity, increase trained manpower, put in place guidelines and regulations and provide knowledge in form of studies for the conservation of biodiversity.

5.2.2 Desertification

The limited knowledge on management of drylands, poor access to dryland communities (especially the mobile pastoral communities), limited livelihood options, conflict over natural resources use and poor value addition to and marketing of dryland products are the key constraints affecting development of drylands. The NAP and IDDP provide a framework for the integrated development of drylands and vulnerable communities, especially pastoralists have been recognized under the main national development framework (the PEAP). Special programs and institutions for development to address dryland issues in the hotspots have been established, such as the Karamoja Development Agency.

In order to increase knowledge and information exchange on drylands management, monitoring of drylands conditions and empowering dryland communities with the necessary tools to mitigate the effects of drought, a centre for drylands research and management should be established. The center would strengthen skills of actors in dryland management, improve understanding of the socio-economic dynamics and traditional knowledge of dryland communities, and enhance development of alternative livelihood options in drylands. In addition, dryland communities, especially mobile pastoralists, should be reached and served more effectively by the administrative, social and economic infrastructure. This calls for the designing and modification of such infrastructure and approaches in order to deliver effective services to mobile pastoral communities, especially in health, education, communication and agricultural extension.

In order to alleviate harsh conditions experiences by dryland communities, initiatives for alternative livelihood options should be supported to reduce over-exploitation of the fragile ecosystems and conflict over natural resources. In addition, value addition and marketing of dryland products should be promoted to increase incomes and job creation. Interventions such as those above will contribute to the sustainable management of drylands and improve the resilience and coping ability of dryland communities.

5.2.3 Climate change

The inadequate human capacity and technology to monitor dynamics of anthropogenic emissions, lack of a regulatory framework, and limited research and development programs on climate change are key factors constraining adaptation to and mitigation of climate change in Uganda. Existence of a national disaster preparedness policy largely focusing on climate-related disasters, the on-going preparation of the NAPA and good will of international community to address climate change provided opportunity to address climate change issues.

Action should be taken to improve monitoring of the dynamics of emissions and develop local emission factors. Studies should also be conducted on extreme weather events, vulnerability and impact assessment of climate change, and results documented and disseminated. Great emphasis should be put on developing adaptation and mitigation programs drawing from the NAPA and a policy and regulatory framework for implementation of such programs should be put in place. To ensure effective implementation of such programs, policy and regulatory frameworks, human resource and facilities in relevant line ministries, particularly the Meteorology Department should be strengthened in terms of technologies and skills to monitor dynamics of emissions in Uganda. Implementation of the above interventions is expected to contribute to the expansion of the knowledge base on climate change and strengthened institutional capacity to formulate and implement programs on monitoring, adaptation and mitigation of climate change.

5.2.4 International waters

Failure to optimally utilize shared water bodies, particularly lakes and rivers, is attributed to the insufficient of information on the dynamics and use of such water bodies. This is compounded by poor skills in negotiating with other regional governments and absence or poor policies and legislation on utilization of shared water resources. However, ongoing initiatives to review such policies and legislations by regional governments and a number of studies on water resources are expected to contribute to the improved utilization of shared water resources in the region.

Actions should be taken to obtain and enhance sharing of information and data on utilization and management of international water resources with other regional governments in order to put in place integrated water resources development programs for the sustainable management of lakes and river basins. This will also require strengthening negotiation skills of relevant line ministries to bargain for favorable regional agreements that promote unhindered utilization of water resources. Furthermore, existing national policies and legislation on water utilization and management should be reviewed and where necessary new ones put in place to improve access to water and its efficient utilization in particular to advance agricultural and industrial production and productivity. These interventions would lead to establishment of less restrictive regional agreements and national policies and development of sustainable strategies and programs on utilization of international waters

CHAPTER 6. MONITORING AND EVALUATION OF THE NCSA ACTION PLAN

Monitoring and Evaluation (M&E) of the NCSA action plan will be done in three stages, namely, project appraisal (ex-ante), on-going (mid-term), and terminal (ex-post); and at three levels, that is, community, district and national level.

6.1 Project appraisal (Ex-ante) Monitoring and Evaluation

This will be done prior to implementation of the NCSA action plan in order to set priorities and put in place an effective and feasible plan based on available resources. This will guide judicious resource allocation. The process will involve defining of baseline capacity issues, setting of targets, stating assumptions, and specifying indicators. The process will involve project teams as well as stakeholders. The process will permit action plan implementers to draw consensus as well as internalize their roles and responsibilities. For the beneficiaries, the process will provide pre-implementation impact scenarios and permit them (beneficiaries) to react as well contribute to better project implementation. Either of the following methods will be used, namely, a Checklist, Scoring models or Cost-benefit analysis.

Ex-ante M&E will be done at community level by local environment committees, followed at the district level by the district environment committees. The national level will not be necessary since all actors participated in the development of the projects and their implementation action planning.

6.2 On-going (mid term) Monitoring and Evaluation

This will be conducted during implementation of the thematic project profiles. It will be done at critical stages of implementation to assess whether a given activity should be continued, modified or aborted. It is an operational tool conducted through peer or stakeholder reviews. This M&E will be carried out at community, district and national levels. At the community level, it will be done by the local environment committees, with participation of the beneficiaries. At the district level, M&E will be carried out by the district environment committee, headed by the district environment officer. This committee will prepare quarterly, and annual reports and submit them to NEMA. At the national level, mid-term M&E will be carried out by NEMA in collaboration with the relevant sectoral institutions. Mid term reports will be prepared and submitted to the donors.

6.3 Terminal (Ex-post) Monitoring and Evaluation

This will be carried out in form of end of project review. It will assess performance, quality and relevancy immediately after completion of implementation of the NCSA action plan. It will involve stakeholder interviews, field visits, observations and review of available reports. The lessons learnt during this exercise would, where applicable, be incorporated in future capacity building activities.

This M&E will be done at the community, district and national levels. At the community level, the local environment committees will conduct M&E with participation of the benefiting communities, and submit quarterly reports to the District environment officer. At the district level, the district environment committee will carry out the M&E, in consultation with the local environment committees, prepare quarterly reports and submit them to NEMA. At national level, NEMA, in collaboration with the relevant sectoral agencies will prepare reports and submit them to donors.

LIST OF ANNEXES

Annex 1. Terms of Reference for the Various Consultancies

Generic ToRs for the consultants to undertake a situational analysis of the status of implementation of the MEAs (CBD, UNCCD, UNFCCC, and International Water Resources) in Uganda

Activities

- Review key national documents on relevant thematic area (CBD, UNCCD, UNFCCC and International waters to confirm key national concerns and their relationship with the broad national sustainable development frameworks such as PEAP, PMA and NAADS;
- Review regional and international documents and identify specific capacity building issues of relevance to Uganda taking into account trans-boundary issues;
- Review relevant legal instruments, policies/or non-regulatory mechanisms including their effectiveness, overlaps gaps or inconsistencies;
- Conduct interviews with relevant stakeholders involved in either desertification/dryland management as appropriate; biodiversity conservation; climate change and integrated water resources management of international waters;
- Undertake consultations with relevant stakeholders involved in desertification/dry land management; biodiversity conservation; climate change and integrated water resources management of international waters at national and district levels as appropriate;
- Undertake a stakeholder analysis and develop a stake holder matrix indicating mandates, interests and possible roles;
- Identify which relevant projects have been implemented including their impacts as well as lessons learned which are relevant to capacity building needs for either desertification/dry land management; biodiversity conservation, climate change and integrated water resources management of international waters;
- Prepare a draft report of the situational analysis;
- Present the draft report to the GEF Sub Committee and other stakeholder interest groups, and incorporate comments from these consultations;
- Facilitate Task Force discussions to prioritize the identified issues in the draft report;
- Incorporate the prioritized issues in the situational analysis draft report;

- Through interactive Task Force discussions and using a “problem tree analysis” or similar approaches, identify capacity constraints on the prioritized issues identified above;
- Identify potential areas of capacity building activities needed for effective implementation of the convention being addressed;
- Identify possible interventions to address the capacity constraints;
- Prepare a draft report detailing the capacity building needs identified through the exercise above;
- Facilitate a national stakeholders’ workshop on the consultancy activities;
- Finalize the draft report on capacity needs assessment.

Outputs

- A draft report of the situational analysis of either CCD; CBD, UNFCCC and Integrated water Resources Management of International Waters in Uganda including a stakeholders matrix; and
- A draft report of the capacity needs assessment for implementing any of the above mentioned conventions in Uganda

Detailed ToRs for the consultancy to establish synergies in capacity building for implementation of the CBD, UNCCD, UNFCCC and International Waters in Uganda

- Review relevant global, regional and national initiatives related to capacity building for synergistic implementation of the conventions
- Review the situational analysis and capacity needs reports and identify cross cutting issues that require capacity building;
- Develop a matrix to indicate the capacity issues, challenges to integrated capacity building; their level of existence, lead institutions and interventions on synergistic capacity building;
- Add any important issues which could have been missed out in the situational analysis and capacity building;
- Identify legal, policy and other sustainable development frameworks that could support or promote the synergistic implementation of the conventions;
- Identify the capacity of relevant national institutions to provide training on cross cutting conventions' issues;
- Identify opportunities for integrating cross cutting issues in the plans of institutions handling the conventions;
- Present the draft report to a group of taskforce members and the GEF Sub committee and incorporate any comments accordingly;
- Present the report with recommendations of synergistic capacity building to a national stakeholders' workshop.

ToRs for the Consultant to prepare an Action Plan and Final Report for the NCSA Project

1. Activities

Review the previous documents i.e. the situational analysis and capacity needs reports for the four thematic areas, and the synergies report;

Synthesize the results of these activities into a single concise document – the NCSA country report;

Based on the identified capacity constraints and opportunities, come up with the conventions' strategic action plan and follow up activities;

Present to a group of Task Force members and the GEF sub-committee a draft report on the NCSA and action plan for Uganda and incorporate any comments accordingly;

Based on the proposed actions, suggest the monitoring and evaluation strategies for these activities;

With guidance of the structure provided, write the NCSA report for Uganda.

2. Outputs

A report of the National Capacity Needs Self Assessment for Uganda, including follow up actions

Annex 2. Constraints, opportunities and interventions for capacity building to implement the CBD, UNCCD, UNFCCC and International Waters in Uganda

(a) Matrix for capacity constraints and priority interventions for CBD implementation

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Lack of technical capacity and expertise to understand, promote and incorporate indigenous knowledge and practices in the management of agricultural biodiversity.	<ul style="list-style-type: none"> Lack of documented indigenous knowledge 	Institutional and systemic	<ul style="list-style-type: none"> Existence of cultural institutions, traditional healers and herbalist associations National Council of Science and technology is developing a national policy and action programmes on Indigenous knowledge Existing and ongoing studies on indigenous knowledge and practices in MISR and MUIENR 	<ul style="list-style-type: none"> Develop and implement a comprehensive research programme Enhance documentation capacities in the various institutions to include indigenous knowledge 	<ul style="list-style-type: none"> Low level of illiteracy Cultural norms and secrecy Inadequate incentives for release and sharing of such information.
	<ul style="list-style-type: none"> Lack of support to harness indigenous knowledge 	Institutional	<ul style="list-style-type: none"> The NBSAP, draft regulation on access to genetic resources and benefit sharing has provisions to support indigenous knowledge preservation and maintenance 	<ul style="list-style-type: none"> Develop and implement a comprehensive formal and non formal awareness programmes on the values of indigenous knowledge Integrate issues of indigenous knowledge within the planning processes at various levels 	<ul style="list-style-type: none"> Poor attitude towards indigenous knowledge
	<ul style="list-style-type: none"> Inadequate training in identification, use and application of indigenous knowledge in biodiversity conservation 	Institutional	<ul style="list-style-type: none"> Emerging programmes to Integrate the ENR conservation training in the primary, secondary and tertiary education curricula Existing training in non formal and formal education programme 	<ul style="list-style-type: none"> Organize regular informal biological diversity conservation seminars and workshops for the local communities Develop and implement a training of trainers programmes on indigenous knowledge and practices 	
	<ul style="list-style-type: none"> Lack of mechanisms for sharing indigenous knowledge 	Institutional and systemic	<ul style="list-style-type: none"> Existing cultural institutions NGO,CBO and CBA fora 	<ul style="list-style-type: none"> Strengthen and promote networking and coordination among cultural institutions, civil society, NGOs etc. 	<ul style="list-style-type: none"> Rigid cultural norms among the institutions

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Inadequate public education, awareness and knowledge on the CBD	<ul style="list-style-type: none"> Inadequate capacity to develop produce and disseminate enough and appropriate biodiversity awareness materials 	Institutional	<ul style="list-style-type: none"> Existing public and civil society organization producing materials and undertaking awareness campaigns on ENR Existing private sector investment in the printing industry across the country. 	<ul style="list-style-type: none"> Train communication education experts to produce appropriate biodiversity education materials Develop and implement a training of trainers programmes to produce education and awareness material on biodiversity Direct support the production of appropriate awareness materials 	<ul style="list-style-type: none"> High level of illiteracy in the public and multiplicity of local languages in the country
	<ul style="list-style-type: none"> Lack of a comprehensive communication and education strategy on biodiversity conservation 	Institutional and systemic	<p>Existence of a formal and non formal environment education strategies The existence of the public awareness strategy Vibrant median and telecommunications facilities Awareness and observance of international environmental days e.g. international biodiversity and world environment day etc</p>	<ul style="list-style-type: none"> Review the existing nation environment education strategies to incorporate biodiversity issues and implement as appropriate 	
Weak national funding base and inability to explore innovative funding mechanisms	<ul style="list-style-type: none"> Lack of capacity among local community institutions and NGOs to mobilize funds 	Institutional	<ul style="list-style-type: none"> Existence of professionals in the local NGOs and their coalition including networks with international NGO 	<ul style="list-style-type: none"> Develop, strengthen and implement training programmes targeted at local community and civil societies institutions in proposal development. Strengthen collaboration between local community institutions and civil society, government and international NGOs 	
	<ul style="list-style-type: none"> Lack of skilled man power to develop project proposals in the various institutions 	Individual and Institutional	<ul style="list-style-type: none"> Existence of trainable professionals in the institutions 	<ul style="list-style-type: none"> Develop, strengthen and implement training programmes on proposal development for the various institutions 	<ul style="list-style-type: none"> Multi-diversed and evolving donor requirements for the project proposal formats

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
	<ul style="list-style-type: none"> Reluctance of the private sector to proactively engage in supporting conservation and environmental management programmes 	Institutional	<ul style="list-style-type: none"> Supportive government policy and legislation on private sector participation in the economic development of the country There are some incentives for investment for private sector participation in ENR. 	<ul style="list-style-type: none"> Undertake economic valuation of natural resources Develop strategies that would encourage private sector participation and investments in ENR 	<ul style="list-style-type: none"> Inadequate expertise in natural resource valuation Slow rate of economic returns from conservation investments
	<ul style="list-style-type: none"> General lack of awareness on the Global funding opportunities and the channels to access them 	Institutional and systemic	<ul style="list-style-type: none"> Existence of the GEF Steering Committee in the Ministry of Finance Planning and Economic Development which is a focal point for the GEF funding mechanism Existence of International NGOs who have strong linkages with development partners and international donors 	<ul style="list-style-type: none"> Organize seminars, workshops and donor conferences on global funding opportunities and channels to access them. 	<ul style="list-style-type: none"> Low priority given to funding for programmes related to international conventions
	<ul style="list-style-type: none"> Lack of fund raising skills and capacity in the country for biodiversity conservation. 	Individual and Institutional	<ul style="list-style-type: none"> Existence of trainable professionals in the institutions 	<ul style="list-style-type: none"> Support training programmes in fund raising skills and international relations 	<ul style="list-style-type: none"> Lack of appreciations of the values of fund raising No values attributed to acquisition of fund raising skills across many institutions in the country
	<ul style="list-style-type: none"> Limited financial resources at national and local levels for the implementation of the CBD. 	Institutional and systemic	<ul style="list-style-type: none"> Existence of Poverty Action Funds and other national funding sources 	<ul style="list-style-type: none"> Promote the mainstreaming of the CBD issues in national and local development planning and financing process through workshops, seminars etc 	<ul style="list-style-type: none"> Inadequate appreciation of biodiversity related issues in the national and district agencies private sector and civil society

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Weak coordination between and among government institutions and other players on biodiversity issues	Inadequate mechanism for coordination among institutions on biodiversity and CBD issues.	Institutional and systemic	<ul style="list-style-type: none"> Existence of the NGO coalition in handling environmental issues Existence of the NEMA as the institution responsible for coordination, supervision and monitoring of environmental issues in the country 	<ul style="list-style-type: none"> Strengthen networking and collaboration mechanisms among institutions Provide incentives for team building and coordination among institutions 	<ul style="list-style-type: none"> Institutional rivalry
	The separation of the various ENR sub sector institutions in different ministries	Institutional and systemic	<ul style="list-style-type: none"> On going sector wide approach planning process in the Ministry of Water Lands and Environment to bring Fisheries, Forestry and Wildlife under one sub sector 	<ul style="list-style-type: none"> Advocacy and lobbying to have those institutions under one ministry. 	<ul style="list-style-type: none"> Institutional rivalry
Inadequate implementation of legislation, policies and guidelines for CBD.	Inadequate capacity to deal with legal and policy protection of indigenous knowledge and practices for Biodiversity conservation	Institutional	<ul style="list-style-type: none"> The existence of the documentation center of indigenous knowledge and practices in the Uganda National Council for Science and Technology. 	<ul style="list-style-type: none"> Undertake training in policy formulations and analysis 	<ul style="list-style-type: none"> Negative attitude towards indigenous knowledge by cross section of institutions.
	Inadequate frameworks for registration of intellectual property rights at all levels including local communities	Institutional and systemic	<ul style="list-style-type: none"> The existence of the intellectual property rights office in the Ministry of Justice Existence of the civil society organizations that promote and protect indigenous knowledge e.g. ACODE 	<ul style="list-style-type: none"> Strengthen national and local frameworks for the registration of intellectual property rights Carry sensitization programmes at all levels on intellectual property rights 	<ul style="list-style-type: none"> General high illiteracy in the communities
	Inadequate capacity to design and implement incentive measures that promote the conservation of biological diversity	Institutional and systemic	<ul style="list-style-type: none"> Existence of trainable professional in the various institutions Lessons learnt from the implementation of the Bwindi Conservation Trust 	<ul style="list-style-type: none"> Support training programmes aimed at design and implementation of incentive measures for the conservation of biological diversity. 	<ul style="list-style-type: none"> The current incentive measures are donor driven and supported

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
	Inadequate clear and explicit guidelines for <i>ex situ</i> conservation of endangered species	Institutional	<ul style="list-style-type: none"> Existence of the guidelines and experiences gathered in the management of wildlife Education Center and botanical gardens 	<ul style="list-style-type: none"> Develop and strengthen guidelines and regulations for the conservation of endangered species 	
Limited technical and managerial expertise in the public and private sector to manage biodiversity in and outside Protected Areas	Inadequate training in taxonomy, biodiversity research methods data manipulations assessments and monitoring techniques	Individual and Institutional	<ul style="list-style-type: none"> Existing training institutions Accessibility to new technology such as GIS application and remote sensing techniques 	<ul style="list-style-type: none"> Undertake professional trainings in identification assessment, and use of new technologies for biodiversity conservation. Undertake training in information systems technologies 	<ul style="list-style-type: none"> Low priorities accorded to biodiversity research and monitoring
	Inadequate capacity to develop and manage species and habitat recovery programmes	Institutional	<ul style="list-style-type: none"> Existence of the regulations on the management of fragile ecosystems Existing programmes for habitat rehabilitations in the wildlife and forestry sector 	<ul style="list-style-type: none"> Under take research in species and habitat recovery Undertake species and habitat recovery implementation at all levels 	<ul style="list-style-type: none"> Inadequate enforcement of exiting regulations
	<ul style="list-style-type: none"> Inadequate number of trained personnel to assess the social economic implications of genetically modified organisms (GMOs) 	Individual and Institutional	<ul style="list-style-type: none"> Existence of biotechnology facilities in agricultural and tertiary training institutions Vibrant NGO community active in GMO related issues 	<ul style="list-style-type: none"> More training programmes in assessment and analysis of the GMO implication on the communities 	<ul style="list-style-type: none"> Uncertainty on the safety of GMOs Inadequate private sector participation in biotechnology research as compared to the public sector

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Inadequate preservation, maintenance and use of traditional knowledge, innovations and practices relevant to the conservation and sustainable use of biological diversity.	Inadequate application of traditional knowledge and practices in the management of biological diversity	Institutional and systemic	<ul style="list-style-type: none"> The existence of the documentation center of indigenous knowledge and practices in the Uganda National Council for Science and Technology. Existence of traditional institutions engaged in research and imparting traditional knowledge to the public Strong government support to the national chemotherapeutic laboratory in the promotion of traditional medicine 	<ul style="list-style-type: none"> Strengthen the link between formal government institutions and traditional practitioners. Promote the traditional knowledge and practices in breeding and selection of land races, crop varieties and livestock. 	<ul style="list-style-type: none"> Poor attitude towards indigenous knowledge Rapid introduction of exotic crops and livestock Rapid commercialisation of food crops
	Inadequate empowerment of indigenous and local communities to participate in <i>in-situ</i> conservation	All levels	<ul style="list-style-type: none"> The existence of organized local community groups with vested interest in conservation work Existence of PRIME West, ECOTRUST, CARE, UWA policy on local community participation and other Projects and programmes The decentralized local government system which recognizes community institutions and foster their participation in environment management through local council environment committees 	<ul style="list-style-type: none"> Undertake capacity building interventions for community and civil society organizations at grass root levels Identify, support and implement community based initiatives for <i>in situ</i> conservation 	<ul style="list-style-type: none"> High level of illiteracy in the community. Limited practice of good environmental governance at community levels
	Lack of capacity in the local governments to involve local communities in the management of biodiversity	Institutional	<ul style="list-style-type: none"> The existence of the district, sub county and parish environmental action plans in most districts The availability of protected area management plans which emphasizes community participation 	<ul style="list-style-type: none"> Advocacy and lobby through workshops seminars and meetings to enable districts prioritize community participation in their planning agenda Strengthen the District Community Development offices to integrate ENR management in their work. Undertake training of district local governments officials in natural resource management and environmental governance 	<ul style="list-style-type: none"> Low priority given to biodiversity conservation in the district planning system.

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Inadequate infrastructural capacity for research in biodiversity management	<ul style="list-style-type: none"> Lack of a national herbarium, natural history museum and consensus to create a national biodiversity data bank 	Institutional and systemic	<ul style="list-style-type: none"> The existence of professionals in the present scattered herbaria e.g. Makerere university, Kawanda research institute etc Existence of NEMA a government institution playing environment information coordination role Existence of data banks e.g. the National Biodiversity Data bank at Makerere and MIST in UWA. 	<ul style="list-style-type: none"> Provide support existing institutional herbaria and biodiversity data banks. Mobilize support to establish a national biodiversity data bank, national herbarium and national history museum. 	<ul style="list-style-type: none"> Institutional rivalry Low priority given to institutional development in the field of natural history.
	<ul style="list-style-type: none"> Inadequate facilities for research in agricultural institutes, universities and private sector organisations 	Institutional and systemic	<ul style="list-style-type: none"> Existence of nominal research facilities in agricultural research institutes, universities and private sector organizations. 	<ul style="list-style-type: none"> Undertake a detailed assessment of the existing research facilities in the institutes and universities Undertake rehabilitation, renovations and installation up to date facilities for research. 	<ul style="list-style-type: none"> Low priority by funding agents to invest on infrastructure development
Inadequate access to new information technologies and limited skills to manage the available ones	<ul style="list-style-type: none"> Weak and unstandardized systems for biodiversity data banks scattered in different institutions 	Systemic	<ul style="list-style-type: none"> Availability of trainable professionals in the fields of information technology 	<ul style="list-style-type: none"> Undertake training in biodiversity information and communication technology 	<ul style="list-style-type: none"> Institutional rivalry Diversity of information systems influenced by different funding sources
	<ul style="list-style-type: none"> No clearing-house mechanism in the country. 	Systemic	<ul style="list-style-type: none"> Funding are available from the GEF for the establishment of the clearing house 	<ul style="list-style-type: none"> Lobby and advocate government for the establishment of a national clearing house mechanism 	<ul style="list-style-type: none"> Institutional rivalry
	<ul style="list-style-type: none"> High cost and unfair terms of accessing information technologies from developed countries 	Systemic	<ul style="list-style-type: none"> The aggressive private sector investment in information and communication technology Uganda's good international image 	<ul style="list-style-type: none"> Develop links and cooperation strategies with the international communications corporations for better deals in information technology. 	<ul style="list-style-type: none"> Weak negotiation and bargaining capabilities in the public sector Flooding markets with counterfeit and second hand information systems products (bio piracy)

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Inadequate trans-boundary regional and multilateral cooperation on biodiversity issues e.g. control of alien invasive species	Weak coordination mechanisms for addressing trans boundary biodiversity issues.	Systemic	<ul style="list-style-type: none"> Existence of the trans-boundary initiatives e.g. the Nile Basin Initiatives (NBI), Nile Equatorial Lakes Subsidiary Action Plan (NELSAP), the IUCN and WWF. 	<ul style="list-style-type: none"> Strengthen cooperation and develop protocols for trans-boundary management of resources. 	<ul style="list-style-type: none"> Unstable political and security situation across most of the international borders
	Insufficient capacity to identify and monitor invasive species and design strategies for their control	Institutional	<ul style="list-style-type: none"> The existing joint water hyacinth control program between the Egyptian and Uganda governments Existence of Lack Victoria Management Project Regional project proposal for the management of invasive species in Africa submitted to the GEF. 	<ul style="list-style-type: none"> Undertake inventory of invasive species and potential adverse impacts they may pose to the environment. Develop and implement management plans for invasive species. 	<ul style="list-style-type: none"> Lack of guidelines and regulations for the introduction control and monitoring of invasive species
	Inadequate support for trans boundary biodiversity programmes	Systemic	<ul style="list-style-type: none"> Membership to the regional bodies such as the East African Community, and African Union, Inter Governmental Agency for development (IGAD) 	<ul style="list-style-type: none"> Lobby and advocate through regional bodies support for trans-boundary biodiversity programmes 	<ul style="list-style-type: none"> Unpredicted conflicts among states
	Lack of harmonized policies, legislations and guidelines for trans boundary biodiversity conservation.	Systemic	<ul style="list-style-type: none"> Existence of regional fora for the discussion of trans-boundary and bilateral corporation matters The initiatives by international organizations in fostering trans boundary corporation through eco-regional, landscape and the heartlands approaches Existence of regional policy analysis institutions such African Center for Technology Studies (ACTS) 	<ul style="list-style-type: none"> Undertake research, analysis to harmonize regional policies, legislations and regulations on trans boundary biodiversity conservation 	<ul style="list-style-type: none"> The complexity of handling administrative planning and managerial issues across borders
	Inadequate awareness on the availability of relevant global and regional training programmes in biodiversity conservation	Institutional and systemic	<ul style="list-style-type: none"> The availability of research and training institutions that have linkages with internationally accredited biodiversity training centers 	<ul style="list-style-type: none"> Develop and implement joint regional training programmes on biodiversity Develop and strengthen information availability on training programmes 	

Capacity issues identified	Constraints	Level of occurrence	Opportunities	Interventions	Bottle necks
Some of the technologies from developed countries are not easily adaptable to local situation.	<ul style="list-style-type: none"> Lack of trained local expertise to make the technology adaptable 	Individual and institutional	<ul style="list-style-type: none"> The availability of tertiary technical and research institutions Availability of trainable personnel 	<ul style="list-style-type: none"> Develop and implement relevant high tech oriented training programmes Develop and implement strategies and action plans in applied research with respect to biodiversity conservation. Undertake training in technology policy studies 	<ul style="list-style-type: none"> The training curriculum which emphasizes academic qualification rather than practical technical skills Inherent high costs of imported technologies
	<ul style="list-style-type: none"> Lack of cooperation in technology innovation, transfer and application 	Systemic	<ul style="list-style-type: none"> The current Government efforts to organize regular trade fairs and shows The liberalization policy that promote industrialization and technology development Government positive support to technology innovations and application 	<ul style="list-style-type: none"> Develop and implement strategies and action plans for technology innovation and application 	<ul style="list-style-type: none"> Weak industrial culture and practices in the country.

(b) Matrix for capacity constraints and priority interventions for UNCCD implementation

Identified Issues	Capacity Constraints	Level of Occurrence	Existing Opportunities	Capacity Building Interventions	Envisaged Bottlenecks
A: Institutional Capacity to Implement the UNCCD					
1. Weak harmonization of SLM among relevant institutions	<ul style="list-style-type: none"> Poor coordination and collaboration Weak mechanism for information exchange among key institutions 	Systemic	<ul style="list-style-type: none"> Existence of Sector Working Groups (SWGs) under Ministry of Finance, Planning and Economic Development (MFPED), a common national planning framework (PEAP), a National Planning Authority (NPA), Ad-hoc integrated planning approach District and sub-county planning committees, District and Local Environment Committees Proposed Directorate of ENR in the districts NGOs and CBOs 	<ul style="list-style-type: none"> Institutionalize integrated planning approach at national and district levels Strengthen inter-institutional collaboration Train actors at national and local levels in integrative and participatory planning approaches Prepare guidelines for integrating SLM issues into development plans 	<ul style="list-style-type: none"> Lack of a policy on integrative planning
2. Inadequate awareness of SLM issues among key policy and decision makers	<ul style="list-style-type: none"> Lack of a critical mass of stakeholders to advocate for SLM issues 	Institutional	<ul style="list-style-type: none"> Existence of NSC, District Steering Committee (DSC), NAP, NGOs Coordinating Committee on Desertification (NCCD), PMA, NAADS, Private Sector Development Program, Uganda Manufacturers Association Parliamentary Pastoralists Association Existence of LGDP capacity building component in districts 	<ul style="list-style-type: none"> Sensitize key actors on their role in drylands management Develop training modules on SLM Conduct studies on drylands and their management 	<ul style="list-style-type: none"> Scarcity of documented information on drylands in Uganda Lack of training modules relevant to Uganda's situation

<p>3. Inadequate gender mainstreaming in management of drylands</p>	<ul style="list-style-type: none"> • Negative traditional norms • Inadequate gender awareness • Lack of integration of gender issues in SLM programmes • Lack of disaggregated data on gender in SLM 	<p>Institutional</p>	<ul style="list-style-type: none"> • Existence of a Gender Policy • Community development departments in all districts 	<ul style="list-style-type: none"> • Advocate for equity and recognition of different gender roles in SLM training and programmes • Integrate gender issues into SLM policies • Train SLM actors in gender perspectives and analysis • Sensitize and community leaders on gender issues in SLM • Advocate for integration of gender analysis in SLM research and development programmes 	<ul style="list-style-type: none"> • Cultural beliefs
<p>4. Inadequate institutional capacity to collect data and monitor drylands management</p>	<ul style="list-style-type: none"> • Inadequate training • Inadequate equipment and facilities • Insecurity in some areas • Poor networking among actors in drylands management 	<p>Systemic and institutional</p>	<ul style="list-style-type: none"> • Existence of Departments of Meteorology, and Early Warning and Disaster Preparedness • Availability of automatic weather stations and Radio and Internet (RANET) project to provide climate information in some districts • Existence of Environment Information Network and Information and Communication Technology in some districts 	<ul style="list-style-type: none"> • Increase coverage of weather stations, especially in drylands • Train man-power in modern SLM data collection and monitoring systems • Establish a data and information exchange network on SLM • Build Information and Communication Technology capacity to enhance data analysis and dissemination in dryland districts 	<ul style="list-style-type: none"> • Lack of a policy on meteorological services • Lack of infrastructure to collect and disseminate information in drylands

5. Inadequate capacity to peacefully resolve conflicts over NR use	Inadequate sensitization and training Absent/ Weak local institutions Diminishing NRs Negative cultural beliefs	Institutional	<ul style="list-style-type: none"> • Presence of local and political leaders in districts • Existence of peace building committees in affected districts • Existence of local initiatives such as Lake Kyoga Integrated Management Organization (LAKIMO) and Pokot, Karamajong-Turkana-Sabiny (POKATUSA) • NGOs 	<ul style="list-style-type: none"> • Train manpower in peaceful conflict resolution skills • Integrate peace building into extension messages • Create/ strengthen local institutions of NR users • Formulation and enforcement of bye-laws and ordinances on NR use • Formulate a pastoral code • Advocate for alternative livelihoods to minimize NR related conflicts 	<ul style="list-style-type: none"> • Lack of policies on conflict resolution • Lack of guidelines for NAADS, NGOs to create/ strengthen local institutions • Weak implementation of policies on alternative livelihoods
6. Weak Operationalisation of DEAPs to enhance SLM at the local level	<ul style="list-style-type: none"> • Low priority ranking of DEAPs during district planning and budgeting processes • Absence of DEAPs in most districts 	Institutional	<ul style="list-style-type: none"> • Annual district planning conferences • Existence of DEAPs in some cattle corridor districts • Linkage of DEAPs to the District Development Plans (DDPs) • Availability of relevant departments in districts • Availability of LGDP, PMA and PAF funds • Availability of NGOs/ CBOs in districts 	<ul style="list-style-type: none"> • Prepare guidelines for integrating SLM into SEAPs, DEAPs and DDPs • Train the environment officers on skills for mainstreaming • Lobby district councils and departmental heads to allocate resources for implementation of DEAPs • Lobby district councils and departments to mainstream DEAPs and UNCCD issues into DDPs • Encourage partnerships with NGOs and other actors to operationalise the DEAPs 	<ul style="list-style-type: none"> • Poor infrastructure • Inadequate trained staff e.g. energy officers, land management specialists)

7. Inadequate research in drylands	<ul style="list-style-type: none"> • Inadequate trained manpower • Inadequate research facilities/ infrastructure • Inadequate motivation of researchers 	Systemic and institutional	<ul style="list-style-type: none"> • Availability of research institutions • Availability of Agriculture Research and Development Centers (ARDCs) in districts • Availability of technical staff in districts • Presence of District Environment Resource Centers 	<ul style="list-style-type: none"> • Advocate for a research policy recognizing problems and contribution of drylands • Train staff in districts in research methodologies • Promote attachment of undergraduate and post-graduate students to ARDCs, particularly those in dryland districts • Establishment of a rangelands research and development center • Publication of research findings 	<ul style="list-style-type: none"> • Unfavorable policies for research in drylands
B: Policy, Legal and Enabling Frameworks					
1. Weak enforcement of laws, policies and bye-laws relating to SLM	<ul style="list-style-type: none"> • Weak capacity of local institutions • Inadequate training of enforcement officers in SLM laws/ policies • Incompatibility of laws with local socio-economic situations 	Institutional and Systemic	<ul style="list-style-type: none"> • Existence of the Local Government Act, Land Act and other relevant laws • Existence of local councils • Existence of technical staff in districts • Political will 	<ul style="list-style-type: none"> • Translate laws to local languages • Sensitize Local Councils (LCs) and local communities on SLM laws and policies • Sensitize LCs to put in place and enforce SLM bye laws and ordinances • Advocate for a consistent and effective mechanism for participatory enforcement of SLM laws • Rationalize mandates of relevant institutions in enforcing laws and policies • Increase paralegal training in SLM laws • Train and involve legal aid agencies in awareness raising on SLM laws • Review SLM policies taking into account the socio-economic situations 	<ul style="list-style-type: none"> • Obsolete laws and policies on land management • Changing institutional mechanisms and mandates

<p>Inadequate capacity to enact and review SLM laws/ policies</p>	<ul style="list-style-type: none"> • Inadequate professionals in environmental laws/ policies • Low prioritization of review/ enactment of laws/ policies on SLM 	<p>Institutional and Systemic</p>	<ul style="list-style-type: none"> • Availability of training institutions • Availability of some trained legal experts • NEMA and Ministry of Education integrating environmental education in primary and secondary curricula 	<ul style="list-style-type: none"> • Strengthen SLM laws in curriculum of universities and other tertiary institutions • Increase paralegal training in SLM laws • Lobby for increased budgets to departments responsible for SLM through SWGs on ENRs and agriculture, MFPED, and development partners • Identify laws requiring review 	<ul style="list-style-type: none"> • Lack of institutional mandates to review laws and policies
<p>Weak capacity to plan and manage land under different tenure systems, especially on common property resources</p>	<ul style="list-style-type: none"> • Weak traditional institutions • Inconsistent policies • Lack of holistic and participatory planning 	<p>Institutional and systemic</p>	<ul style="list-style-type: none"> • Existence of the Land Act and the Land Sector Strategic Plan • Existence of land tribunals, cultural leaders and district land boards 	<ul style="list-style-type: none"> • Sensitization programmes on laws on communal land management • Piloting communal land management systems • Promoting and strengthening communal land associations • Organize communities to generate consensus on laws and plans regarding access to and management of shared NRs • Formulate and implement a pastoral code to guide management of pastoral land resources 	<ul style="list-style-type: none"> • Lack of a policy on utilization of common property resources

C: Sustainable Management of Land Resources					
1. Inadequate local capacity to implement SLM practices	<ul style="list-style-type: none"> • Inadequate policy frameworks • Inappropriate land tenure systems • Lack of awareness on SLM practices • Population pressure • Inadequate man power and facilities 	Systemic, Institutional, and individual	<ul style="list-style-type: none"> • Existence of NAADS • Presence of DEAPs in some districts • Presence of a Land Use Policy, Agriculture Policy • Presence of Uganda National Farmers Federation • Availability of NGOs/ CBOs in dryland districts • Department of Meteorology 	<ul style="list-style-type: none"> • Conduct sensitization programmes for communities • Training courses in SLM for existing district extension staff, NGOs and other agriculture advisory service providers • Advocate for review of policies on SLM • Formulate a rangelands policy • Formulate a Soils Policy • Advocate for SLM prioritization at all levels, including urban centers • Document feasible and effective SLM technologies and best practices for dissemination • Mobilize communities into groups to benefit from synergies 	<ul style="list-style-type: none"> • Low district priority ranking of SLM • Inadequate operationalisation of DEAPs
2. Inadequate incentives for the private sector to invest in drylands	<ul style="list-style-type: none"> • Insecurity in some areas • Low population • Poor infrastructure • Lack of local markets • Inadequate capital • Unfavorable policy/ incentives 	Systemic	<ul style="list-style-type: none"> • Presence of the income generation and sustainable livelihood program • Presence of Uganda Manufacturers Association • Presence of Uganda National Farmers Federation • Microfinance outreach plan • Private sector promotion centers • National Chamber of Commerce • Availability of district profiles 	<ul style="list-style-type: none"> • Sensitize private sector on opportunities to invest in drylands • Advocate for a policy targeting private sector investment in drylands • Advocate for development of basic infrastructure • Promote community participation in resolving insecurity • Establish microfinance outreach institutions in districts • Train local people in entrepreneurship skills 	<ul style="list-style-type: none"> • Unfavorable policies • Inadequate capital among the Private sector

3. Limited capacity to exploit alternative livelihood opportunities	<ul style="list-style-type: none"> • Lack of capital • Lack of awareness • Lack of markets for alternative products 	Individual and institutional	<ul style="list-style-type: none"> • Existence of NAADS • Existence of NGOs/ CBOs that can promote alternative livelihoods • Presence of the Private Sector Promotion Centers • Existence of microfinance outreach plan 	<ul style="list-style-type: none"> • Document and evaluate potential alternative livelihoods in drylands • Extend microfinance services to drylands • Training skills in alternative livelihoods • Support pilot initiatives on processing and value addition to increase marketing opportunities • Disseminate information on available and new alternative livelihoods 	<ul style="list-style-type: none"> • Lack of capital, especially for processing and value addition • Weak government policies
4. Lack of capacity to develop, implement and monitor management plans for fragile ecosystems	<p>Limited awareness and man power</p> <p>Weak implementation of relevant policies</p> <p>Low prioritization of ecosystems management</p>	Institutional and systemic	<ul style="list-style-type: none"> • Existence of DEAPs • Existence of NAADS • Prospective policy of zoning agricultural production • Existence of a National Wetlands Program 	<ul style="list-style-type: none"> • Document relevant information and develop modules for training and sensitization • Conduct sensitization programmes • Train trainers in ecosystem management • Advocate for SLM at national and district levels • Mobilize local communities to participate in preparation and implementation of management plans for fragile ecosystems • Develop monitoring indicators for these ecosystems 	<ul style="list-style-type: none"> • Weak implementation of DEAPs

5. Inadequate use of locally available technologies and indigenous knowledge	<ul style="list-style-type: none"> • Lack awareness and training in available technologies and practices • Weak research in use of technologies • Inadequate knowledge of cost/benefit analysis of using technologies and practices 	Individual and institutional	<ul style="list-style-type: none"> • Availability of indigenous knowledge and practices • Availability of technologies • Existence of a National Agriculture Research System (NARS) • Presence of NAADS in districts • Availability of early warning systems • Presence of ARDCs in some districts 	<ul style="list-style-type: none"> • Document and evaluate existing technologies and indigenous knowledge • Mount cost: benefit analysis studies on technologies • Demonstrate appropriate technologies • Mount training of trainers courses in technology demonstrations and information dissemination • Set up technology development and dissemination centers e.g. ARDCs in dryland districts • Promote farmer to farmer exchange of indigenous knowledge, know how and practices 	<ul style="list-style-type: none"> • Lack of capital to invest in drylands technologies by farmers
D: Sustainable Management of Water Resources					
1. Inadequate local capacity to harvest and conserve water for domestic and production purposes	<ul style="list-style-type: none"> • Lack of awareness • Lack of facilities • Inadequate man power • Lack of appropriate technologies • Weak policies on promoting water harvesting 	Individual and institutional	<ul style="list-style-type: none"> • Presence of a policy on water conservation • Presence of a water sector working group • Presence of DWD and department of water in districts • Availability of iron roofed houses 	<ul style="list-style-type: none"> • Train community workers and NGOs/ CBOs in water harvesting and management techniques • Develop guidelines and integrate water management into mainstream extension service systems • Strengthen research in water harvesting and management 	<ul style="list-style-type: none"> • High cost of investment • Lack of water harvesting facilities

2. Lack of capacity to harness water from permanent water sources	<ul style="list-style-type: none"> • Low prioritization • Unfavorable regional and international treaties 	Institutional and Systemic	<ul style="list-style-type: none"> • A 15 year water investment plan available • Willingness of donors to invest in the water sector • Regional bodies available to review the treaties 	<ul style="list-style-type: none"> • Organize farming communities around permanent water bodies • Conduct training in irrigation and water management technologies • Train water engineers and technicians • Formulate policy on irrigation • Provide incentives to encourage private sector to invest in provision of water related services • Advocate for regional bodies to review the treaties e.g. on restrictive use of the Nile Basin waters 	<ul style="list-style-type: none"> • Heavy and costly investment • Poor infrastructure e.g. roads
3. Weak local capacity to manage water catchments	<ul style="list-style-type: none"> • Lack of awareness • Inappropriate land tenure • Lack of institutional arrangements 	Institutional and individual	<ul style="list-style-type: none"> • Availability of a water policy • Availability of a water sector reform study • Availability of a Land Act • National Forestry Authority to manage central forests 	<ul style="list-style-type: none"> • Strengthen integration between water, district technical departments and extension staff in water management • Train extension staff, NGOs, CBOs and farmers in water catchment management • Prepare management plans for water catchments 	<ul style="list-style-type: none"> • Inadequate technical man power on water catchment management
E: Infrastructure					
1. Inadequate enabling infrastructure (e.g. roads, telecommunication, health, energy, education, market etc.)	<ul style="list-style-type: none"> • Insecurity in some districts • Low prioritization • Lack of investments • Nomadism • Vandalism • Inadequate returns to investments 	Systemic and institutional	<ul style="list-style-type: none"> • Availability of relevant institutions e.g. Line ministries and Departments • Availability of mobile telecommunication systems in the country • Potential availability of alternative energy sources (solar, biogas, generators) • Availability of the Local Administration system and opinion leaders • PMA, LGDP and NUSAF 	<ul style="list-style-type: none"> • Document the current status of basic infrastructure in drylands • Community sensitization of the value of infrastructure • Advocate for community ownership and participation in management of infrastructure • Advocate for a policy on infrastructure development for mobile pastoral systems • Promote infrastructure relevant to mobile pastoralists e.g. health, education, etc. • Lobby Government for a accelerated development of infrastructure in drylands 	<ul style="list-style-type: none"> • Lack of private sector investment in drylands

2. Poor delivery of services to mobile pastoralists	<ul style="list-style-type: none"> • Lack of mobile facilities for social services • Insecurity • Lack of adequate information on mobile pastoralists 	Systemic	<ul style="list-style-type: none"> • Availability of NAADS, PMA, NUSAF, LGDP • Presence of NGOs working with mobile pastoralists • Presence of the Parliamentary Pastoralists Association 	<ul style="list-style-type: none"> • Sensitize policy makers and district technical staff on importance of mobile pastoral systems • Advocate for a policy focusing on improved pastoral livelihoods • Promote provision of mobile infrastructure for mobile pastoralists 	<ul style="list-style-type: none"> • Lack of a policy on pastoral livelihoods
3. Limited capacity to store, process and market agro-products from drylands	<ul style="list-style-type: none"> • Lack of awareness and training • Lack of appropriate technologies • Lack of bye-laws 	Individual and institutional	<ul style="list-style-type: none"> • Availability of NAADS in dryland districts to train people in storage, processing and marketing • Availability of Private Sector Development Program • Availability of microfinance institutions for credit provision 	<ul style="list-style-type: none"> • Training dryland farmers in post harvest handling of agro products • Enact bye laws on food storage • Develop a market information system • Encourage private sector investment in storage, processing and marketing of agro-products from drylands 	<ul style="list-style-type: none"> • Limited infrastructure to promote processing and marketing of agro-products from drylands
F: Public Education and Awareness of UNCCD Issues					
1. Inadequate awareness of SLM issues among stakeholders at all levels	<p>Inadequate sensitization programmes Inadequate manpower to sensitize stakeholders Long term nature of returns</p>	Individual	<ul style="list-style-type: none"> • Many FM radio stations and Daily newspapers, some in local languages • Schools, LCs, religious organizations • Existence of NAADS and NEMA • Existence of NGOs/CBOs addressing desertification in districts • Presence of cultural institutions • Presence of a drylands advocacy group 	<ul style="list-style-type: none"> • Hold sensitization programmes through radios, drama, etc. • Integrating SLM issues into school curricula at all levels • Integrate SLM messages into NAADS guidelines and programmes • Develop an interdisciplinary approach to sensitization on land degradation 	<ul style="list-style-type: none"> • Inadequate implementation of policies promoting awareness of desertification issues

2. Inadequate knowledge of alternative energy technologies	<ul style="list-style-type: none"> Limited sensitization on alternative energy technologies Lack of facilities and logistics 	Individual	<ul style="list-style-type: none"> Existence of a Department of renewable energy in MEMD Active private sector participation Availability of DEAPs and NAADS programmes 	<ul style="list-style-type: none"> Conduct feasibility study on alternative energy sources/ technologies in the drylands Promote private sector involvement in promotion of alternative energy technologies at district and community levels Produce training of trainers modules on alternative energy technologies 	<ul style="list-style-type: none"> Lack of trained energy officers to disseminate alternative energy technologies
3. Inadequate integration of drylands management issues into school curricula at all levels	<ul style="list-style-type: none"> Limited awareness of the importance of drylands among policy makers Low priority accorded to drylands 	Systemic and institutional	<ul style="list-style-type: none"> Presence of a National Curriculum Development Center Periodic review of curriculum by relevant departments in tertiary institutions 	<ul style="list-style-type: none"> Advocate for integration of SLM in curricula for schools and post secondary institutions Prepare guidelines for integration of SLM issues in curriculum Train staff in institutions on SLM and dryland issues Prepare teaching materials jointly with the teaching institutions 	<ul style="list-style-type: none"> Lack of a policy on awareness creation on dryland issues and UNCCD implementation
4. Inadequate participation of the Private sector in public education and awareness	<ul style="list-style-type: none"> Poor returns to Private Sector investment in dry lands relative to other areas Poor basic infrastructure Insecurity 	Systemic and Individual	<ul style="list-style-type: none"> Presence of the Private sector Availability of a Medium term competitiveness strategy Availability of NAADS Presence of Microfinance institutions Abundant local media 	<ul style="list-style-type: none"> Establish incentives to encourage private sector investment in drylands Strengthen local Private sector umbrella organizations to effectively link farmers to markets 	<ul style="list-style-type: none"> Insecurity Vandalism of infrastructure by local communities
5. Inadequate public awareness of bye-laws and ordinances on management of NRs	<ul style="list-style-type: none"> Inadequate sensitization programmes Lack of strong enforcement mechanisms for bye-laws/ ordinances 	Individual and institutional	<ul style="list-style-type: none"> Availability of Legal Aid agencies Presence of local administration system Availability of Sub-county level magistrates 	<ul style="list-style-type: none"> Hold Paralegal training workshops Integrate community participation in enforcement of bye-laws Ensure community participation in enforcement of bye-laws 	<ul style="list-style-type: none"> Low awareness of NR management issues among legal professionals

G: Sustainable management of energy resources					
1. Inefficient use of biomass energy	High costs of efficient technologies of using biomass energy Low awareness of efficient technologies of biomass energy	Individual, Institutional and Systemic	<ul style="list-style-type: none"> • Availability of demonstration projects on efficient use of biomass energy • Availability of guidelines for efficient use of biomass energy • Existence of NGOs and private sector • Existence of a Biomass center 	<ul style="list-style-type: none"> • Sensitize and demonstrate to local people modern biomass energy conserving technologies • Train artisans in construction of energy efficient cooking stoves • Integrate provision of energy advisory services into mainstream extension system e.g. NAADS 	<ul style="list-style-type: none"> • Unaffordability of efficient biomass energy technologies • Unavailability of efficient biomass energy technologies
2. Limited capacity to popularize alternative energy technologies	<ul style="list-style-type: none"> • Low private sector participation • High cost of demonstrating use of alternative energy technologies • Lack of manpower to maintain the energy technologies • Unavailability of alternative energy technologies 	Individual and Institutional	<ul style="list-style-type: none"> • Availability of demonstration projects on alternative energy technologies 	<ul style="list-style-type: none"> • Lobby policy makers to give subsidies to Private sector investment in alternative energy technologies • Lobby policy makers to address the cost of alternative energy technologies especially Hydro-power. • Train man power in alternative energy technologies • Sensitize local people and the Private sector on the value of alternative energy technologies 	<ul style="list-style-type: none"> • High cost of alternative technologies to biomass energy • Limited capacity of the Private sector to invest in alternative energy technologies

(c) Matrix for capacity constraints and priority interventions for UNFCCC implementation

Issue	Constraints	Level	Opportunities	Interventions	Bottlenecks
Inadequate capacity in all line Ministries to implement the UNFCCC	Inadequate climate monitoring and weak UNFCCC Focal Point	Institutional and systemic	<ul style="list-style-type: none"> • PEAP • UNFCCC • Local Governments • Recommendations from previous Climate Change studies and workshops 	<ul style="list-style-type: none"> • Expand Monitoring Network (Equipment and Personnel) • Establish a Climate Change secretariat • Establish an information network between the climate change secretariat and the line institutions 	<ul style="list-style-type: none"> • Limited Funding • Lack of political commitment • Lack of awareness among Policy makers • Expensive climate monitoring equipment • Indecision as regards to the placement of the Secretariat • Inadequate Climate Change experts
	Inadequate capacity of Key Institutions to effectively address climate change issues	Institutional and systemic	<ul style="list-style-type: none"> • PEAP • National Adaptation Programmes of Action (NAPA) under the UNFCCC • PMA • Research Institutions 	<ul style="list-style-type: none"> • Develop and implement public awareness Programmes • Train personnel in these institutions on the relationship between them and climate change and the potential role they can play in addressing climate change issues • Strengthen coordination • Mainstream climate change issues in the planning process 	<ul style="list-style-type: none"> • Limited resources • Lack of ENR Sector • Poor coordination • Weak UNFCCC Focal Point
	Weak institutional Framework for Early Warning and disaster Management	Institutional and systemic	<ul style="list-style-type: none"> • UNFCCC (CBF and Work Program of the LDCs) • WMO • FAO • UN Hunger Project 	<ul style="list-style-type: none"> • Review and Strengthen Early warning System • Strengthen the Disaster Preparedness Department • Develop district / county disaster preparedness and management plans 	<ul style="list-style-type: none"> • Lack of Funds • Inadequate Skills, Data and tools
	Lack of ENR Investment Plan	Systemic	<ul style="list-style-type: none"> • Existing ENR Policies • Existing of Investment plans for sub-sectors 	<ul style="list-style-type: none"> • Develop ENR Investment Plan 	<ul style="list-style-type: none"> • Lack of Funds • Low priority and Delayed recognition of importance of ENR

Limited Structure of the Department of Meteorology	Current Restructuring Policy of Government Institutions	Institutional and systemic	<ul style="list-style-type: none"> • PEAP • PMA • Decentralization Policy 	<ul style="list-style-type: none"> • Review and expand structure of the Department of Meteorology • Equip the department of Meteorology with computers and other tools required for data analysis and storage • Review the decentralization program to include the vital meteorological services • Establish regional meteorological offices 	<ul style="list-style-type: none"> • Lack of Funds • Non- inclusion of vital meteorological services in PMA • Non- inclusion of vital meteorological services in the decentralization process
	Limited financial resources	Institutional and systemic	<ul style="list-style-type: none"> • PMA • Research Institutions • AGOA • NEPAD • COMESA • Regional Cooperation 	<ul style="list-style-type: none"> • Increase production • Expand the market • Broaden the Tax base • Review Tax rates 	<ul style="list-style-type: none"> • Narrow tax base • High Incidence of Poverty • Misappropriation of available resources
	Limited technical personnel	Individual and institutional	<ul style="list-style-type: none"> • VCP • Availability of unemployed professionals 	<ul style="list-style-type: none"> • Increase Training opportunities • Review curriculum to include Meteorology. 	<ul style="list-style-type: none"> • Lack of funds • Limited capacity of training institutions • Narrow employment opportunities for Meteorologists outside meteorological services
Limited Technical and Managerial expertise in the country to effectively handle UNFCCC concerns	Inadequate technical skills on climate change in the relevant and key institutions	All	<ul style="list-style-type: none"> • Emerging and growing interest in climate change • Existing training institutions • Existing experts 	<ul style="list-style-type: none"> • Stimulate the interest of existing training institutions to incorporate climate change into their training Programmes • Source for Fellowships and scholarships for formal training at higher levels, specialized training and informal training • Expose technocrats and policy makers at all levels to the Convention and related Protocols subject matter through workshops, seminars, conferences and print media • Include climate change skills requirement in Job specifications 	<ul style="list-style-type: none"> • Lack of funds • Inadequate technical skills on climate in training institutions
	Lack of capacity for extension personnel to integrate climate change issues into their activities	Individual	<ul style="list-style-type: none"> • Existing extension personnel • Existing training institutions • Increasing awareness of climate change 	<ul style="list-style-type: none"> • Train them in climate change • Government should translate the relevant documents into local languages 	<ul style="list-style-type: none"> • Lack of Funds • Climate change is a new phenomenon

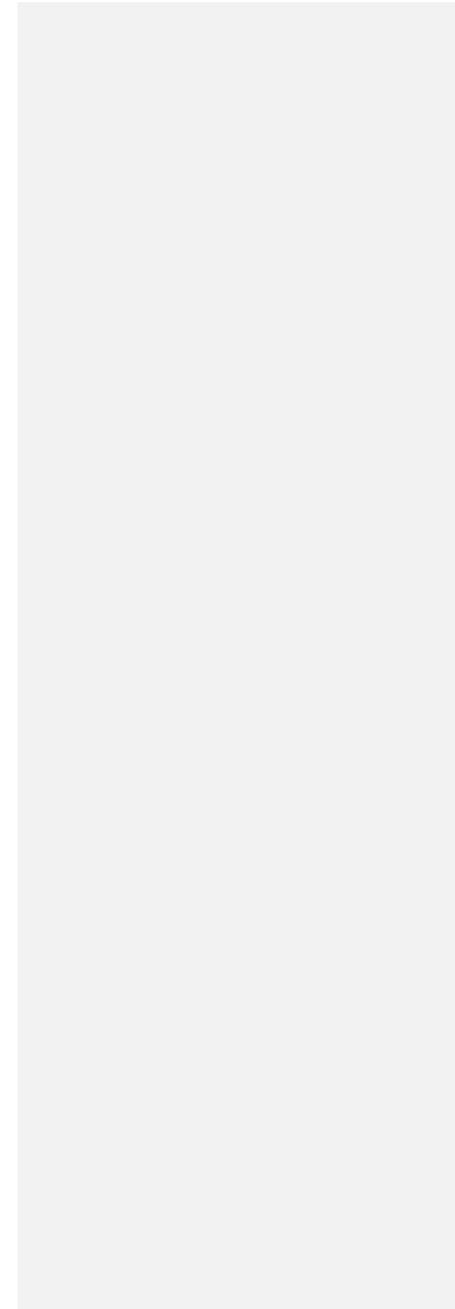
	High rate of brain drain	Systemic	<ul style="list-style-type: none"> • Training institutions • Restrictive immigration regulations 	<ul style="list-style-type: none"> • Improve remuneration and worker's welfare • Diversify employment opportunities • Stimulate growth in the private sector • Develop and operationalise an employment policy 	<ul style="list-style-type: none"> • Unfavorable terms and conditions of service • Imbalance in regional development
	Lack of capacity to develop and implement economic instruments to regulate pollution	Individual and institutional	<ul style="list-style-type: none"> • Existing training institutions • Existing policy Units 	<ul style="list-style-type: none"> • Train and provide the required facilities and tools 	<ul style="list-style-type: none"> • Lack of funds • Inadequate manpower in the policy units • Political interference • Lack of policy focus Training Program
Limited awareness of Climate Change issues among the population	Resistance to change by Communities and Politicians	Individual	<ul style="list-style-type: none"> • Growing awareness of climate change issues • Increased frequency of climate change related incidences • Privatization and liberalization of the mass media 	<ul style="list-style-type: none"> • Climate change workshops for policy makers opinion and local leaders • Climate change workshops for communities • Incorporate climate change issues in music and drama activities • Support regular media climate change Programmes • Develop produce and disseminate climate change IEC materials • Provide incentives for good practice 	<ul style="list-style-type: none"> • High cost of media Programmes • Concentration of drama groups in urban areas
	Low level of awareness of the technocrats and policy makers at all levels about the Convention and related Protocols	Individual and systemic	<ul style="list-style-type: none"> • Availability of materials on Convention and Protocol • Improved information technology (accessibility to IT Channels) 	<ul style="list-style-type: none"> • Educate (sensitize) the technocrats and policy makers on the objectives and implications of the Convention and related Protocols. 	<ul style="list-style-type: none"> • Poor reading culture • High cost of accessibility to IT Channels
	Lack of Public awareness Programmes	Systemic	<ul style="list-style-type: none"> • Existing of many FM stations • Many Civil Society Organizations (CSOs) 	<ul style="list-style-type: none"> • Lobby for and mobilize resources for awareness Programmes • Develop and support awareness Programmes • Establish climate change awareness fora 	<ul style="list-style-type: none"> • High cost awareness programmes • High cost media services • Lack of common language
Limited Climate Change related Research	Low capacity of research scientists	Individual and institutional	<ul style="list-style-type: none"> • Growing awareness about the need to address climate change issues at all levels • Existing research institutions • Availability of researchers in various institutions 	<ul style="list-style-type: none"> • Strengthen capacity of research scientists and encourage collaboration with other research institutions and researchers • Introduce grants and awards for Research scientists • Promote measures for protection of intellectual Property Rights 	<ul style="list-style-type: none"> • Lack of interest • Lack of tools • Poor motivation • Inadequate funding

	Inadequate financial support for Climate change research	Systemic	<ul style="list-style-type: none"> Increasing awareness of government and development partners about climate change issues Existing opportunities under the UNFCCC and Kyoto Protocol Process Continued government support to research 	<ul style="list-style-type: none"> Increase awareness on the opportunity costs of not addressing climate change issues Enhance mobilization of domestic and external resources for research Ensure that research is demand-driven 	<ul style="list-style-type: none"> Limited dissemination of research findings Low level of focus Climate change is a new phenomenon
	Fragmented research policies and activities	Systemic	<ul style="list-style-type: none"> Existing Research Policies Existing research umbrella institutions Increased awareness on the cross-cutting nature of climate change Government embraces participatory and consultative approaches 	<ul style="list-style-type: none"> Harmonize research policies Promote collaboration and coordination of research in related fields Open web-site at focal point on research activities and findings Recognize and reward on-going research Liaise with the UNCST as the body mandated to coordinate research in the country 	<ul style="list-style-type: none"> Limited funding High cost of consultation
Poor climate change data bases	Inadequate capacity to develop and maintain climate data bases	Individual and institutional	<ul style="list-style-type: none"> Existing raw data in various institutions Existing ICT and Tools Emerging ICT Training Facilities 	<ul style="list-style-type: none"> Recruit Systems Analysts Train more personnel in data processing and data base management Develop standard format for data management Encourage Data acquisition, analysis and archiving Strengthen the horizontal information network concept 	<ul style="list-style-type: none"> Poor quality of data Inadequate financial resources for training
	Lack of both hardware and Software facilities	Institutional	<ul style="list-style-type: none"> Availability of facilities on the market Emerging ICT Training Facilities Deliberate government policy to encourage ICT 	<ul style="list-style-type: none"> Avail resources and Procure appropriate facilities to handle data 	<ul style="list-style-type: none"> Some data may require sophisticated facilities to handle Inadequate capacity to carry out verification of supplied systems
	Difficulty to free access of data from other institutions	Systemic	<ul style="list-style-type: none"> SWAPS HEIN UBOS 	<ul style="list-style-type: none"> Promote cooperation and collaboration among institutions Strengthen the horizontal information network concept Develop data exchange protocols 	<ul style="list-style-type: none"> Different interests of institutions Unique data formats in different institutions Commercialization of data acquisition

Inadequate capacity to assess technology needs, and to acquire and assimilate (adapt) new and appropriate technology	Lack of skills and experience to assess technologies	Individual and institutional	<ul style="list-style-type: none"> • Existence of skilled professional and scientific experts capable of addressing a wide range of climate change issues 	<ul style="list-style-type: none"> • Train stakeholders in technology assessment skills • Identify and assess appropriate technologies • Analyze constraints to the transfer of technology 	<ul style="list-style-type: none"> • Inadequate funding
	Low incomes hinder adoption of environmental friendly technologies	Systemic	<ul style="list-style-type: none"> • Available indigenous technologies • Governments commitment to alleviate poverty 	<ul style="list-style-type: none"> • Increase people's incomes • Source for affordable technologies 	<ul style="list-style-type: none"> • Low levels of economic development • Inadequate funds
	Low level of awareness about environmental friendly technologies	Individual and systemic	<ul style="list-style-type: none"> • Availability of relevant literature 	<ul style="list-style-type: none"> • Organize awareness programmes • Produce and disseminate awareness materials 	<ul style="list-style-type: none"> • High cost of awareness programmes
Lack of incentives to develop and promote appropriate indigenous technologies	Traditional knowledge, skills and practices which enhance Adaptation and Mitigation are not researched on and documented	Institutional and systemic	<ul style="list-style-type: none"> • Availability of indigenous technologies • Availability of indigenous technology practitioners 	<ul style="list-style-type: none"> • Document indigenous knowledge on adaptation and mitigation technology and practices • Promote use of indigenous technologies and practices 	<ul style="list-style-type: none"> • High cost of documentation • Low literacy levels of indigenous technology practitioners • Low priority given to indigenous knowledge
	Lack of awareness and training	All	-	<ul style="list-style-type: none"> • Organize awareness programmes • Produce and disseminate awareness materials 	<ul style="list-style-type: none"> • High cost of awareness programmes
	Lack of will in the communities to encourage promotion of indigenous technologies	Individual	-	<ul style="list-style-type: none"> • Recognize and promote indigenous technologies and knowledge 	-
Inadequate capacity to mitigate and adapt to negative effects of climate change and	Low adaptive capacity	Systemic	<ul style="list-style-type: none"> • UNFCCC (NAPA) and the Kyoto protocol • Existence of Research Centers 	<ul style="list-style-type: none"> • Develop and implement awareness programmes on adaptation • Develop and promote affordable (cost effective) adaptation technologies • Build capacity of the population and relevant institutions on sustainable utilization of land and energy resources to enable it to adapt to and mitigate the impacts of climate change. 	<ul style="list-style-type: none"> • Inadequate funds • High cost of adaptation technologies • Low income levels • High cost of awareness programmes

mitigation of GHG emissions	Lack of capacity to assess the impacts of negative effects of climate change	Individual and institutional	<ul style="list-style-type: none"> • Research and training institutions • UNFCCC (NAPA) and the Kyoto protocol 	<ul style="list-style-type: none"> • Train Personnel • Equip research institutions and relevant government departments • Enhance mobilization and coordination of available skills by forming expert groups • Collect and analyze relevant data • Monitor dynamics of emissions and develop local emission factors 	<ul style="list-style-type: none"> • Inadequate funding • Narrow industrial base
	Assumption that climate will not change significantly	All	<ul style="list-style-type: none"> • Research and training institutions • Available literature on climate change 	<ul style="list-style-type: none"> • Develop and implement awareness programmes on climate change 	<ul style="list-style-type: none"> • Language barriers • High cost of awareness programmes
	Low priority for adaptation and mitigation activities	Institutional and systemic	<ul style="list-style-type: none"> • Available literature on climate change 	<ul style="list-style-type: none"> • Develop and implement awareness programmes for policy makers on climate change • Carry out case studies of extreme weather events, vulnerability and impact assessment document and disseminate study reports • Support Measures to promote mitigation and adaptations vis-à-vis the convention requirements 	<ul style="list-style-type: none"> • Inadequate funding • High cost of awareness programmes
	High cost of mitigation and adaptation technologies	Individual and systemic	<ul style="list-style-type: none"> • Availability of research programmes and grants at institutions of higher learning (e.g. I@mak.com) 	<ul style="list-style-type: none"> • Introduce / develop incentive mechanisms for transfer of mitigation technologies • Develop Adaptation and Mitigation project guidelines • Develop affordable technologies • Develop and promote indigenous technologies, skills and practices 	<ul style="list-style-type: none"> • Inadequate funding • High cost of Production
Low level of networking among the relevant institutions and inadequate defining and synchronization of their roles in the implementation of the	Lack of adequate procedures and skills on accessing and sharing information on climate change and its potential impacts	Institutional and systemic	<ul style="list-style-type: none"> • Available manpower in various institutions • Relevant existing policies 	<ul style="list-style-type: none"> • Sensitize relevant institutions on the advantages and need to share information • Train relevant institutions in IT • Develop policy on data access and exchange • Develop networking and information sharing protocols 	<ul style="list-style-type: none"> • Inadequate funding • Inadequate IT Trainers
	Difficulties in understanding and use of reporting guidelines for National Communications	Institutional	<ul style="list-style-type: none"> • UNFCCC • Available literature on climate change 	<ul style="list-style-type: none"> • Organize a training workshop to explain UNFCCC guidelines • Develop a format for gathering information on climate change and National communication preparation 	<ul style="list-style-type: none"> • Inadequate funding • Limited access to internet by upcountry personnel

UNFCCC	Lack of coordination programmes	Institutional and systemic	<ul style="list-style-type: none"> • Available manpower in various institutions 	<ul style="list-style-type: none"> • Develop relevant policy • Develop coordination programmes • Identify and define stakeholder roles and responsibilities, with respect to co-ordination, planning and implementation of local, national and global climate change concerns • Build capacity of stakeholders to adequately carry out these roles and responsibilities. 	<ul style="list-style-type: none"> • Inadequate funding
Inadequate legal and policy guidelines for mainstreaming climate change issues in the national development plans	Lack of awareness	Institutional and systemic	<ul style="list-style-type: none"> • Available literature on climate change • Available manpower in various institutions 	<ul style="list-style-type: none"> • Develop awareness programmes • Train trainer for manpower development 	<ul style="list-style-type: none"> • Inadequate funding • High cost of awareness programmes
	Lack of enforcement capacity of the existing climate change related policies	Institutional and systemic	<ul style="list-style-type: none"> • Available policies • Available government programmes such as PEAP and PMA 	<ul style="list-style-type: none"> • Develop regulations • Operationalize existing policies • Develop guidelines for mainstreaming climate change issues in policies and programmes 	<ul style="list-style-type: none"> • Inadequate funding
	Divergent / conflicting interests of leaders at various levels of implementation	Individual and institutional	<ul style="list-style-type: none"> • Available literature on climate change • Available manpower in various institutions 	<ul style="list-style-type: none"> • Organize sensitization workshops for policy makers and implementers • Develop a regulatory framework to implement future Climate Change options, including incentives and restrictions and involve decision-makers from all relevant sectors 	<ul style="list-style-type: none"> • High cost of awareness programmes
Inadequate and untimely disbursement of Funds for ENR activities	Lack of monetized economic benefits of meteorological services	Institutional	<ul style="list-style-type: none"> • Existence of the department of Meteorology • Increasing awareness of the role of Meteorology in national development 	<ul style="list-style-type: none"> • Develop business plan for ENR Sector • Train manpower in relevant institutions • Sensitize policy makers and implementers on the importance of meteorology and climate to economic development 	<ul style="list-style-type: none"> • Inadequate funds • High cost of training
	General lack of awareness of global funding opportunities and the channels through which to access them	Institutional and systemic	<ul style="list-style-type: none"> • UNFCCC and the Kyoto Protocol • Existing literature 	<ul style="list-style-type: none"> • MFPED should research on the available sources of global funding and establish an easily accessible data bank • Sensitize relevant institutions on the need to read existing information • Train manpower • Establish internet access points in rural areas 	<ul style="list-style-type: none"> • Inadequate funds • Language barrier for policy implementers at county and lower levels
	Poor fiscal projections	Institutional	<ul style="list-style-type: none"> • Existing manpower • Existing literature on the international scene 	<ul style="list-style-type: none"> • Collect and analyze data relevant to fiscal projections • Develop and standardize fiscal projection methodologies 	<ul style="list-style-type: none"> • Inadequate accesses to the internet



(d) Matrix for capacity constraints and priority interventions for International Waters implementation

Identified Issues	Capacity Constraints	Level of Occurrence	Existing Opportunities	Capacity Building Interventions	Envisaged Bottlenecks
1. Lack of regionally harmonized legal instruments	Varying levels of institutional development	Institutional and systemic	<ul style="list-style-type: none"> Existing Treaty of the EAC & Shared Vision for NBI 	<ul style="list-style-type: none"> Negotiate regional & sub regional agreements for the basin management authorities, confidence building, etc 	<ul style="list-style-type: none"> -
	Insufficient coordination among stakeholder institutions	Institutional and systemic	<ul style="list-style-type: none"> Availability of Water policy Committee Local Government Act 1997 	<ul style="list-style-type: none"> Activate the Water Policy Committee & broaden membership to include all key players 	<ul style="list-style-type: none"> Amending the Water Act to accommodate more members
	Political instability	Institutional and systemic	<ul style="list-style-type: none"> Regional integration 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> -
	Conflicting interests	Institutional and systemic	<ul style="list-style-type: none"> Existence of EAC; NBI Regional negotiations for equitable sharing under NBI Relevant Civil Society organizations e.g. Nile Basin Discourse 	<ul style="list-style-type: none"> Development of an integrated water resources development plan 	<ul style="list-style-type: none"> -
	Political and legal history	Systemic	<ul style="list-style-type: none"> Regional stability 	<ul style="list-style-type: none"> Regional integration 	<ul style="list-style-type: none"> -
	Political will of incumbent regimes	Individual and systemic	<ul style="list-style-type: none"> Availability of parliamentary sectoral committees (e.g. Environmental Committee etc) 	<ul style="list-style-type: none"> Sensitization of politicians 	<ul style="list-style-type: none"> Anglo-Franco Colonial differences
2. Inadequate regional & sub-regional institutional arrangements	Lack of appropriate agreements	Institutional and systemic	<ul style="list-style-type: none"> Existing Treaty of the EAC Existence of the Shared Vision for NBI. 	<ul style="list-style-type: none"> Negotiation of regional & sub regional agreements for the basin management authorities Confidence building; 	<ul style="list-style-type: none"> Limited professional expertise and negotiation skills Lack of decision support tools
	Inadequate political will	Institutional and systemic	<ul style="list-style-type: none"> Activities under Treaty of the EAC & Shared Vision of NBI 	<ul style="list-style-type: none"> Sensitization of politicians Regional integrations 	<ul style="list-style-type: none"> Conflicting interests
	Political instability	Institutional	<ul style="list-style-type: none"> Increasing regional Stability 	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> -
	Conflicting interests	Institutional and systemic	<ul style="list-style-type: none"> Existence of EAC, NBI, PSDLVB & Water Policy Committee Regional negotiations for equitable sharing under NBI 	<ul style="list-style-type: none"> Rejuvenate Water Policy Committee Establish basin management authorities. 	<ul style="list-style-type: none"> Conflicting interests

3. Inadequate national policy & institutional arrangements on International Waters	Low levels of public awareness	All	<ul style="list-style-type: none"> • Vibrant media • Parliamentary sectoral committees • Local government structures 	<ul style="list-style-type: none"> • Develop policies to guide development of international waters 	<ul style="list-style-type: none"> • -
	Funding shortage	Institutional and systemic	<ul style="list-style-type: none"> • Capital development grant • GEF 	<ul style="list-style-type: none"> • Collaborative effort with other players e.g. CSOs 	<ul style="list-style-type: none"> • Lack of data base for stakeholders
	Lack of suitable models	Institutional and systemic	<ul style="list-style-type: none"> • Experience from Hydro-met, NBI, LVEMP, LVFO, LVDP as prototype models 	<ul style="list-style-type: none"> • Borrow from the prototypes to create a suitable model for the region 	<ul style="list-style-type: none"> • Reluctance of transboundary partners to cooperate
	Lack of coordination among players	Systemic	<ul style="list-style-type: none"> • Existence of Civil Society organizations involved in policy development 	<ul style="list-style-type: none"> • Develop data base of stakeholder CSOs 	<ul style="list-style-type: none"> • Lack of confidence among players
4. Inadequate harmonization of stakeholder interests in the mgt. of Int. Waters	Limited awareness of stakeholders' roles (multi-sectoral & civil society institutions)	Institutional	<ul style="list-style-type: none"> • Existence of Water policy committee • NEMA • Water sector reform study 	<ul style="list-style-type: none"> • Organize fora to share experiences • Regional scientific conferences, working sessions • Create data base of stakeholders 	<ul style="list-style-type: none"> • Ability to create data base office
	Competing roles	Institutional	<ul style="list-style-type: none"> • Water policy committee • Water sector reform study 	<ul style="list-style-type: none"> • Carry out routine sector reviews to harmonize roles 	<ul style="list-style-type: none"> • Inter-departmental barriers
	Funding gap	Systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Resources mobilization from accrued benefits from the resource. 	<ul style="list-style-type: none"> • Unwillingness to pay
5. Inadequate capacity to forecast and assess rainfall	Inadequate monitoring network	Institutional	<ul style="list-style-type: none"> • Limited network exists • Existence of some trained station observers/attendants 	<ul style="list-style-type: none"> • Assess the optimal network coverage requirements • Instrumentation, training of station caretakers 	<ul style="list-style-type: none"> • Vandalism • Facilitation of rain gauge observers
	Insufficient skilled manpower	Institutional	<ul style="list-style-type: none"> • Highly trained personnel exists though very thin on the ground 	<ul style="list-style-type: none"> • Assessment of human resource needs & training • Create permanent linkages with higher institutions of learning. 	<ul style="list-style-type: none"> • Unwillingness of depts. to release staff for further training • Lack of appropriate curricular • Lack of funding

	Lack of monitoring continuity	Individual and institutional	<ul style="list-style-type: none"> • Availability of automatic recording equipment on the market • Increasing political stability 	<ul style="list-style-type: none"> • Evaluate available state of the art automatic recording equipment and use of real time data transmission 	<ul style="list-style-type: none"> • Political instability • Vandalism • Lack of funds
	Inadequate public involvement in information gathering (e.g. public institutions, missions etc)	Individual and institutional	<ul style="list-style-type: none"> • Existence of public institutions like schools, agriculture research institutions, sub counties, etc. 	<ul style="list-style-type: none"> • Public awareness workshops, radio & TV programs, posters, banners & brochures • Drama groups • Integrate meteorology into school curriculum • Provide data gathering equipment to collaborating institutions (Churches Schools and Sub-Counties) 	<ul style="list-style-type: none"> • Political will of local leadership.
	Inadequate funding	Systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Modest cost recovery from end users • Increase government support 	<ul style="list-style-type: none"> • Completeness & relevance of products to users
	Outdated/inadequate equipment	Institutional	<ul style="list-style-type: none"> • Availability of automatic recording equipment • Presence of modern telecommunication network (data transmission) 	<ul style="list-style-type: none"> • Evaluate available state of the art automatic recording equipment and use of real time data transmission, and acquire suitable equipment 	<ul style="list-style-type: none"> • Non-availability of funding
	Difficulty in acquisition of land for installation of monitoring stations	Institutional	<ul style="list-style-type: none"> • Local government premises 	<ul style="list-style-type: none"> • Purchasing of suitable land • Request for space from public institutions & make memoranda of understanding 	<ul style="list-style-type: none"> • Changing priorities of public institutions.
	Inadequate predictive/forecasting models	Institutional	<ul style="list-style-type: none"> • Models available internationally 	<ul style="list-style-type: none"> • Evaluate suitable models on the market • Train staff in their maintenance & operation 	<ul style="list-style-type: none"> • Trained staff turnover • Continuity of introduced models
6. Inadequate capacity to assess, monitor and develop groundwater	Inadequate monitoring network (experimental bore holes)	Institutional	<ul style="list-style-type: none"> • Monitoring network (though limited) • Existence of some trained station observers/attendants 	<ul style="list-style-type: none"> • Assess the optimal network coverage requirements & instrumentation, training of station caretakers 	<ul style="list-style-type: none"> • Vandalism
	Inadequate funding	Institutional and systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Mobilization of funds through regulated sale of generated information /data 	<ul style="list-style-type: none"> • Unwillingness to pay

	Inappropriate equipment	Institutional and systemic	<ul style="list-style-type: none"> • Availability of automatic recording equipment • Modern telecommunication network (data transmission) 	<ul style="list-style-type: none"> • Evaluate available state of the art automatic recording equipment and use of real time data transmission • Avail appropriate equipment 	<ul style="list-style-type: none"> • Lack of funding
	Lack of monitoring continuity	Individual and institutional	<ul style="list-style-type: none"> • Availability of automatic recording equipment on the market • Increased national stability 	<ul style="list-style-type: none"> • Evaluate available state of the art automatic recording equipment and use of real time data transmission 	<ul style="list-style-type: none"> • Political instability • Vandalism
	Inappropriate monitoring/assessment tools (modules)	Institutional and systemic	<ul style="list-style-type: none"> • Availability of suitable assessment tools on the international market 	<ul style="list-style-type: none"> • Study available options internationally & adopt them to the Uganda situations 	<ul style="list-style-type: none"> • Cost of training staff in the use of the new technology
	Insufficient/inadequately trained manpower	Institutional	<ul style="list-style-type: none"> • Highly trained personnel exists though very thin on the ground 	<ul style="list-style-type: none"> • Assessment of human resource needs& training • Create permanent linkages with higher institutions of learning • Fresh graduate training programs. 	<ul style="list-style-type: none"> • Unwillingness of departments to release staff for further training. • Policy backup
	Insufficient/inadequately trained manpower	Institutional	<ul style="list-style-type: none"> • Highly trained personnel exists though very thin on the ground 	<ul style="list-style-type: none"> • Assessment of human resource needs& training • Create permanent linkages with higher institutions of learning • Fresh graduate training programs. 	<ul style="list-style-type: none"> • Willingness of departments to release staff for further training. • Policy backup
	Difficulty in acquisition of land for installation of stations	Institutional and systemic	<ul style="list-style-type: none"> • Local government premises 	<ul style="list-style-type: none"> • Purchasing of suitable land, request for space from public institutions & make memoranda of understanding 	<ul style="list-style-type: none"> • Changing priorities of public institutions.
7. Inadequate capacity to assess and monitor surface water	Inadequate monitoring network	Institutional and systemic	<ul style="list-style-type: none"> • Monitoring network (though limited) • Some trained station observers/attendants exist 	<ul style="list-style-type: none"> • Assess the optimal network coverage requirements & instrumentation, training of station caretakers 	<ul style="list-style-type: none"> • Vandalism
	Outdated/inadequate equipment	Institutional and systemic	<ul style="list-style-type: none"> • Availability of automatic recording equipment • Modern telecommunication network (data transmission) on the market 	<ul style="list-style-type: none"> • Evaluate and procure available state of the art automatic recording equipment and use of real time data transmission 	<ul style="list-style-type: none"> • Lack of funding

	Inadequate funding	systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Resources mobilization from accrued benefits from the resource. 	<ul style="list-style-type: none"> • Unwillingness to pay
	Insufficient skilled manpower	Individual and institutional	<ul style="list-style-type: none"> • Highly trained personnel exists though very thin on the ground 	<ul style="list-style-type: none"> • Assess human resource needs & training to augment manpower • Create permanent linkages with higher institutions of learning • Start fresh graduate training programs. 	<ul style="list-style-type: none"> • Lack of funds • Unwillingness of departments to release staff for further training. • Attractiveness to work in the sector • Policy back up • Thin organizational structure.
	Inadequate public involvement (e.g. public institutions, missions etc)	Individual and institutional	<ul style="list-style-type: none"> • Existence of public institutions like schools, agriculture research institutions, sub-counties etc. • Willingness of NGOs collaborate with government 	<ul style="list-style-type: none"> • Organize workshops • Develop public awareness programs through radio & TV, posters, banners & brochures 	<ul style="list-style-type: none"> • Political will of local leadership.
	Lack of Predictive forecasting models	Institutional and systemic	<ul style="list-style-type: none"> • Models available internationally 	<ul style="list-style-type: none"> • Evaluate suitable models on the market • Train staff in their maintenance & operation 	<ul style="list-style-type: none"> • Trained staff turnover • Continuity for introduced models
8. Inadequate provision and mgt of water for production	Lack of proper policy guidelines	Institutional and systemic	<ul style="list-style-type: none"> • Ongoing drafting of the irrigation policy 	<ul style="list-style-type: none"> • Expedite policy development and create policies as required 	<ul style="list-style-type: none"> • Inadequate ordination between DWD and end-user sectors
	Inadequate funding	Systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Resources mobilization from accrued benefits from the resource • Involvement of private sector. 	<ul style="list-style-type: none"> • Unavailability of markets for products.

	Inadequate skilled manpower	Individual and institutional	<ul style="list-style-type: none"> • Institutional restructuring 	<ul style="list-style-type: none"> • Assessment of human resource needs & training • Create permanent linkages with higher institutions of learning to augment skilled manpower • Initiate Fresh graduate training programs. 	<ul style="list-style-type: none"> • Funding • Unwillingness of depts to release staff for further training. • Attractiveness to work in the sector • Policies back up • Thin organizational structure.
	Lack of appropriate tools (models)	Institutional and systemic	<ul style="list-style-type: none"> • Models are available internationally 	<ul style="list-style-type: none"> • Study available options internationally & adopt them to the Uganda situation & acquire the technology 	<ul style="list-style-type: none"> • Non-availability of funding & skilled labor
	Inadequate information on water demands for production	Institutional	<ul style="list-style-type: none"> • Planned livestock census • Current data sampling • Rural water supply mapping 	<ul style="list-style-type: none"> • Evaluate possible water for production needs • Conversion to planned & commercial production. 	<ul style="list-style-type: none"> • Investment opportunities (insufficient)
9. Water quality Degradation	Inappropriate soil and water conservation practices	All	<ul style="list-style-type: none"> • Conservation studies carried out at KARI • Services offered by NAADS. 	<ul style="list-style-type: none"> • Develop effective extension delivery at grassroots level • Enact bye-laws and ordinances 	<ul style="list-style-type: none"> • Non-availability of extension strategies, funds and trained manpower
	Degradation of catchment forests	Individual and systemic	<ul style="list-style-type: none"> • New forest policy (2002), Act (2003) & Plan (2002) • Establishment of FID, DFS • Availability of FORI • Civil Society Organizations 	<ul style="list-style-type: none"> • Operationalize forestry management reforms • Promote use of renewable energy sources e.g. solar energy 	<ul style="list-style-type: none"> • Availability of funding for full operationalization of the reforms
	Degradation of wetland buffers	All	<ul style="list-style-type: none"> • Wetland Policy, Action plan & Regulation • Availability of the Wetland Inspection division 	<ul style="list-style-type: none"> • Emphasis in extension workers participation • Boosting staff numbers in the Wetland Inspection Division. 	<ul style="list-style-type: none"> • WID lacks clear mandate
	Insufficient control of nutrient load from sewage and industrial effluents	Individual and institutional	<ul style="list-style-type: none"> • Requirement of EIA, Municipal waste & effluent management component (LVEMP) • Effluent standards, Water regulation division in DWD 	<ul style="list-style-type: none"> • Boosting the monitoring for compliance • Emphasizing self-monitoring by polluters. • Implementation of polluter pays principal. Prosecution of defaulters 	<ul style="list-style-type: none"> • Political interference • Big number of monitoring staff required.

	Poor culture of self-discipline regarding water quality maintenance	All	<ul style="list-style-type: none"> EIA Environmental Audits 	<ul style="list-style-type: none"> Emphasizing self-monitoring by polluters Enforcement of use of waste discharge treatment plants. 	<ul style="list-style-type: none"> Polluters' by-passing waste discharge treatment plants.
	Inappropriate use of fertilizers & agrochemicals.	Individual and systemic	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> Monitoring guidelines & plans Encourage use of biological pest control methods. 	<ul style="list-style-type: none"> Caution on introduction of foreign species.
	Inadequate coordination amongst stakeholder institutions	All	<ul style="list-style-type: none"> NEMA, LVEMP 	<ul style="list-style-type: none"> Water policy committee to take the initiative to coordinate & harmonize activities of the stakeholders 	<ul style="list-style-type: none"> -
10. Inadequate management of aquatic ecosystem water reserves	Insufficient number of skilled staff	Institutional and systemic	<ul style="list-style-type: none"> Limited number of related staff (aquatic ecologists/water engineers) available at FIRRI and DWD 	<ul style="list-style-type: none"> Assessment of human resource needs & training Creation of permanent linkages with sectoral institutions and higher centers of learning Fresh graduate training programs. 	<ul style="list-style-type: none"> Funding Willingness of dept to release staff for further training. Attractiveness to work in the sector Policies back up Thin organizational structure.
	Insufficient funding of appropriate research	Systemic	<ul style="list-style-type: none"> Donor willingness to fund environmental projects; 	<ul style="list-style-type: none"> Possible funding from fish levy trust fund. 	<ul style="list-style-type: none"> High costs of ecosystems research
	Lack of guidelines / Action plans	Institutional	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> Creation of long term guidelines & action plan 	<ul style="list-style-type: none"> -
11. Inadequate devolution of water resources management to district administrations	Inadequate skilled labor at the districts to manage water resources	Institutional and systemic	<ul style="list-style-type: none"> Availability of Water & Environmental officers at districts 	<ul style="list-style-type: none"> Ongoing sector review is expected to lead to sector reform 	<ul style="list-style-type: none"> Inadequate funding
	Inadequate appreciation of the economic value of water resources at local levels.	Individual and systemic	<ul style="list-style-type: none"> Environmental wateriness campaigns at local governments (district, sub-county and village) level 	<ul style="list-style-type: none"> Community sensitization campaigns on value of integrated water resources management 	<ul style="list-style-type: none"> Thin organizational structure
	Inadequate public participation	Individual and systemic	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> Intensify community sensitization and mobilizations Encourage Intervention by Civil Society organizations. 	<ul style="list-style-type: none"> -

	Lack of sense of resource ownership at local government & community levels	Individual and systemic	<ul style="list-style-type: none"> • Water user groups available 	<ul style="list-style-type: none"> • Intensify community sensitization campaigns on value of integrated water resources management 	<ul style="list-style-type: none"> • Thin organizational structure
	Insufficient funding	Systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Increase planning priority status of water resources management 	<ul style="list-style-type: none"> • -
12. Inadequate human resource development	Brain drain	Individual and systemic	<ul style="list-style-type: none"> • Public service reforms aimed at improving terms and conditions of service 	<ul style="list-style-type: none"> • Develop strategies to deliver living wage 	<ul style="list-style-type: none"> • Insufficient funds
	Inadequate funding;	Systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Increase planning priority status of water resources management; Encourage Intervention by CSOs 	<ul style="list-style-type: none"> •
	Lack of appropriate training modules & resource persons	Institutional and systemic	<ul style="list-style-type: none"> • Higher institutions of learning available 	<ul style="list-style-type: none"> • Water resources Sectoral institutions should assess staff needs • Partner with higher institutions of learning and develop appropriate training & refresher modules for staff development • Recruit &/or train the resource persons 	<ul style="list-style-type: none"> • Insufficient funds
13. Inadequate information sharing and exchange	Inadequately developed databases	Institutional and systemic	<ul style="list-style-type: none"> • Some databases are available in stakeholder institutions 	<ul style="list-style-type: none"> • Initiate collaborative database development among stakeholder institutions, based on standard formats 	<ul style="list-style-type: none"> • Unwillingness to share data
	Absence of information sharing and exchange framework;	All	<ul style="list-style-type: none"> • Meta-database at ministry of finance 	<ul style="list-style-type: none"> • Develop national policy, guidelines and mechanisms for information sharing and exchange 	<ul style="list-style-type: none"> • -
	Lack of appreciation of the cost of data collection	All	<ul style="list-style-type: none"> • Cost recovery from data users • Practiced at some institutions 	<ul style="list-style-type: none"> • Legalize and regulate cost recovery for data and information in relevant institutions 	<ul style="list-style-type: none"> • Absence of legal mandates on cost recovery
	Inadequate funding	Systemic	<ul style="list-style-type: none"> • Donor willingness to fund environmental projects 	<ul style="list-style-type: none"> • Increase planning priority status of water resources management • Encourage Intervention by Civil Society organizations 	<ul style="list-style-type: none"> • -

	Insufficient trained staff	Individual and institutional	<ul style="list-style-type: none"> • Some highly trained personnel exists though very thin on the ground 	<ul style="list-style-type: none"> • Assessment of human resource needs& training • Acquisition of equipment and staff training 	<ul style="list-style-type: none"> • -
	Lack of awareness about the relevance of databases	All	<ul style="list-style-type: none"> • Some information sharing practices 	<ul style="list-style-type: none"> • Organize coordinated/joint research activities, seminars and workshops for relevant institutions to foster appreciation of information sharing 	<ul style="list-style-type: none"> • Unwillingness to collaborate by some institutions or persons

Annex 3. Identified cross-cutting capacity building issues relevant to conservation of biodiversity, land degradation, climate change and international waters

Challenges to integrated capacity building	Convention Interventions				Synergistic capacity needs	Lead institutions
	CBD	CCD	UNFCCC	IW		
Institutional capacity building						
Inadequate mechanisms for institutional collaboration	<ul style="list-style-type: none"> - Strengthen collaboration between local communities, LGs, CSOs and NGOs, herbalists working on biodiversity - Strengthen networks and provide incentives for team building 	<ul style="list-style-type: none"> - Strengthen local institutions of NR users 	<ul style="list-style-type: none"> - Establish a climate change secretariat - Strengthen coordination 	<ul style="list-style-type: none"> - Activate water policy committee and broaden membership to include key players - Establish basin management authorities - Strengthen collaboration with other actors e.g. CSOs 	<ul style="list-style-type: none"> • Set up a permanent national coordination committee for MEAs • Membership to the NCBs for the MEAs should include representation of all relevant institutions • Convention Focal Points should be members of cross-sectoral NR committees • Strengthen district production and environment committees as entry points for MEAs implementation in districts (information, facilities, training, etc.) 	NEMA, MWLE, MAAIF, MoH, MoLG, NARO, LVFO, EAC
Inadequate institutional capacity for NR management	<ul style="list-style-type: none"> - Strengthen institutional capacity for NR management 	<ul style="list-style-type: none"> - Promote and strengthen communal land associations - Promote community participation in conflict resolution 	<ul style="list-style-type: none"> - Strengthen Disaster Preparedness department - Review and expand the Meteorology Department - Decentralize delivery of meteorological services - Establish regional meteorology offices 	<ul style="list-style-type: none"> - Establish and strengthen institutional framework 	<ul style="list-style-type: none"> • Target and strengthen resource user associations • Establish a network of stakeholders and hold annual fora to share experiences 	
Weak harmonization of NR related policies, programmes among institutions	<ul style="list-style-type: none"> - Harmonize regional policies and legislations on biodiversity conservation 	<ul style="list-style-type: none"> - Institutionalize integrated planning approaches - Rationalize mandates of relevant institutions in enforcing laws and policies 	<ul style="list-style-type: none"> - Define roles and responsibilities of national and local institutions in climate change activities 	<ul style="list-style-type: none"> - Carry out routine sector reviews to harmonize roles 	<ul style="list-style-type: none"> • Carry out sector review and define roles and responsibilities of institutions and harmonize their policies and programmes 	

Weak coordination mechanisms for addressing trans-boundary issues	<ul style="list-style-type: none"> - Develop protocols for trans-boundary NR management - Lobby support for trans-boundary programmes - Joint regional programmes on biodiversity 	<ul style="list-style-type: none"> - Strengthen inter-state coordination for effective use of the Nile Basin waters 		<ul style="list-style-type: none"> - Regional integration 	<ul style="list-style-type: none"> • Strengthen national coordination to address trans-boundary ENR issues e.g. preparation of proposals, harmonization of policies, etc. 	
Legal, policy and enabling frameworks						
Inadequate integration of NR concerns in Sectoral policies and plans	<ul style="list-style-type: none"> - Promote sectorwide approach in planning and formulation of policies 	<ul style="list-style-type: none"> - Prepare guidelines for integrating sustainable land and water management into development plans - Integrate gender issues into SLM policies - Integrate peace building into policies and extension messages - Integrate SLM into DEAPs and DDPs - Review SLM laws and policies - Integrate provision of energy into the mainstream extension system (NAADS) 		<ul style="list-style-type: none"> - Develop an integrated water resources development plan - Integrate water resources management into extension delivery at grassroots (NAADS) - Operationalise forestry reform policies - Operationalise water catchment related policies 	<ul style="list-style-type: none"> • Prepare guidelines to integrate issues of MEAs into relevant national and district development plans • Review NR laws and policies and their enforcement mechanisms • Integrate MEAs issues into extension messages (NAADS) • Prepare integrated plans and programmes for MEAs taking into account poverty, gender, health, conflict resolution, etc. • Develop gender responsive policies and plans 	NEMA, MoLG, Ministry of Justice, MEMD, MAAIF, MWLE
Weak enforcement of NR management laws and byelaws		<ul style="list-style-type: none"> - Put in place and enforce SLM bye-laws and ordinances - Enact and enforce bye-laws on food storage 	<ul style="list-style-type: none"> - Train and provide facilities and tools to regulate pollution 	<ul style="list-style-type: none"> - Enact bye laws and ordinances on water resource management - Boost numbers of inspectors in wetlands division - Emphasize self monitoring by polluters - Enforcement of use of waste discharge treatment plant 	<ul style="list-style-type: none"> • Facilitate formulation and enforcement of bye laws and ordinances on NR management • Increase man power and facilities for inspection of NR management • Promote community involvement in enforcement of NR bye laws 	

Lack of or weak policies and guidelines for NR management	<ul style="list-style-type: none"> - Strengthen frameworks for intellectual property rights - Regulations for conserving endangered species 	<ul style="list-style-type: none"> - Formulate a pastoral code - Strengthen drylands issues in research policies - Formulate rangelands, land use irrigation and soils policies - Policy on infrastructure development for mobile pastoralists - Lobby for a policy to develop alternative sources of energy 	<ul style="list-style-type: none"> - Develop local disaster preparedness plans - Develop ENR investment plan - Develop an employment policy - Develop a policy on climate change research - Develop adaptation and mitigation guidelines - Develop a policy on data access and exchange 	<ul style="list-style-type: none"> - Develop policies to guide development of international waters - Develop policy on information sharing and exchange 	<ul style="list-style-type: none"> • Facilitate formulation of policies on rangelands management, infrastructure development for mobile pastoralists, employment, information sharing and exchange, and management of NRs • Prepare guidelines and regulations on conserving endangered species, pastoral code and disaster preparedness 	
Public awareness and education						

<p>Limited awareness of NR management</p>	<ul style="list-style-type: none"> - Develop awareness programmes on indigenous knowledge - Production of awareness materials on CBD - Sensitization on intellectual property rights - Sensitize community participation in planning agenda 	<ul style="list-style-type: none"> - Sensitize key actors on their roles in SLM - Develop training modules on SLM - Sensitize community leaders on gender issues in SLM - Create awareness of the cost of inaction in addressing land degradation - Translate laws and policies into local languages - Sensitize LCs and local people on SLM laws and policies including those relating to communal lands - Community sensitization of the value of preserving infrastructure - Sensitize policy makers on importance of mobile pastoral systems - Sensitization on alternative energy sources 	<ul style="list-style-type: none"> - Develop and implement public awareness programmes - Develop IEC materials - Translate relevant climate change documents in local languages - Establish a climate change awareness fora - Opportunity cost of not addressing climate change issues - Promote awareness programmes on adaptation measures for climate change 	<ul style="list-style-type: none"> - Sensitization of politicians - Public awareness through workshops and mass media - Prepare awareness materials - Sensitization on integrated water resources management 	<ul style="list-style-type: none"> • Preparation and translation of awareness materials to local languages • Sensitization programmes on relevant laws, cost of inaction, SLM, national obligations to MEAs, etc. • Sensitize policy and decision makers, mass media and private sector on MEAs • Integrate MEA issues into NAADS program 	<p>NEMA, MoES, MAAIF, MWLE, District Environment Committees Local Governments Civil society NAADS</p>
<p>Inadequate integration of MEA issues into formal education curricular</p>	<p>Integrate biodiversity issues into education strategies</p>	<ul style="list-style-type: none"> - Strengthen SLM in school curricular at all levels - Prepare teaching materials on SLM 	<ul style="list-style-type: none"> - Review curriculum of education institutions to include climate change issues - Source for fellowships and scholarships 	<ul style="list-style-type: none"> - Create permanent links with higher institutions of learning - Integrate water issues into school curricular 	<ul style="list-style-type: none"> • Prepare and disseminate training materials • Conduct review of curricular of education institutions to include MEAs issues • Carry out training needs assessment • Prepare training of trainers courses on MEAs 	

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Inadequate local capacity to implement SLM practices	Develop and implement management plans for invasive species	<ul style="list-style-type: none"> - Promote alternative livelihoods to minimize land use conflicts - Pilot communal land management systems 	<ul style="list-style-type: none"> - Promote sustainable utilization of land and energy resources - 	<ul style="list-style-type: none"> - Promote use of renewable energy resources e.g. solar 	<ul style="list-style-type: none"> • Develop guidelines and pilot initiatives for addressing invasive species, disincentives in communal land management systems, promoting alternative livelihood systems and alternative energy sources • Develop guidelines for sustainable land use • Pilot SLM best practices 	MAAIF, MoLG, NARO, LGs, NGOs, MWLE, NEMA, NAADS, Private sector
Data and information collection, dissemination and monitoring						
Inadequate capacity to assess and monitor trends of NR management	Set up monitoring network and develop monitoring indicators	<ul style="list-style-type: none"> - Increase coverage of weather stations, especially in drylands - Develop monitoring indicators for dryland ecosystems 	<ul style="list-style-type: none"> - Expand monitoring network (man power and equipment) - Review and strengthen early warning systems - Monitoring dynamics of emissions and development of local emission factors - Develop a format for information gathering on CC and national communication preparation 	<ul style="list-style-type: none"> - Strengthen meteorology, and ground and surface water network coverage - Provide automatic weather, ground and surface water recording equipment which provides real time data - Develop monitoring guidelines for use of fertilizers and agro-chemicals - Initiate collaborative database development - Develop standard formats for data exchange 	<ul style="list-style-type: none"> • Increase and modernize networks of weather and water monitoring stations to provide real time data • Develop a common format for information gathering to feed into national reporting on MEAs • Develop monitoring and evaluation indicators for the various MEAs • Strengthen collection, analysis and dissemination of early warning information on MEAs issues 	NEMA, UBOS, MAAIF, MEMD, District Planning Units, District Environment Committees

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Lack of capacity to collect, disseminate and exchange information and data on NR management	<ul style="list-style-type: none"> • Documenting indigenous knowledge • Information networks on indigenous knowledge 	<ul style="list-style-type: none"> - Establish a data and information exchange network on SLM - Build ICT capacity in districts - Establish a market information system for dryland products 	<ul style="list-style-type: none"> - Establish an information network with other institutions - Equip Meteorology department with data analysis and storage facilities - Develop standard format for data management - Develop a data exchange protocols 	<ul style="list-style-type: none"> - Develop a database of stakeholders - Organize fora to share experiences - Formulate MoUs with Local governments on installation and management of weather, ground and surface water stations 	<ul style="list-style-type: none"> • Establish information exchange networks between generators and users of NR information • Develop protocols for data and information exchange • Equip data/ information generators and users with appropriate ICT facilities • Strengthen market information systems for biodiversity and dryland products 	←
Technology development						
Inadequate use of locally available technologies and IK	<p>Traditional knowledge in breeding and selection of crops and livestock</p> <p>Training in technology policy studies</p>	<ul style="list-style-type: none"> - Promote agro-processing and value addition technologies - Document, evaluate and disseminate IK and technologies for SLM - Mount cost:benefit analysis of the technologies - Promote farmer to farmer exchange of IK 	<ul style="list-style-type: none"> - Promote intellectual property rights - Document IK on adaptation and mitigation technologies and practices - Promote use of IK - Promote affordable adaptation technologies 	-	<ul style="list-style-type: none"> • Evaluate and document IK • Carry out cost:benefit analysis of technologies 	←
Lack of trained expertise to make technology adaptable	Orientation training programmes on relevant high-tech		Train stakeholders in technology assessment skills		•	

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Inadequate capacity to document and disseminate/popularize best practices	Implement community based <i>in-situ</i> initiatives Strategies and plans for technology innovation and application	<ul style="list-style-type: none"> - Document and disseminate SLM technologies and best practices - Document and evaluate and disseminate potential alternative livelihood systems - Set up technology development and dissemination centers in drylands 	<ul style="list-style-type: none"> - Identify and assess appropriate technologies - Assess internationally available technologies and best practices and adapt them to the local situation as appropriate 		<ul style="list-style-type: none"> • Document and disseminate local technologies and best practices of biodiversity conservation, land management, alternative livelihoods and climate change • Set up technology development and dissemination centers 	
Research						
Inadequate research in relevant fields in NR management	<ul style="list-style-type: none"> - Research in indigenous knowledge - Undertake economic evaluation of NRs - Research in species and habitat recovery - Assessment of GMOs implications on communities - Inventory of invasive species and their potential impact - Develop strategies and plans for biodiversity research 	<ul style="list-style-type: none"> - Conduct studies in drylands and their management - Integrate gender analysis in SLM research - Train staff in districts in research methodologies - Promote research in water harvesting and management - Studies on alternative energy technologies 	<ul style="list-style-type: none"> - Strengthen research in climate change issues 	<ul style="list-style-type: none"> - Undertake economic evaluation of the resource 	<ul style="list-style-type: none"> • Identify and integrate research needs for MEAs implementation into the National Research Systems e.g. NARS program 	
Inadequate research infrastructure	<ul style="list-style-type: none"> - Provide institutional herbaria, databanks and history museum - Assessment of existing research facilities - Rehabilitate and install research facilities 	<ul style="list-style-type: none"> - Establish a rangelands research and development center 			<ul style="list-style-type: none"> • Carry out an assessment and strengthen infrastructure to meet research needs of MEAs • Establish a rangelands research and development center 	

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Inadequate dissemination of research findings and appropriate technologies		<ul style="list-style-type: none"> - Organize fora to disseminate SLM research findings - 	<ul style="list-style-type: none"> - Establish research network on climate change - Ensure that research is demand driven - Open web site on research activities and findings - Analyze constraints to transfer of technology 		<ul style="list-style-type: none"> • Organize periodical fora to share new scientific findings among stakeholders • Strengthen scientific networks on themes relevant to MEAs 	
Limited knowledge of the status of NRs and cost of inaction	<ul style="list-style-type: none"> - Undertake economic evaluation of NRs 	<ul style="list-style-type: none"> - Studies on economic cost of land degradation and impact 	<ul style="list-style-type: none"> - Studies on extreme weather events, vulnerability and impact assessment 	<ul style="list-style-type: none"> - Evaluate water for production needs e.g. for commercial production 	<ul style="list-style-type: none"> • Conduct integrated studies on the cost of environmental degradation (including social and economic impacts) 	
Technical and managerial capacity						
Inadequate technical and managerial capacity	<ul style="list-style-type: none"> - Train trainers on indigenous knowledge - Train experts in production of biodiversity education materials - Training programmes in fundraising skills and international relations - Conduct training in policy formulation and analysis - Training to design incentive measures for biodiversity - Training on use of new technologies for biodiversity conservation and information systems - Training LG officials in ENR governance 	<ul style="list-style-type: none"> - Train SLM actors in integrative and participatory planning approaches, gender perspectives and analysis, negotiation and conflict resolution skills - Train man-power in data collection and monitoring systems - Paralegal training on SLM - Train local communities in SLM technologies (e.g. irrigation, water harvesting and management, water catchment management), post-harvest handling of agro-products, alternative energy technologies, entrepreneurship and alternative livelihood skills - Train trainers in ecosystems management - Train staff in education institutions on SLM 	<ul style="list-style-type: none"> - Train man power in climate change issues - Recruit systems analysts - Train personnel in data processing and database management - Train relevant institutions in IT 	<ul style="list-style-type: none"> - Strengthen capacity to negotiate regional and sub-regional treaties for management of Nile Basin - Train meteorology station care takers 	<ul style="list-style-type: none"> • Conduct general training programmes in the following areas: <ul style="list-style-type: none"> - Resource mobilization - Designing incentive programmes - Negotiation skills - ICT - Integrated planning - Policy analysis - Gender - Monitoring and evaluation - Conflict resolution - Paralegal NR laws - Entrepreneurship skills - Project management - Data processing - Integrated land and water management 	

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Funding mechanisms					
Lack of capacity among local institutions to mobilize funds	-Training programmes in proposal writing	- Promote partnerships between local communities, NGOs and other actors - Establish microfinance institutions in districts	- Provide incentives for good practices e.g. transfer of mitigation and adaptation technologies		• Pilot initiatives to demonstrate benefits from partnerships, incentives and best practices
Inadequate financial resources at national and local levels to implement the conventions	- Mainstreaming CBD issues in national and local plans and financial processes	- Training in SLM mainstreaming	- Mainstream climate change issues in the planning process - Lobby for and mobilize resources for awareness programmes - Provide research grants for climate change	- Taxation of resource benefits - Modest cost recovery from service users e.g. data - Implement a polluter pays principle - Fish levy fund - Mainstream water resources management into DDPs	• Develop common mainstreaming guidelines for national, sectoral and district plans and budgets • Develop a funding mechanism suitable for addressing long term issues at the local level
Low private sector participation	-Develop strategies for private sector participation in NR management	- Sensitize private sector on opportunities to invest in drylands - Advocate for a policy that promotes private sector investment in drylands, including incentives - Encourage private sector investment in storage, agro-processing and marketing - Promote private sector investment in alternative energy technologies - Strengthen private sector associations in drylands	-Stimulate involvement of the private sector	- Stimulate private sector involvement in water management	• Develop a strategy to enhance private sector participation and investment in environmental management • Sensitization of the private sector and their roles on the MEAs

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Inadequate awareness on global funding opportunities	-Organize donor conferences on global funding opportunities	- Workshops for SWGs on ENR, agriculture and development partners	- Develop a directory on global funding opportunities		<ul style="list-style-type: none"> • Organize workshops for decision makers e.g. SWGs and Ministry Top Policy Management Committees on MEAs and cost of inaction on their issues • Organize donors conference 	
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Annex 4. Opportunities for integration of cross-cutting convention issues into relevant institutional plans

Synergistic intervention	Opportunities for integrating synergistic interventions into sectoral plans	
	Operational environment	Existing processes
Institutional interventions		
Recruit and train relevant man power	<ul style="list-style-type: none"> • Availability of training institutions 	<ul style="list-style-type: none"> • Trainable man power in place
Improve physical infrastructure		<ul style="list-style-type: none"> • Existence of infrastructure
Strengthen district production and environment committees as entry points for MEAs implementation in districts (information, facilities, training, etc.)	<ul style="list-style-type: none"> • Local Government Act (1997) 	<ul style="list-style-type: none"> • Existence of DEAPs • Existence of structures for implementation in the districts (environment officers, production committees, etc.
Sector review and define roles and responsibilities of institutions and harmonise their policies and programmes	<ul style="list-style-type: none"> • Appropriate legislation in place 	<ul style="list-style-type: none"> • Existence of policies and programmes
Legal, policy and enabling frameworks		
Guidelines to integrate issues of MEAs into relevant national and district development plans	<ul style="list-style-type: none"> • Legal framework 	<ul style="list-style-type: none"> • Existence of some guidelines and regulations
Formulation of policies on rangelands management, infrastructure development for mobile pastoralists, employment, information sharing and exchange, and NR management	<ul style="list-style-type: none"> • Legal framework 	<ul style="list-style-type: none"> • Formulation of rangeland policy on-going • Availability of relevant information
Integrated plans and programmes for MEAs taking into account poverty, gender, health, conflict resolution, etc.	<ul style="list-style-type: none"> • Sectorwide approach to planning 	<ul style="list-style-type: none"> • Existing programmes e.g. PMA and NAADS
Man power and facilities for inspection of NR management	<ul style="list-style-type: none"> • Institutions and facilities available 	<ul style="list-style-type: none"> • Trainable man power
Integrate MEAs issues into extension messages (NAADS)	<ul style="list-style-type: none"> • Legal framework of NAADS 	<ul style="list-style-type: none"> • NAADS programme in place • Availability of extension officers • Research institutions
Public awareness and education		
Sensitise policy and decision makers, mass media, private sector and other resource users on MEAs	<ul style="list-style-type: none"> • Constitution of Uganda, National Environment Action Plan (NEAP), National Environment Management Policy (NEMP), National Environment Act, National Forestry and Tree Planting Act, National Forestry Policy, Wetlands Sector Strategic Plan (WSSP), Water Action Plan, Water Act, Wildlife Act, NBSAP, NAP to combat 	<ul style="list-style-type: none"> • ENR SWAP process, NEMA’s EMCBP II education programmes, National Wetlands Programme, NAADS programme, FID-On farm Income and Tree-planting, Technical Support Units – DWD, NBI, LVEMP, LGDP II

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	desertification, Plan for Modernisation of Agriculture (PMA)	
Develop capacity at national and local governments, civil society organizations and equip them to carry out public awareness on MEAs	<ul style="list-style-type: none"> Constitution of Uganda, NEAP, NEMP, National Environment Act, National Forestry and Tree Planting Act, National Forestry Policy, WSSP, Water Action Plan, Water Act, Wildlife Act, NBSAP, NAP, PMA 	<ul style="list-style-type: none"> NBI, NEMA's EMCBP II, Wetlands Programmes, NAADS
Develop training modules on MEAs and conduct training for targeted audiences	- do -	- do -
Establish awareness forum on MEAs	- do -	- do -
Prepare and translate awareness materials to local languages, and disseminate to targeted audiences	- do -	- do -
Prepare and disseminate training materials for use in schools and other educational institutions	- do -	- do -
Training needs assessment among education providers on MEAs and develop training programmes	<ul style="list-style-type: none"> UPE, Government White Paper on Education, Primary school curriculum, formal environment education strategy, NAPA, National Environment Management Plan, National Forestry Policy, NBSAP, NAP, WSSP 	<ul style="list-style-type: none"> Review of Ordinary level curriculum, Public Service Restructuring, NBI
Technical and managerial capacity		
Training in negotiation skills, and conflict resolution and management	<ul style="list-style-type: none"> Constitution of Uganda, NEAP, NEMP, National Environment Act, National Forestry and Tree Planting Act, National Forestry Policy, WSSP, Water Action Plan, Water Act, Wildlife Act, NBSAP, NAP, PMA, PEAP, Local Government Act 	<ul style="list-style-type: none"> NBI
Training in gender responsive policy and law development and analysis, integrated planning and assessment, monitoring and evaluation of MEA related programmes	<ul style="list-style-type: none"> Gender Policy, Population Policy 	<ul style="list-style-type: none"> NEMA's Integrated Sustainability Assessment Project
Skills based training in SLM, biotechnology use and development, ICT, ecosystem and data management	- do -	<ul style="list-style-type: none"> NEMA's EMCBP II, On-going university and other higher institutions' courses, LGDP II
Training in designing incentives for programmes and entrepreneurship related to MEAs	- do -	<ul style="list-style-type: none"> LGDP II, On-going university and other higher institutions of learning courses

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Research		
Develop and strengthen mechanisms for disseminating and exchanging research findings	<ul style="list-style-type: none"> • PMA, PEAP, NEAP 	<ul style="list-style-type: none"> • Research by NARO • NAADS extension services
Integrated studies on the cost of environmental degradation (including social and economic impacts)	<ul style="list-style-type: none"> • Constitution, ES, WS, LS, NEPAD 	<ul style="list-style-type: none"> • NEMA' s Environment Impact Assessments • Department of Meteorology (Climatic Changes Impact Studies) • Water Resources Management
Data and information collection, dissemination and monitoring		
Set up and modernize/ strengthen appropriate networks of monitoring stations to provide real time data	<ul style="list-style-type: none"> • ES, NEMA, WS 	<ul style="list-style-type: none"> • Monitoring crops, animals and forests performance • Monitoring weather and climatic elements
Develop and/or review monitoring and evaluation indicators for the various MEAs	<ul style="list-style-type: none"> • ES, WS, LS 	<ul style="list-style-type: none"> • Environment Department (Set up and enforce environmental regulations)
Strengthen relevant market information systems	<ul style="list-style-type: none"> • Constitution, PEAP, PMA 	<ul style="list-style-type: none"> • CBOs, National Planning Authority, Agricultural planning, FEWSNET
Initiate and/or strengthen collection, analysis and dissemination of early warning information on MEAs issues	<ul style="list-style-type: none"> • ES, WS, LS 	<ul style="list-style-type: none"> • Existence of NARO, Meteorology Department, NEMA
Establish and/or strengthen information exchange networks and protocols between generators and users of NR information	<ul style="list-style-type: none"> • ES, PMA, PEAP 	<ul style="list-style-type: none"> • Existence of NAADS, NEMA
Technology development		
Set up technology development and dissemination centers	<ul style="list-style-type: none"> • PEAP, PMA, Constitution 	<ul style="list-style-type: none"> • NARO, MAAIF, NAADS, Universities, FEWSNET, Planning Authorities
Carry out cost:benefit analysis of technologies	<ul style="list-style-type: none"> • PEAP, PMA 	<ul style="list-style-type: none"> • Existence of MAIIF, NARO, Universities
Sustainable Land Management		
Develop guidelines for sustainable land use practices for different ecosystems related to MEAs	<ul style="list-style-type: none"> • Constitution of Uganda, NEAP, NEMP, National Environment Act, National Forestry and Tree Planting Act, National Forestry Policy, WSSP, Water Action Plan, Water Act, Wildlife Act, Land Sector Strategic Plan (LSSP), NBSAP, NAP, regulations on management of hilly and mountainous areas, lake shores, river banks and wetlands 	<ul style="list-style-type: none"> • Soils policy and action plan development, Ecosystem planning – NEMA, Special Land Act Implementation, Wetlands Management Planning, MAAIF, NAADS, community forestry, UWA/PAMSU, AMP – MoLG
Prepare and implement local sustainable land use plans	- do -	- do -
Conduct awareness and training on SLM	- do -	- do -

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Pilot SLM initiatives for addressing issues related to MEAs e.g. invasive species, communal land management, and alternative livelihood systems and energy sources	- do -	- do - <ul style="list-style-type: none"> • Energy for Rural Transformation, Agricultural zoning, PEAP/PMA Rural-transformation, Water for production in Karamoja, NAADS programme
Funding mechanisms		
Common mainstreaming guidelines for national, sectoral and district plans and budgets	<ul style="list-style-type: none"> • Sectorwide approach to planning 	<ul style="list-style-type: none"> • Existence of guidelines and district plans and budgets
Train personnel and develop multidisciplinary proposals for implementation of the MEAs	<ul style="list-style-type: none"> • Training institutions available 	<ul style="list-style-type: none"> • Availability of human resources • Existence of various institutions

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Annex 5(a) Action Plan for Synergistic Interventions of the NCSA Project

Capacity building intervention areas (IAs)	Outputs	Interventions
1. Institutional strengthening	Inter-institutional collaboration framework established	<ul style="list-style-type: none"> • Establish collaboration committees • Develop guidelines for collaboration
	Executing institutions strengthened	<ul style="list-style-type: none"> • Recruit and/ or train relevant manpower • Improve available physical infrastructure and office equipment (Focal Points and districts)
2. Legal, policy and enabling frameworks	National and District Development Plans that integrate MEAs issues	<ul style="list-style-type: none"> • Prepare guidelines for integration of MEAs issues into national and district plans • Develop integrated plans for MEAs • Prepare extension guidelines for integration of MEAs issues • Develop extension materials with MEAs issues integrated
	Comprehensive and coherent laws, policies, regulations and standards relevant to MEAs formulated	<ul style="list-style-type: none"> • Formulate NR (rangelands management, pastoralism and land use, biodiversity, climate) policies that integrate MEAs issues • Review research, employment, energy, disaster preparedness and natural resource policies to integrate MEAs issues • Harmonize the policies to ensure congruency
3. Public awareness and education	Policy and decision makers, local communities and other actors sensitized on MEAs	<ul style="list-style-type: none"> • Prepare awareness materials on MEAs for dissemination • Translate awareness materials on MEAs to local languages • Conduct sensitization workshops for targeted audiences • Conduct mass media programmes (Radio, TV, print)
	Extension service providers trained on MEAs	<ul style="list-style-type: none"> • Develop training modules/ materials • Conduct training of trainers programmes
	MEAs integrated in curricula of schools and other institutions	<ul style="list-style-type: none"> • Assess the level of knowledge, available man power and facilities to integrate MEAs issues into teaching/ training programs • Orient existing teaching staff to MEAs Issues. • Review curricula of educational institutions for integration of MEAs issues • Develop teaching/ training materials on MEAs for educational institutions
4. Sustainable Land Management	Sustainable land use plans prepared and implemented by LGs	<ul style="list-style-type: none"> • Develop guidelines for sustainable land use planning in line with MEAs • Prepare the land use plans • Implement land use planning under different ecosystems • Integrate weather and climate information, early warning and disaster preparedness into SLM plans
5. Data and information collection, dissemination and monitoring	MEAs data collection, analysis and dissemination strengthened	<ul style="list-style-type: none"> • Train actors in data collection, analysis and dissemination, including generation of user specific information • Establish ICT and other modern data management facilities • Develop joint data collection and reporting guidelines • Develop mechanisms for information exchange and dissemination (networks, working groups) • Standardize data collection, analysis and dissemination mechanisms • Package NR information for use in policy and decision making support

	Mechanisms and protocols for data/information exchange established	<ul style="list-style-type: none"> • Establish monitoring programmes in all NR sub sectors • Set up and modernize networks of NR monitoring stations (e.g. water, fire, land degradation) • Strengthen and broaden marketing information
	Implementation of MEAs monitored and evaluated	<ul style="list-style-type: none"> • Document baseline activities • Develop monitoring and evaluation plan • Prepare/ review guidelines for monitoring and evaluation of implementation of MEAs
6. Research and technology development	Integrated research on MEAs strengthened	<ul style="list-style-type: none"> • Establish or strengthen research facilities in relevant institutions • Conduct resource valuation studies • Conduct integrated studies on the impact of environmental degradation (including social and economic impacts)
	Mechanisms for disseminating and exchanging research findings on MEAs strengthened	<ul style="list-style-type: none"> • Convene regular workshops/ conferences to share/ exchange research findings • Promote utilization of research findings at all levels • Create and institutionalize a national NR journal • Set up a website on MEAs implementation at national level
	Appropriate technologies developed	<ul style="list-style-type: none"> • Identify and evaluate the existing technologies • Disseminate available technologies to NR users • Create incentives for research and technology development
7. Technical and managerial capacity	Capacity of local training institutions to train on MEAs issues developed and strengthened	<ul style="list-style-type: none"> • Review institutional curricula to integrate MEAs issues • Prepare training materials basing on identified needs
	Technical and managerial capacity to address MEAs issues created and/or strengthened	<ul style="list-style-type: none"> • Conduct training needs assessment for MEAs actors • Prepare training materials basing on identified needs • Review relevant sectoral and district plans to integrate training in MEAs issues • Train actors in the following fields: negotiation skills; conflict resolution and management; gender responsive policy and law development and analysis; integrated planning and assessment; monitoring and evaluation; SLM; biotechnology; ICT; ecosystem and data management; and designing incentives and entrepreneurship related to MEAs
8. Resource mobilization	MEAs issues integrated into national, sectoral and district plans	<ul style="list-style-type: none"> • Prepare common mainstreaming guidelines for national, sectoral and district plans and budgets • Review national, sectoral and district plans and budgets to mainstream MEAs issues
	Capacity of national and district actors to mobilize resources for MEAs programmes strengthened	<ul style="list-style-type: none"> • Sensitise private sector on their role in MEAs implementation and the possible sources of funds (e.g. carbon funds) • Provide incentives for private sector investment in MEAs related issues • Train actors in resource mobilization and preparation of multidisciplinary proposals on MEAs

Annex 5(b) Action Plan for Convention Specific Interventions for the NCSA Project

Thematic Area	Outputs	Interventions
Biodiversity	Guidelines and regulations for conservation and management of biodiversity developed	<ul style="list-style-type: none"> • Develop/ review guidelines and regulations for conservation of biodiversity, especially endangered species
	Professionals trained for conservation and management of biodiversity	<ul style="list-style-type: none"> • Train professionals in identification, assessment and use of new technologies for biodiversity conservation
	Studies on biodiversity recovery and invasive species conducted	<ul style="list-style-type: none"> • Conduct studies on species and habitat recovery • Conduct studies on trends of invasive species and their potential adverse effects • Identify and implement community based initiatives for <i>in-situ</i> conservation
	Institutional capacity to conserve biodiversity strengthened	<ul style="list-style-type: none"> • Equip existing institutions with modern herbaria • Upgrade the national herbarium and natural history museum • Establish and build capacity for a national clearing house mechanism • Develop and strengthen capacity for <i>ex-situ</i> conservation (e.g. UWEC) • Identify relevant NGOs and strengthen their capacity to conserve biodiversity
Desertification	Rangelands managed sustainably	<ul style="list-style-type: none"> • Establish a rangelands research and development center • Promote infrastructure relevant to mobile pastoralists (health, education, communication, etc.)
	Resilience/ coping of dryland communities improved	<ul style="list-style-type: none"> • Advocate for alternative livelihoods to minimize NR related conflicts • Support initiatives on alternative livelihoods • Promote processing and value addition to increase marketing opportunities for drylands products
Climate change	Climate change knowledge base expanded	<ul style="list-style-type: none"> • Monitor dynamics of emissions and develop local emission factors • Conduct studies on extreme weather events, vulnerability and impact assessment, document and disseminate study reports
	Climate change implementation programmes formulated	<ul style="list-style-type: none"> • Develop adaptation and mitigation projects • Develop a regulatory framework to implement climate change programs
	Institutional capacity to implement the UNFCCC strengthened	<ul style="list-style-type: none"> • Strengthen human resource and facilities in the Meteorology department • Strengthen human resource and facilities in relevant line ministries
International waters	Management and sustainable utilization of international waters enhanced	<ul style="list-style-type: none"> • Exchange information/ data on utilization and management of IWs
	Regional/ sub regional agreements and policies on utilization and management of IWs formulated/ reviewed	<ul style="list-style-type: none"> • Negotiate regional/sub-regional agreements for basin management of international waters • Review and formulate policies on utilization of international waters

Annex 6(a). NCSA Project Action Plan Implementation for Synergistic Issues

Capacity building intervention areas (IAs) and outputs	Implementation Level	Roles of Implementers	Lead Institution	Collaborators	Verifiable Indicators	Time Frame
1. Institutional strengthening						
Inter-institutional collaboration framework established	National	Establish collaboration committees Develop guidelines for collaboration Operationalise the set guidelines	MWLE	MAAIF, NEMA, MoEMD, MoLG, MoFPED, CSO's/ NGOs, Private Sector, Tertiary institutions	<ul style="list-style-type: none"> • Collaboration Guidelines • Collaboration committees • Reports 	<ul style="list-style-type: none"> • 6 months • 1 year • 5 years
	District and lower level Local Governments (LGs)	Establish collaboration committees Operationalize the guidelines	District Council	NGOs/ CSOs, CBOs	<ul style="list-style-type: none"> • Minutes of meetings • Progress reports 	<ul style="list-style-type: none"> • 6 months • 5 years
	Community level	Implementation of the guidelines	Local Councils (LCs)	CBOs/ CSOs	<ul style="list-style-type: none"> • Progress reports 	<ul style="list-style-type: none"> • 5 years
Effective institutional human and physical resources	National	<ul style="list-style-type: none"> • Recruit and/ or train relevant manpower • Improve available physical infrastructure & office equipment (Convention secretariats) 	Respective and relevant institutions	Public service, MoFPED	<ul style="list-style-type: none"> • Skilled manpower recruited and/or trained • Infrastructure in place 	<ul style="list-style-type: none"> • 2 years • 5 years
	District and lower level LGs	<ul style="list-style-type: none"> • Recruit and/or train relevant manpower • Improve available physical infrastructure & office equipment (Districts) 	District Council	MoFPED, MoLG, Private sector, NGOs/ CBOs/ CSOs	<ul style="list-style-type: none"> • Skilled manpower recruited • Infrastructure in place 	<ul style="list-style-type: none"> • 2 years • 5 years
2. Legal, policy and enabling frameworks						
National & District development work plans that integrate MEAs issues developed	National	<ul style="list-style-type: none"> • Review existing legal frameworks to incorporate MEAs • Prepare guidelines for integration of MEAs issues into national and district plans • Prepare extension guidelines for integration of MEAs issues • Develop extension materials with MEAs integrated 	MWLE	MAAIF, MoEMD, NEMA, MoFPED, MoLG, NGOs, Law Reform Commission	<ul style="list-style-type: none"> • No. of legal frameworks reviewed • Guidelines • Extension Materials 	<ul style="list-style-type: none"> • 1 year • 2 years • 5 years
	District and lower level LGs	<ul style="list-style-type: none"> • Develop integrated plans for MEAs 	District Councils	MoFPED, MoLG, MWLE, MAAIF, NEMA, NGOs/ CBOs	<ul style="list-style-type: none"> • District and lower level LGs development work plans 	<ul style="list-style-type: none"> • Annually

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Comprehensive & harmonious laws, policies, regulations and standards relevant to MEAs formulated	National	<ul style="list-style-type: none"> Review research, employment, energy, land and NR policies to integrate MEAs issues Formulate rangelands management, Pastoralism, land use policies that integrate MEAs issues Harmonize the policies to ensure congruency. 	MWLE	NEMA, MoJustice, AG, MoFPED, MoLG, MAAIF, MoEMD	<ul style="list-style-type: none"> Reviewed policies Harmonised/ formulated policies 	<ul style="list-style-type: none"> 5 years
	District and lower level LGs	<ul style="list-style-type: none"> Formulate relevant ordinances and bye-laws 	District Councils	LGs, MoLG, MoJustice	<ul style="list-style-type: none"> Number of ordinances and bye-laws 	<ul style="list-style-type: none"> 2 years
3. Public awareness and education						
Policy and decision makers and other actors sensitized on MEAs	National	<ul style="list-style-type: none"> Prepare awareness materials on MEAs for dissemination Translate and simplify awareness materials on MEAs into local languages Conduct sensitization workshops for targeted audiences Conduct mass media programmes (radio, TV, print) 	MWLE	MoFPED, MoLG, NEMA, MAAIF, MoEMD, NGOs, Tertiary institutions	<ul style="list-style-type: none"> Awareness materials Reports Programmes Number of workshops 	<ul style="list-style-type: none"> 5 years
	District and lower level LGs	<ul style="list-style-type: none"> Conduct sensitization workshops for targeted audiences Conduct mass media programmes (Radio, TV, print) 	District Councils	MoFPED, MoLG, MWLE, MAAIF, NEMA, NGOs	<ul style="list-style-type: none"> Reports Programmes 	<ul style="list-style-type: none"> 5 years
	Community	<ul style="list-style-type: none"> Conduct sensitization workshops for targeted audiences Conduct mass media programmes (Radio, TV, print) 	LCs	CBOs, NGOs	<ul style="list-style-type: none"> Reports 	<ul style="list-style-type: none"> 5 years
Extension service providers trained on MEAs	National	<ul style="list-style-type: none"> Develop training modules/ materials Conduct training programmes 	MWLE	NEMA, Training institutions, MoLG, MAAIF, NAADS	<ul style="list-style-type: none"> Training materials Reports No. of people trained 	<ul style="list-style-type: none"> 5 years
	District and lower level LGs	<ul style="list-style-type: none"> Conduct training programmes 	District Councils	MoLG, MAAIF, NAADS	<ul style="list-style-type: none"> Training materials No. of training programmes 	

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MEAs integrated in curricula for schools and other institutions	National	<ul style="list-style-type: none"> Assess the level of knowledge, available man power and facilities to integrate MEAs issues into teaching/ training programs Orient existing teaching staff to MEAs Issues. Review curricula of educational institutions for integration of MEAs issues Develop teaching/ training materials on MEAs for educational institutions 	MoES	Training institutions, MoLG, MWLE, MAAIF, NAADS, National Curriculum Development Centre.	<ul style="list-style-type: none"> Reports Teaching materials 	3 years
4. Sustainable Land Management						
Sustainable land use plans prepared and implemented	National	<ul style="list-style-type: none"> Develop guidelines for integration of weather, climate and disaster preparedness in SLM Develop guidelines for sustainable land use planning in line with MEAs Develop land use policy and review the existing legislation 	MWLE (Dept. of physical planning)	Dept. of Disaste Preparedness, Meteorology, NEMA, MAAIF	<ul style="list-style-type: none"> Guidelines Land use policy 	2 years
	District and lower level Local Governments (LGs)	<ul style="list-style-type: none"> Implement and monitor land use planning under different ecosystems Prepare the land use plans 	LGs	MoLG, MWLE, MAAIF, NAADS	<ul style="list-style-type: none"> Reports Sustainable land use plans 	2 years
	Community	<ul style="list-style-type: none"> Implement sustainable land use management activities 	LGs	NAADS, NGOs	<ul style="list-style-type: none"> Reports Sustainable land use plans 	1 years
5. Data and information collection, dissemination and monitoring						
NR information exchange networks and protocols established and/or strengthened	National	<ul style="list-style-type: none"> Coordination of networks Development of protocols Needs assessment to facilitate networks 	NEMA	UBOS, MWLE, MAAIF, MUK, District Planning Units, MFPED, NFA, UWA, Meteorology	<ul style="list-style-type: none"> No. of monitoring networks, & stations No. of Progress reports No. of Protocols developed & signed 	2 years

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	District and lower level (LGs)	<ul style="list-style-type: none"> • Coordination of networks • Collect relevant market information 				2 years	Formatted: Bullets and Numbering
MEAs data collection, analysis and dissemination initiated and/or strengthened	National	<ul style="list-style-type: none"> • Generate and disseminate data and information • Provide guidelines for data/information collection • Carry out data analysis • Train actors in data collection, analysis and dissemination 	UBOS	NEMA, MWLE, MAAIF, MUK, District Planning Units, MFPED, NFA, UWA, Meteorology	<ul style="list-style-type: none"> • Guidelines • Training reports 	4 years	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
	District and lower level (LGs)	<ul style="list-style-type: none"> • Data collection • Information dissemination • Train local actors in record and data keeping 	District Planning office	Department of Production and Environment, NGOs, CBOs	<ul style="list-style-type: none"> • Reports • Training reports and proceedings 	4 years	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
	Local	<ul style="list-style-type: none"> • Provide information • Participate in data generation • Keep records 	Local environment committees	NGOs, CBOs	<ul style="list-style-type: none"> • Reports 	4 years	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
Implementation of MEAs monitored and evaluated	National	<ul style="list-style-type: none"> • Acquire appropriate equipment • Develop skill in M&E • Develop monitoring indicators • Develop & implement M&E Plan • Develop baseline data 	MFPED	NEMA, UBOS, MWLE, MAAIF, MUK, District Planning Units, NFA, UWA, Meteorology	<ul style="list-style-type: none"> • Reports of verifiable indicators • M&E Plan • Guidelines • Review reports 	2 years	Formatted: Bullets and Numbering
	District and lower level (LGs)	<ul style="list-style-type: none"> • Develop baseline data • Develop indicators 	District planning unit	Production and environment department, Councilors, NGOs, CBOs	<ul style="list-style-type: none"> • Data reports • Indicators 	2 years	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
	Community	<ul style="list-style-type: none"> • Develop local indicators 	Local environment committee	Councilors, NGOs, CBOs	<ul style="list-style-type: none"> • Indicators 	2 years	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
6. Research and technology development							
Integrated research on MEAs issues implemented	National	<ul style="list-style-type: none"> • Identify issues for research • Develop and implement integrated research programmes on MEAs issues 	NARO	MAAIF, MUK, MEMD, Private sector, NGOs, Meteorology	<ul style="list-style-type: none"> • Implemented programmes 	3 years	Formatted: Bullets and Numbering
	District and lower level (LGs)	<ul style="list-style-type: none"> • Participate in research • Collect data 	NARO/ ARDCs	NGOs, CBOs, NAADS	<ul style="list-style-type: none"> • Reports 	3 years	Formatted: Bullets and Numbering
	Community	<ul style="list-style-type: none"> • Participate in on-farm trials 	NGOs	NR users	<ul style="list-style-type: none"> • Reports 	3 years	Formatted: Bullets and Numbering Formatted: Bullets and Numbering

Mechanisms for disseminating and exchanging research findings and technologies/ practices on MEAs issues developed and strengthened	National	<ul style="list-style-type: none"> Identify, develop & implement appropriate mechanisms for dissemination and exchanging research findings on the MEAs 	NAADS	MAAIF, MUK, MEMD, Private sector, NGOs	<ul style="list-style-type: none"> Reports 	3 years	Formatted: Bullets and Numbering
Appropriate technologies identified, developed and disseminated	National (NARO, FORI)	<ul style="list-style-type: none"> Develop technology dissemination strategy Provide training in required skills Acquisition of equipment/ facilities Formulate guidelines for incentives for research and technology development Carry our needs assessment on existing centers (gaps) 	NAADS	MAAIF, MUK, MEMD, Private sector, NGOs	<ul style="list-style-type: none"> Strategy Training reports Equipment/ facilities/ reports Guideline Assessment reports 	3 years	Formatted: Bullets and Numbering
	District and lower level (LGs)	<ul style="list-style-type: none"> Identify technologies and best practices Conduct exchange visits and study tours Training NR users in appropriate technologies and best practices Promote technology innovators 	NAADS	NGOs, private sector	<ul style="list-style-type: none"> Reports Reports of visits and tours Training reports Number of innovations 	3 years	Formatted: Bullets and Numbering
	Community	<ul style="list-style-type: none"> Test and adopt appropriate technologies and best practices 	NAADS	NGOs, CBOs, private sector	<ul style="list-style-type: none"> Reports 	3 years	Formatted: Bullets and Numbering
7. Technical and managerial capacity							
Capacity of local training institutions to train on MEAs developed and strengthened	District and lower level LGs	<ul style="list-style-type: none"> Review institutional curricula Prepare training materials 	MoES	MWLE, MAAIF, MoEMD, MoFPED, NEMA, training institutions	<ul style="list-style-type: none"> Assessment reports Training materials Reviewed curriculum Resources 	5 years	Formatted: Bullets and Numbering
	Community	<ul style="list-style-type: none"> Conduct training needs assessment Prepare training materials Train local NR users 	NAADS	Dept. of Production and Environment, financial committee, NGOs	<ul style="list-style-type: none"> Assessment reports Training materials Training reports 	5 years	Formatted: Bullets and Numbering

Technical and managerial capacity to address MEAs issues created and/or strengthened	National	<ul style="list-style-type: none"> Conduct training needs assessment Prepare training materials Mobilize resources for training 	NEMA	MWLE, MAAIF, NGOs	<ul style="list-style-type: none"> Assessment reports Training materials Training reports 	5 years ←
	District	<ul style="list-style-type: none"> Conduct training needs assessment Prepare training materials Mobilize resources for training 	LGs	MWLE, MAAIF, NGOs, CBOs	<ul style="list-style-type: none"> Assessment reports Training materials Training reports 	5 years ←
8. Resource mobilization						
MEAs issues integrated into national, sectoral and district plans	National	<ul style="list-style-type: none"> Prepare mainstreaming guidelines for national, sectoral and district plans and budgets Conduct reviews of national and sectoral plans and budgets Mainstream MEAs issues into MTEF budgets 	MWLE	NEMA, MAAIF, MoFPED, MoEMD	<ul style="list-style-type: none"> Guidelines Review reports Sector budgets with MEAs 	3 years ←
	District and lower level LGs	<ul style="list-style-type: none"> Prepare District Environment Action Plans (DEAPs) Mainstream MEAs issues into DEAPs and DDPs 	District Planning Unit	Department of Production and Environment, financial committee, NGOs	<ul style="list-style-type: none"> DEAPs 	3 years ←
	Community	<ul style="list-style-type: none"> Prepare local environment action plans Identify environmental priorities Mainstream MEAs issues into the local environmental action plans 	Local environment committees	NGOs, CBOs, Councilors	<ul style="list-style-type: none"> Local Environment Action Plans 	3 years ←
Capacity of national and district actors to mobilize resources for MEAs programmes strengthen	National	<ul style="list-style-type: none"> Sensitize and encourage the private sector to invest in NR management 	NEMA	MoFPED, MAAIF, MoEMD, MWLE	<ul style="list-style-type: none"> Reports Minutes of meetings 	3 years ←
	District and lower level LGs	<ul style="list-style-type: none"> Sensitise and involve NGOs and CBOs in MEAs issues implementation Train local actor in resource mobilization strategies 	Production and environment department	NGOs, CBOs, Councilors	<ul style="list-style-type: none"> Training reports Number of NGOs/CBOs implementing MEAs 	3 years ←

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Annex 6(b) NCSA Project Action Plan Implementation for Convention Specific Issues

Thematic area and outputs	Implementation Level	Roles of Implementers	Lead Institution	Collaborators	Verifiable Indicators	Time Frame
Biodiversity						
Guidelines and regulations for conservation and management of biodiversity developed	National	<ul style="list-style-type: none"> Prepare/ review guidelines and regulations for biodiversity conservation, especially endangered species 	MWLE	NEMA, MAAIF, UWA, MoLG,	<ul style="list-style-type: none"> Conservation Guidelines 	<ul style="list-style-type: none"> 2 years
	District and lower level (LGs)	<ul style="list-style-type: none"> Implement awareness and conservation programmes on endangered species Train local actors on identification, assessment and use of new technologies for biodiversity conservation Conservation of endangered species 	District Environment Committee	LGs, NGOs, CBOs, UWA, NEMA	<ul style="list-style-type: none"> Reports of awareness and training programmes Conservation sites 	<ul style="list-style-type: none"> 3 years
	Community level	<ul style="list-style-type: none"> Identify and implement community based initiatives for ex situ conservation Implement community based initiatives for in situ conservation 	LECs	NGOs, CBOs, local communities	<ul style="list-style-type: none"> Awareness and training reports Conservation sites 	<ul style="list-style-type: none"> 5 years
Professionals trained for management of biodiversity	National	<ul style="list-style-type: none"> Train professionals in conservation of endangered species, and identification, assessment and use of technologies for biodiversity conservation 		MoFPED, LGs, NGOs, CBOs, MUK	<ul style="list-style-type: none"> Training reports No. of professionals trained 	<ul style="list-style-type: none"> 3 years
	District and lower level LGs	<ul style="list-style-type: none"> Train local actors in conservation of endangered species 	District Council	NGOs, CBOs	<ul style="list-style-type: none"> Training reports No. of trainees 	<ul style="list-style-type: none"> 3 years
Studies on biodiversity recovery and invasive species conducted	National	<ul style="list-style-type: none"> Conduct studies on species and habitat recovery Conduct studies on trends of invasive species and their potential adverse effects Identify community based initiatives for <i>in situ</i> conservation Identify community level initiatives for <i>ex-situ</i> conservation 	MUIENR	NEMA, MWLE, NGOs, research institutions	<ul style="list-style-type: none"> Reports of studies Reports of <i>in situ</i> initiatives 	<ul style="list-style-type: none"> 5 years 2 years
	District and lower level (LGs)	<ul style="list-style-type: none"> Monitor species and habitat recovery and trends of invasive species 	District Councils	District Planning Unit, NGOs, CBOs	<ul style="list-style-type: none"> Reports of species and habitat recovery Reports of community initiatives 	<ul style="list-style-type: none"> 5 years
	Community	<ul style="list-style-type: none"> Implement community based initiatives for <i>in situ</i> conservation Identify community level initiatives for <i>ex-situ</i> conservation 	LECs	Sub-counties, NGOs, CBOs, Local communities	<ul style="list-style-type: none"> <i>In situ</i> conservation sites Reports on activities 	<ul style="list-style-type: none"> 5 years

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Institutional capacity to conserve biodiversity strengthened	National	<ul style="list-style-type: none"> Equip existing institutions with modern herbaria Upgrade a national herbarium and natural history museum Train staff in herbarium management 	MUIENR	NEMA, MWLE, Research institutions, NGOS, Universities	<ul style="list-style-type: none"> Reports Modern herbaria Museum Training reports 	<ul style="list-style-type: none"> 3 years
Desertification						
Rangelands managed sustainably	National	<ul style="list-style-type: none"> Establish a rangelands research and development centre Establish infrastructure for mobile pastoralists 	MAAIF	MWLE, MUK, MoFPED, NGOs, Research institutions, NEMA	<ul style="list-style-type: none"> Reports Facilities Reports 	<ul style="list-style-type: none"> 5 years 10 years
	District and lower level LGs	<ul style="list-style-type: none"> Construct facilities for mobile pastoralists Train man power in range management 	LGs	MoFPED, MoLG, MWLE, MAAIF, MoES, MoH, NEMA	<ul style="list-style-type: none"> Reports Facilities 	<ul style="list-style-type: none"> 10 years
	Community	<ul style="list-style-type: none"> Train community in sustainable rangelands utilization 	LCs	NGOs, CBOs	<ul style="list-style-type: none"> Training reports 	<ul style="list-style-type: none"> 10 years
Resilience/ coping mechanisms of dryland communities improved	National	<ul style="list-style-type: none"> Identify and promote alternative livelihood systems for drought prone areas Identify and promote drought germplasm Promote investment in storage and processing of dryland products 	Uganda Investment Authority	MoLG, MAAIF, MWLE, MoEMD, Private sector, NGOs, CBOs, NEMA	<ul style="list-style-type: none"> Reports 	<ul style="list-style-type: none"> 3 years
	District	<ul style="list-style-type: none"> Design and implement alternative livelihood programmes Demonstrate and popularize drought resistant germplasm Promote and facilitate investment in alternative livelihoods, storage and processing of dryland products 	Private Sector Foundation	LGs, MAAIF, MWLE, NEMA, MoEMD, NGOS, CBOs	<ul style="list-style-type: none"> Reports Pilot sites 	<ul style="list-style-type: none"> 5 years
	Community	<ul style="list-style-type: none"> Adopt alternative livelihood systems, drought resistant germplasm, and storage and processing technologies 	LCs	Private sector, Local communities, NGOs, CBOs	<ul style="list-style-type: none"> Pilot sites Storage and processing facilities 	<ul style="list-style-type: none"> 5 years

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Climate Change							
Climate change information base expanded	National	<ul style="list-style-type: none"> Establish networks for monitoring dynamics of emissions Develop indicators and benchmarks for local emission factors Strengthen man power and facilities to process data on emissions and extreme weather events Document and disseminate findings on emissions and extreme weather events 	Department of Meteorology	MWLE, MAAIF, NEMA, MoEMD, Disaster Dept., NGOs, Research institutions, Universities	<ul style="list-style-type: none"> Study reports Reports 	5 years	Formatted: Bullets and Numbering
	District	<ul style="list-style-type: none"> Collect data on emissions and extreme weather events 	District Planning Units	Meteorology, District Env't Committees, NGOs, CBOs, ARDCs	<ul style="list-style-type: none"> Reports 	5 years	Formatted: Bullets and Numbering
Climate change mitigation programmes formulated	National	<ul style="list-style-type: none"> Develop the NAPA Develop a policy on mitigation and adaptation to climate change Develop legislation on adaptation and mitigation Prepare guidelines for adaptation and mitigation projects Train trainers in climate change mitigation and adaptation 	Meteorology Department	NEMA, MWLE, MAAIF, MEMD, NGOs, Disaster Dept.	<ul style="list-style-type: none"> NAPA report Mitigation and adaptation policy Guidelines Training reports 	4 years	Formatted: Bullets and Numbering
	District	<ul style="list-style-type: none"> Integrate mitigation and adaptation activities into DDPs and budgets Implement awareness and training programmes on climate change mitigation and adaptation activities and its regulatory frameworks 	Production and Env't Department	NGOs, CBOs, District Planning Unit	<ul style="list-style-type: none"> Reports on mainstreaming Awareness and training reports 	3 years	Formatted: Bullets and Numbering
International waters							
Management and sustainable utilization of international waters enhanced	National	<ul style="list-style-type: none"> Identify and train multidisciplinary team of experts in negotiation skills Review existing regional/ sub regional agreements for basin management of international waters Undertake negotiations to review regional and national policies on utilization of international waters 	MWLE	NEMA, MAAIF, MoEMD	<ul style="list-style-type: none"> Training reports Reviewed agreements Negotiation reports 	3 years	Formatted: Bullets and Numbering

	District	<ul style="list-style-type: none"> • Create awareness on existing regional and national policies on management of water resources • Strengthen enforcement of regulatory frameworks for management of water basins 	Department of Production and Environment	District Planning Unit, NGOs, CBOs	<ul style="list-style-type: none"> • Awareness reports • Reports on enforcement 	2 years
	Local	<ul style="list-style-type: none"> • Undertake sustainable land and water management practices 	Local environment committees	NGOs, CBOs	<ul style="list-style-type: none"> • Reports 	5 years

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Annex 7(a) NCSA Resource Mobilisation for Synergistic Interventions

Capacity building intervention areas (IAs) and outputs	Required Resources	Indicative Budget (US\$)	Possible source of funds
1. Institutional strengthening			
Inter-institutional collaboration framework established	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	40,000	Uganda Govt. Development partners
Effective institutional human and physical resources in place	<ul style="list-style-type: none"> • Infrastructure • Recruitment of personnel • Equipment • Facilitation • Transport & communication • Consumables 	0.85 million	Uganda Govt. Development partners
2. Legal, policy and enabling frameworks			
National & District development work-plans that integrate MEAs developed	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	701,000	Uganda Govt. Development partners Districts
Comprehensive harmonious laws, policies, regulations and standards relevant to MEAs formulated	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	245,000	Uganda Govt. Development partners
3. Public awareness and education			
Policy, decision makers, local communities and other actors sensitized on MEAs	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	801,000	Uganda Govt. Development partners NGOs
Extension service providers trained on MEAs	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	100,000	Uganda Govt. Development partners

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MEAs integrated in curricula of schools and other institutions	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	0.35 million	Uganda Govt. Development partners
4. Sustainable Land Management			
Sustainable land use plans prepared and implemented by LGs	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables • Demonstration materials 	10 millions	Uganda Govt. Development partners NGOs Private sector Local communities Local Governments
5. Data and information collection, dissemination and monitoring			
NR information exchange networks and protocols established and/or strengthened	<ul style="list-style-type: none"> • Human resources • Financial resource • Equipment • Infrastructure 	300,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD
MEAs data collection, analysis and dissemination initiated and/or strengthened	<ul style="list-style-type: none"> • Human resources • Financial resource • Equipment • Infrastructure 	300,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD
Implementation of MEAs monitored and evaluated	<ul style="list-style-type: none"> • Human resources • Financial resource • Equipment • Infrastructure 	400,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD
6. Research and technology development			
Integrated research on MEAs issues implemented	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment • Infrastructure 	500,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD, Rockefeller Foundation, Ford Foundation, JICA, LVEMP, NORAD, FAO
Mechanisms for disseminating and exchanging research findings and technologies/practices on MEAs issues developed and strengthened	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment • Infrastructure 	400,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD, Rockefeller Foundation, Ford Foundation, JICA, LVEMP, NORAD, FAO
Appropriate technologies identified, developed and disseminated	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment • Infrastructure 	900,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD, Rockefeller Foundation, Ford Foundation, JICA, LVEMP, NORAD, FAO
7. Technical and managerial capacity			

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Capacity of local training institutions to train on MEAs issues developed and strengthened	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment • Infrastructure 	250,000	NEMA, PAF, PMA, LGs
Technical and managerial capacity to address MEAs issues created and/or strengthened	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment • Infrastructure 	570,000	UNEP, EAC, GBIF, IGAD
8. Resource mobilization			
MEAs issues integrated into national, sectoral and district plans	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment 	250,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD
Capacity of national and district actors to mobilize resources for MEAs programmes strengthen	<ul style="list-style-type: none"> • Human resource • Financial resource • Equipment 	250,000	NEMA, PAF, PMA, UNEP, EAC, GBIF, IGAD

Annex 7(b) NCSA Resource Mobilisation for Convention Specific Interventions

Thematic Area & Outputs	Required Resources	Indicative Budget	Possible sources of funds
Biodiversity			
Guidelines and regulations for conservation and management of biodiversity developed	<ul style="list-style-type: none"> • Human resources • Facilitation • Transport & communication • Equipment 	50,000	Government Development partners Private sector NGOs
Professionals trained for conservation and management of biodiversity	<ul style="list-style-type: none"> • Human resources • Facilitation • Transport & communication • Equipment 	350,000	Government Development partners Private sector NGOs
Studies on biodiversity recovery and invasive species conducted	<ul style="list-style-type: none"> • Human resources • Facilitation • Transport & communication • Facilities and equipment 	1.1 million	Development partners Research institutions Private sector
Institutional capacity to conserve biodiversity strengthened	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	0.95 million	Government Development partners
Desertification			
Rangelands managed sustainably	<ul style="list-style-type: none"> • Infrastructure • Human resources • Facilitation • Transport & communication 	4.5 million	Government Development partners
Resilience/ coping of dryland communities improved	<ul style="list-style-type: none"> • Alternative technologies • Human resources • Facilitation • Transport & communication 	815,000	Government Development partners Private sector Local communities NGOs/ CBOs
Climate Change			
Climate change information base expanded	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	450,000	Government Development partners

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Climate change mitigation programmes formulated	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Facilitation • Transport & communication • Consumables 	550,000	Government Development partners Private sector Local communities NGOs/ CBOs
International waters			
Management & sustainable utilization of IWs	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Decision support tools • Facilitation • Transport & communication • Consumables 	1.25 million	Government Development partners Private sector Local communities NGOs/ CBOs
Regional/ sub regional agreements and policies on utilization and management of IWs formulated/ reviewed	<ul style="list-style-type: none"> • Meeting facilities • Human resources • Decision support tools • Facilitation • Transport & communication • Consumables 	450,000	Government Development partners

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Annex 8(a) SWOT Analysis for Synergistic Interventions of the NCSA Project

Capacity building IAs and outputs	Strengths	Weaknesses	Opportunities	Threats	
1. Institutional strengthening					
Inter-institutional collaboration strengthened	<ul style="list-style-type: none"> • Sector working groups • PEAP 	<ul style="list-style-type: none"> • Communication • Duplication of activities 	<ul style="list-style-type: none"> • SWAP • Existing Institutions 	<ul style="list-style-type: none"> • Poor information sharing • Selfish tendencies 	Formatted: Bullets and Numbering
Strengthened Executory Institutions	<ul style="list-style-type: none"> • Training Institutions • Human resource • Basic Infrastructure in place 	<ul style="list-style-type: none"> • Inadequate funding • Obsolete facilities 	<ul style="list-style-type: none"> • Institutional reviews 	<ul style="list-style-type: none"> • Inadequate funding 	Formatted: Bullets and Numbering
2. Legal, policy and enabling frameworks					
National & District development workplan that integrate MEAs Issues created	<ul style="list-style-type: none"> • Existing policies & legislation framework (eg Decentralization) • Existing manpower (skilled) • Existing committees e.g. DEC 	<ul style="list-style-type: none"> • Conflicting legislation • Weak enforcement mechanism • Inadequate manpower • Low prioritization of MEAs at District level • Weak inter-institutional collaboration 	<ul style="list-style-type: none"> • Goodwill from development partners 	<ul style="list-style-type: none"> • Insufficient resources at districts • Low level of awareness of MEAs • Poor financial management practices 	Formatted: Bullets and Numbering
Comprehensive & Congruent policies relevant to MEAs formulated	<ul style="list-style-type: none"> • Existing policies & legislation framework (eg Decentralization) • Existing manpower (skilled) 	<ul style="list-style-type: none"> • Conflicting laws & policies • Legal Dualism 	<ul style="list-style-type: none"> • Integration of MEAs issues into sectoral development programs 	<ul style="list-style-type: none"> • Enormous volume of work to be done 	Formatted: Bullets and Numbering
3. Public awareness and education					
Policy and decision makers and other actors sensitized on MEAs	<ul style="list-style-type: none"> • Focal points and ENRC • Existing Extension systems 	<ul style="list-style-type: none"> • Lack of information centers on MEAs • Weak extension systems • Lack of extension materials 	<ul style="list-style-type: none"> • Existing NGOs • Improved Media 	<ul style="list-style-type: none"> • Inadequately researched extension policies 	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
Extension service providers trained on MEAs		-do-	-do-	-do-	
MEAs integrated in schools curricula and other institutions	<ul style="list-style-type: none"> • School curricula 	<ul style="list-style-type: none"> • Non existence of teachers oriented to MEAs issues • Lack of teaching aids on MEAs. 	<ul style="list-style-type: none"> • Curriculum Development Center 	<ul style="list-style-type: none"> • Over loading of schools curricula 	Formatted: Bullets and Numbering Formatted: Bullets and Numbering
4. Sustainable Land Management					
District Sustainable land use plans prepared and implemented	<ul style="list-style-type: none"> • Existence of supportive policies • Availability of some trained man power to implement the plans • Availability of different funding sources to implement the plan 	<ul style="list-style-type: none"> • Limited awareness of sustainable land use among the land users • Low prioritization of NR hinders resource allocation to implement the plans 	<ul style="list-style-type: none"> • Presence of NAADS in most districts • Presence of DEAPs in several districts • Availability of NGOs working on related issues 	<ul style="list-style-type: none"> • Limited awareness of SLM at the local level 	Formatted: Bullets and Numbering

5. Data and information collection, dissemination and monitoring					
MEAs data collection, analysis and dissemination initiated and/or strengthened	<ul style="list-style-type: none"> • Existence of some expertise and databanks • Existence of regular national and district state of the environment reports • Resource centers and libraries in districts • Existence of state of the biodiversity report 	<ul style="list-style-type: none"> • Un standardized data collection and analysis techniques • Institutional rivalry • Inadequate man power and equipment • Weak coordination of data collection 	<ul style="list-style-type: none"> • Existence of UBOS • Existence of regional and international initiatives e.g. AEIN, NEPAD, etc. • Clearinghouse mechanism 	<ul style="list-style-type: none"> • Unsustainable flow of resources • Inadequate incentives to taxonomists (man power) • High turn over of taxonomists 	Formatted: Bullets and Numbering
NR information exchange networks and protocols established or strengthened	<ul style="list-style-type: none"> • Existence of diversity of expertise within the NR sector • Already established networks e.g. EIN 	<ul style="list-style-type: none"> • Institutional rivalry • Budgetary constraints • Low priority given to NR information exchange 	<ul style="list-style-type: none"> • Existing regional networks e.g. EAC, NEPAD, AEIN • Donor support • ENR – SWAP • Existence of district environmental reports • Agricultural training and research centres 	<ul style="list-style-type: none"> • Vandalism • Wars and conflicts • Tied aid • Narrow environmental information market 	Formatted: Bullets and Numbering
Implementation of MEAs monitored and evaluated	<ul style="list-style-type: none"> • Existence of a secretariat for MEAs in NEMA • Existence of expertise to monitor • Presence of NEMA 	<ul style="list-style-type: none"> • Low awareness levels of MEAs at policy and decision making levels • Mismanagement 	<ul style="list-style-type: none"> • Government commitment • Donor willingness • Existing initiatives e.g. National Biomass Data Bank, MISP 	<ul style="list-style-type: none"> • Political interference • Low prioritization • Conflicting interests between MEAs and national goals 	Formatted: Bullets and Numbering
6. Research and technology development					
Integrated research on MEAs issues implemented	<ul style="list-style-type: none"> • Existence of research institutions, universities and NARO • Existence of Uganda National Council for Science and Technology 	<ul style="list-style-type: none"> • Inadequate human and financial resources • Low priority for research 	<ul style="list-style-type: none"> • Donor support • Availability of ICT • Globalisation 	<ul style="list-style-type: none"> • Absence of a national research policy • Lack of intellectual property rights • Conditional aid • High cost of technology development 	Formatted: Bullets and Numbering
Mechanisms for disseminating and exchanging research findings on MEAs issues developed and strengthened	<ul style="list-style-type: none"> • Existence of ICT • Existence of various forums e.g. Soil Science Society of East Africa 	<ul style="list-style-type: none"> • Poor packaging and management of information • Poor publicity 	<ul style="list-style-type: none"> • Existence of research findings in research institutions • Existence of local and international journals 	<ul style="list-style-type: none"> • Poor reading culture 	Formatted: Bullets and Numbering
Technology development and dissemination centres set up/ strengthened	<ul style="list-style-type: none"> • Existence of regional ARDCs • Existence of research institutions • Existence of NARO 	<ul style="list-style-type: none"> • Weak technology dissemination methodologies • Fragmented technology dissemination centers 	<ul style="list-style-type: none"> • Presence of NAADS in most districts • Presence of private sector institutions 	<ul style="list-style-type: none"> • Insecurity in dryland districts and northern Uganda 	Formatted: Bullets and Numbering Formatted: Bullets and Numbering

7. Technical and managerial capacity					
Technical and managerial capacity to address MEAs issues strengthened	<ul style="list-style-type: none"> • Availability of training institutions • Availability of man power to address MEAs issues 	<ul style="list-style-type: none"> • Limited knowledge of MEAs issues at community level • Lack of trained personnel to address MEAs issues at community level 	<ul style="list-style-type: none"> • Presence of NAADS in most districts • Availability of NGOs addressing MEAs related issues • Donors willingness to support projects addressing MEAs issues 	<ul style="list-style-type: none"> • Poor land tenure systems • Inadequate infrastructure 	Formatted: Bullets and Numbering
8. Resource mobilization					
MEAs issues integrated into national, sectoral and district plans	<ul style="list-style-type: none"> • Existence of PEAP as the national planning framework • Presence of DEAPs in some districts 	<ul style="list-style-type: none"> • Limited capacity among actors to write fundable proposals • Inadequate integration of MEAs issues into national and district development plans 	<ul style="list-style-type: none"> • Availability of GEF as a funding mechanism for MEAs issues • Availability of other donor agencies • Presence of NGOs and private sector institutions 	<ul style="list-style-type: none"> • Budget ceiling limiting additional funding to address MEAs issues • Lack of commitment from some donors 	Formatted: Bullets and Numbering
Capacity of national and district actors to mobilize resources for MEAs programmes strengthen	<ul style="list-style-type: none"> • Existence of planning frameworks e.g. SWAPs, DDPs. • Availability of conditional grants for NR management 	<ul style="list-style-type: none"> • Inadequate integration of MEAs issues into national and district plans • Changing priorities of donors • Weak capacity to write fundable proposals 	<ul style="list-style-type: none"> • Donors' willingness to fund MEAs related projects • Availability of NGOs implementing MEAs related issues 	<ul style="list-style-type: none"> • Mismanagement of funds for addressing MEAs issues • Low prioritization of MEAs issues • Limited awareness of MEAs issues among national and district level actors 	Formatted: Bullets and Numbering

Annex 8(b) SWOT Analysis for Convention Specific Interventions of the NCSA Project

Multilateral Environment Agreement and outputs	Strengths	Weaknesses	Opportunities	Threats	
Biodiversity					
Conservation and management of biodiversity strengthened	<ul style="list-style-type: none"> • Presence of cross-border biodiversity programmes • Presence of wildlife institutions • Availability of a National biomass programme 	<ul style="list-style-type: none"> • Inadequate technical man power • Inadequate awareness of the value of biodiversity 	<ul style="list-style-type: none"> • Existence of training institutions and programmes on biodiversity 	<ul style="list-style-type: none"> • Ethnic conflicts • Unfavourable climate 	Formatted: Bullets and Numbering
Studies on biodiversity recovery and invasive species conducted	<ul style="list-style-type: none"> • Presence of research institutions e.g. MUIENR and Makerere Biological Field Station • Availability of projects working on biodiversity recovery and invasive species 	<ul style="list-style-type: none"> • Inadequate personnel • Inadequate research facilities 	<ul style="list-style-type: none"> • Existence of agencies funding biodiversity research projects 	<ul style="list-style-type: none"> • Disease vectors • Inadequate research infrastructure 	Formatted: Bullets and Numbering
Institutional capacity building to conserve biodiversity	<ul style="list-style-type: none"> • Availability of training institutions in biodiversity conservation • Presence of UWA 	<ul style="list-style-type: none"> • Inadequate trained man power in biodiversity conservation • Limited facilities for biodiversity conservation 	<ul style="list-style-type: none"> • Presence of various projects on biodiversity conservation 	<ul style="list-style-type: none"> • Encroachment • Lack of participation of local communities in biodiversity conservation 	Formatted: Bullets and Numbering
Desertification					
Rangelands managed sustainably	<ul style="list-style-type: none"> • IDDP available • Mainstreaming of rangeland issues • Existence of DEAPs 	<ul style="list-style-type: none"> • Low priority for drylands • Inadequate man power and facilities • Inadequate inter-institutional collaboration 	<ul style="list-style-type: none"> • Rangelands policy and pastoral code formulation • Land use policy finalisation • Existence of regional frameworks e.g. IGAD • Presence of NGOs in drylands 	<ul style="list-style-type: none"> • Insecurity 	
Resilience coping of dryland communities improved	<ul style="list-style-type: none"> • IDDP available • Existence of rural electrification plan 	<ul style="list-style-type: none"> • Poor infrastructure • Lack of information • High illiteracy levels • Inadequate health services 	<ul style="list-style-type: none"> • Existence of alternative livelihoods • Existence of UPE 	<ul style="list-style-type: none"> • Insecurity 	Formatted: Bullets and Numbering
Climate change					
Climate change information base expanded	<ul style="list-style-type: none"> • Existence of the Department of Meteorology • Existence of Radio and Internet project • Existence of basic monitoring infrastructure 	<ul style="list-style-type: none"> • Lack of a climate policy • Obsolete monitoring and data collection infrastructure • Inadequate personnel in districts and meteorological department • Low priority at national level 	<ul style="list-style-type: none"> • Existence of a regional drought monitoring centre – Nairobi • Existence of NGOs 	<ul style="list-style-type: none"> • Vandalism of equipment • Insecurity 	Formatted: Bullets and Numbering Formatted: Bullets and Numbering

Climate change mitigation programmes formulated	<ul style="list-style-type: none"> • Existence of rural electrification plan • Existence of Department of Meteorology 	<ul style="list-style-type: none"> • Inadequate technical man power • Lack of a policy on meteorological services • Low priority of climate change • Limited awareness of climate change 	<ul style="list-style-type: none"> • On-going NAPA process • Availability of carbon funds 	<ul style="list-style-type: none"> • Lack of funds to implement climate change mitigation programmes • Limited awareness of climate change 	Formatted: Bullets and Numbering
International waters					
Management and utilisation of international waters enhanced	<ul style="list-style-type: none"> • Presence of regional bodies (LVEMP, NBI, etc) • Existence of regional agreements on International Waters 	<ul style="list-style-type: none"> • Un harmonized policies at regional level 	<ul style="list-style-type: none"> • Availability of funding opportunities e.g. GEF 	<ul style="list-style-type: none"> • Cross-border conflicts 	Formatted: Bullets and Numbering

Annex 9(a). Project Profiles for Synergistic Implementation of the NCSA Action Plan

PROJECT PROFILE 1: LEGAL, POLICY AND ENABLING FRAMEWORK

Project Title:	Operationalisation of Legal, Policy, and Institutional Frameworks for MEAs
Target Group:	Policy and Decision Makers, Education and Training Institutions, Law Enforcement Functionaries, Local Government Authorities, Non-State Actors and Communities
Time Frame:	3 years
Total Funds:	US \$ 946,000
Secured Funds:	Nil

Problem statement:

Uganda signed and ratified all the four MEAs, namely CBD, UNCCD, UNFCCC and International waters. The MEAs focus on sustainable NR management, both at the national and local levels. However, achieving this requires adequate backing by relevant laws, policies and guidelines. Uganda has put in place a number of enabling frameworks relevant to NR management and utilization. However, most of these frameworks do not adequately address MEAs issues. Even the few related environmental issues reflected in these frameworks are not adequately enforced, particularly at the local government and community levels. To enhance implementation of the MEAs in Uganda, relevant laws and policies should be formulated, and the existing ones reviewed to integrate the relevant MEAs issues. Existing NR related plans, by-laws and guidelines should also be formulated or reviewed and enforced.

Objectives

1. Formulate relevant policies and review existing ones to adequately integrate MEAs issues.
2. Prepare and/or review relevant plans to integrate of MEAs issues.

Implementation Strategy

The project will involve review of existing as well as formulation of new policies relevant to MEAs implementation. Furthermore, guidelines, plans and bye-laws and ordinances will be prepared, and training of actors will be conducted. Consultants will be procured to carry out these activities. They will consult with relevant actors both at national and district levels, and prepare the required documents, which will be discussed by the relevant actors. MWLE will take lead in implementation of these activities, in collaboration with other actors, including MAAIF, MoFPED, NEMA, MoLG, Ministry of Justice, Law Reform Commission, NGOs, and District Councils. The major outputs will be policies, plans, guidelines, man power that will enhance implementation of the MEAs. In addition, these will be integrated into national, sectoral and district development plans and budgets.

Activities

- Review existing legal frameworks to incorporate MEAs;
- Prepare guidelines for integration of MEAs issues into national and district plans;
- Prepare extension guidelines for integration of MEAs issues;
- Develop extension materials with MEAs integrated;
- Develop integrated plans for MEAs;
- Review research, employment, energy, land and NR policies to integrate MEAs issues;
- Formulate rangelands management, pastoralism and land use policies that integrate MEAs issues;
- Harmonize the policies to ensure congruency;
- Train key players on formulation of relevant ordinances and bye laws;
- Formulate relevant ordinances and bye-laws; and
- Integrate implementation of the laws, policies, ordinances and bye laws into national, sectoral and district development plans

Outputs

- Guidelines for integrating MEAs issues;
- Extension materials integrating MEAs issues;
- Policies that integrate MEAs issues;
- Guidelines prepared;
- National, sectoral and district development plans that integrate MEA issues.

Indicators of success

- Policies
- Guidelines
- Extension materials addressing MEAs issues
- Plans integrating MEAs issues

Project Budget

Activities	Amount (US \$)
Prepare extension guidelines for integration of MEAs issues	66,000
Prepare guidelines for integration of MEAs issues into national and district plans	12,000
Develop extension materials integrating MEAs issues	40,000
Develop integrated plans for MEAs	233,000
Review relevant policies on MEAs	55,000
Formulate rangelands management, pastoralism, climate and land use policies that integrate MEAs issues	150,000
Harmonise all relevant policies to ensure congruency	40,000
Train key players on formulation of relevant ordinances and bye-laws	100,000
Formulate relevant ordinances and bye-laws in districts	250,000
Total	946,000

PROJECT PROFILE 2: PUBLIC AWARENESS AND EDUCATION

Project Title:	Enhancing Dissemination of Information on MEAs
Target Group:	Policy and Decision Makers, Education and Training Institutions, Law Enforcement Functionaries, Local Government Authorities, Non-State Actors and Communities
Time Frame:	4 years
Total Funds:	US \$ 1.251 Million
Secured Funds:	Nil

Problem statement:

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

Objectives

1. To create awareness among various stakeholders on MEAs;
2. To build capacity of extension service providers on MEAs implementation; and
3. To integrate MEAs into curricula for schools and other training institutions.

Implementation Strategy

The project would be implemented through contracting people to prepare the simplified awareness materials and translating them to local languages. MWLE would collaborate with other actors such as MAAIF, MoEMD, training institutions, NGOs, private sector, etc. will organize sensitization and training workshops for targeted audiences, and organize mass media programs. In addition, MWLE will collaborate with MoES, National Curriculum Development Centre, MAAIF, NAADS, MoLG and training institutions to review curricula of training institutions and prepare training modules. The training institutions would then integrate MEAs issues into their training programs and train man power to strengthen human resources to implement the MEAs. In the districts, the District Environment Committee would spearhead awareness and training of district and local actors on MEA implementation at that level, in collaboration with other local actors such as NAADS, Production department, NGOs, CBOs and the private sector.

Activities

- Prepare awareness materials on MEAs for dissemination;
- Translate and simplify awareness materials on MEAs into local languages;
- Conduct sensitization workshops for targeted audiences;
- Conduct mass media programmes (radio, TV, print);
- Review curricula of educational institutions to integrate MEAs issues; and
- Develop teaching/ training materials for educational institutions.

Outputs

- Popular versions produced in various languages;
- Focal points established at all levels;
- Regular columns and programmes on MEAs produced in print and electronic media, respectively;
- Policy, decision makers, communities and other actors sensitized on MEAs;
- Extension service providers trained on MEAs;
- MEAs integrated in curricula of schools and other institutions; and
- Teaching/training materials for educational institutions produced.

Indicators of success

- Simplified and/or translated awareness materials;
- Increased frequency of articles/ columns and programs on MEAs issues;
- Increased awareness of MEAs issues in educational institutions;
- Increased level of awareness of MEAs issues among stakeholders; and
- Number of training materials in MEAs.

Project Funding

Activities	Amount (US \$)
Hire communication experts	450,000
Prepare awareness materials on MEAs for dissemination	215,000
Translate and simplify awareness materials on MEAs into major local languages	335,000
Production of translated and simplified awareness materials on MEAs	20,000
National workshop for extension service providers	30,000
Regional workshops for communities/NGOs/CBOs	35,000
Workshop for higher and tertiary institutions	34,000
Regional sensitization workshops for law enforcement officers	30,000
Regional sensitization workshops for Local Government authorities	34,000
Mass media programmes (TV and radio talk shows, print and electronic media)	68,000
Total	1,251,000

PROJECT PROFILE 3: SUSTAINABLE LAND MANAGEMENT

Project Title:	Implementation of MEAs through Sustainable Land Management
Target Group:	Key Government departments and agencies; District technical planning committee, department of production and environment; Land user groups, NGOs, CBOs, Schools and extension workers
Total Funding:	\$ 1.47 Million
Funding Secured:	Nil
Time Frame:	5 years

Problem statement

Sustainable land management is an integral component of NR management. Therefore, implementation of SLM practices enhances implementation of MEAs, both at national and community level. However, successful SLM need adequate policies, guidelines and awareness among the various actors. This project seeks to address SLM through operationalization of the Land Act, review of existing and formulation of new policies, preparation of SLM plans, and piloting SLM initiatives at the community level.

Objectives

1. To integrate MEAs issues into SLM policies and legislations;
2. To integrate MEAs issues into land use plans; and
3. To implement local community initiatives on SLM.

Implementation strategy

Implementation of the project will involve hiring consultants to finalize preparation of the land use policy and review of existing legislation and institutional arrangements to implement SLM strategies. Consultants will further develop guidelines for integration of MEAs issues into SLM and prepare sustainable land use plans. MWLE in collaboration with NEMA, MAAIF, NAADS, MoLG, NGOs will implement and monitor land use plans under different ecosystems. In addition, an endowment fund under MWLE would support community initiatives on SLM, in collaboration with MAAIF, NEMA and other actors. In the districts, the District Environment Office, in collaboration with the Directorate of Production would monitor implementation of the land use plans. NAADS, NGOs and CBOs would implement SLM practices at the district and community levels.

Activities

- Finalize development of the Land Use Policy;
- Review of existing legislation and institutional arrangements for implementation and enforcement of SLM;
- Develop guidelines for integration of MEAs into SLM;

- Sensitize actors on policies and guidelines for sustainable land use and MEAs;
- Develop land use plans under different ecosystems and land tenure regimes;
- Develop guidelines for integrating weather and climate information, and disaster preparedness into land use plans;
- Monitor land use and land degradation; and
- Establish endowment fund to support community initiatives on SLM.

Outputs

- Land use policy and legislation integrating MEAs;
- Land use plans integrating MEAs issues;
- Guidelines integrating weather, climate and disaster preparedness into land use plans; and
- Pilot SLM initiatives at local community level.

Indicators of success

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

Estimated Budget

Activities	Amount (US \$)
Finalize development of land use policy	50,000
Review of existing legislation and institutional arrangements for their implementation and enforcement.	150,000
Develop guidelines for integration MEAs into SLM	35,000
Raise awareness on policy and guidelines for land use and MEAs	150,000
Develop land use plans under different ecosystems and land tenure regimes	350,000
Develop guidelines for integrating weather, climate information and disaster preparedness into land use plans.	35,000
Monitoring land use and land degradation	200,000
Support community initiatives in implementation of SLM	500,000
Total	1,470,000

PROJECT PROFILE 4: DATA AND INFORMATION COLLECTION, DISSEMINATION AND MONITORING

Project Title: Strengthening MEAs Data Collection Analysis and Dissemination

Target Group: Natural Resource End Users

Total Funding: US \$ 893,500

Funding Secured: Nil

Time Frame: 4 years

Problem statement

Existence of data and information on NRs is essential for decision making on management of these resources. However, there is inadequate man power in the relevant institutions to effectively collect, analyze and interpret the data for use by local actors. In addition, there is lack of modern ICT and other data management facilities; hence, data in most institutions is in hard copy format. Therefore, there is need to standardize data collection, analysis and dissemination procedures. This will, among other things, promote synergies and facilitate efficient resource utilization in implementation of the relevant MEAs. Standardization of data collection will also facilitate packaging of NR information to enable rational decision making by policy makers, planners and other actors, both at national, district and community levels.

Objectives

1. Strengthen MEAs data collection, analysis and dissemination by relevant institutions
2. Establish mechanisms and protocols for data/ information exchange.
3. Monitor and evaluate use of data/ information in implementation of MEAs

Implementation Strategy

Implementation of this project will involve hiring consultants to conduct studies of baselines and targets of information requirements. Consultants will also prepare joint data collection and reporting guidelines for the MEAs. Man power will be recruited and trained to collect, analyse and store or disseminate data and information to relevant users. Furthermore, relevant institutions will be equipped with ICT and other data management facilities. NEMA will spearhead implementation of these activities in collaboration with other actors, such as MAAIF, UBOS, MWLE, MFPED, UWA, NFA, Meteorology department and Makerere University. Districts will participate in data and information collection and management through their Planning and Environment Directorates, in collaboration with NGOs, councilors

Activities

- Conduct studies on baseline and targets of data and information requirements on MEAs implementation
- Recruitment and training of actors in data collection;

- Equip institutions with ICT and other relevant data management facilities;
- Prepare joint data collection and reporting guidelines on MEAs implementation;
- Collect, analyze and store information;
- Package and disseminate NR related data to end users; and
- Prepare a M&E plan for data and information management.

Outputs

- Current status and targets of data and information correction on MEAs implementation established;
- Trained data collection personnel;
- ICT and other data management facilities in relevant institutions available;
- Relevant data collected packaged and disseminated;
- Joint data collection and reporting guidelines on MEAs implementation prepared; and
- A M&E plan on data and information management.

Indicators of success

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

Estimated Budget

Activities	Amount (US \$)
Baseline studies and setting targets for data and information requirements on MEAs implementation	50,000
Recruitment and training of actors in data management	450,000
Equip institutions with relevant data and information management facilities	195,000
Prepare joint data collection and reporting guidelines	15,000
Collect, analyse and store information on MEAs implementation	86,000
Package and dissemination of NR related data to end users	77,500
Prepare a M&E plan on data and information management	20,000
Total	893,500

PROJECT PROFILE 5: RESEARCH AND TECHNOLOGY DEVELOPMENT

Project Title:	Research and Technology Development in Implementation of MEAs
Target Group:	Educational and Training Institutions, and National Curriculum Development Centre
Total Funding:	US \$ 750,000
Funding Secured:	Nil
Time Frame:	5 years

Problem Statement

Research is a prequisite to rational decision-making and development of relevant technologies, particularly for NR management. Hence, there is need to generate data on the status and threats to NRs in Uganda. Therefore, research is required to establish biodiversity levels and threats, and extent and impacts of degradation of land, climate and water resources in Uganda. This should go hand in hand with strengthening capacity of research institutions in terms of man power and facilities to conduct the research and generate the required technologies for sustainable NR management

Objectives

1. Strengthen integrated research and technologies on MEAs; and
2. Strengthen mechanisms for dissemination of research findings and technologies on MEAs

Implementation Strategy

The project will equip research institutions with facilities for research on MEAs issues, support studies on environmental degradation, promote client-oriented research, and identify, document and promote relevant technologies. NARO will spearhead implementation of the project, working with research institutes, ARDCs, MAAIF, MUK, NAADS, private sector and NGOs. Research findings will be shared at various fora and published in a set up national NR journal. Furthermore, a web site will be set up where research findings and appropriate technologies will be posted for the users. Partnerships will be encouraged with the private sector and NGOs, particularly in funding research and technology development, as well as dissemination of the technologies.

Activities

- Equip research institutions with relevant facilities;
- Conduct studies on the impact of environmental degradation;
- Convene regular conferences to share research experiences;
- Institutionalize a national NR journal;

- Set up a website on MEAs implementation in Uganda;
- Promote client oriented research;
- Identify, document and evaluate existing technologies; and
- Develop partnerships with the private sector.

Outputs

- Research institutions equipped with relevant equipment;
- Reports of various studies;
- Proceedings of conferences;
- A national NR journal;
- A website on MEAs implementation in Uganda;
- Documented and evaluated technologies; and
- Partnerships with private sector.

Indicators of success

- Well equipped research institutions and technology development centres;
- A functional national NR journal and web site;
- Functional partnerships with private sector and NGOs;
- Number of promoted MEAs related technologies;
- Improved NR management.

Estimated Budget

Activities	Amount (US \$)
Equip research institutions with relevant facilities	250,000
Conduct studies on the impact of environmental degradation	85,000
Convene regular conferences to share research experiences	50,000
Institutionalize a national NR journal	125,000
Set up a website on MEAs implementation in Uganda	85,000
Promote client oriented research	25,000
Identify, document and evaluate existing technologies	100,000
Develop partnerships with the private sector	30,000
	750,000

PROJECT PROFILE 6: TECHNICAL AND MANAGERIAL CAPACITY

Project Title:	Enhancing Capacity of Training Institutions to Impart Technical and Managerial Skills for Implementation of MEAs
Target Group:	Educational and Training Institutions, and National Curriculum Development Centre
Total Funding:	US \$ 820,000
Funding Secured:	Nil
Time Frame:	5 years

Problem Statement

MEAs are recent developments resulting from international concern for environmental degradation. Uganda like many other developing countries has not developed the technical and managerial capacity required for the implementation of these protocols. This is evidenced in the inadequate number of actors trained in fields relevant to MEAs implementation. Furthermore, the curricula of training and educational institutions does not address MEAs issues. Hence, there is need to review institutional curricula to integrate MEAs issues as well as train man power and produce relevant training materials to adequately articulate MEAs issues both at national level and among the affected communities. This will go a long way in imparting technical and managerial skills for implementation of MEAs among tertiary training and educational institutions, as well as national, district and community level technical departments.

Objectives

1. Train man power in relevant areas of MEAs implementation;
2. Provide equipment and facilities to educational and training institutions for skills development in implementation of MEAs; and
3. Develop and/or review the curricula of educational and training institutions to integrate MEAs issues.

Implementation Strategy

The project will involve conducting a capacity needs assessment for the Universities and other tertiary training institutions, provide the necessary equipment and facilities and undertake the relevant training of man power to implement the MEAs. The project also will review the existing curricula of schools and tertiary training institutions so as to integrate MEAs issues and undertake preparation and production of training and educational materials on MEAs. Training sessions on MEAs issues would then be conducted at all education levels to acquire adequate human resource to implement the MEAs at different levels. The project will be implemented by the Ministry of Education and Sports in collaboration with NEMA, MWLE, MoFPED, NAADS, tertiary training institutions, National Curriculum development Centre, NGO and Local Governments.

Activities

- Conduct a training needs assessment for Universities and other tertiary institutions;
- Conduct review of curricula of training institutions to integrate MEAs issues;
- Facilitate training of national and local actors in identified fields addressing training gaps in MEAs;
- Equip institutions with equipment and facilities for training on MEAs; and
- Facilitate preparation of training materials on MEAs implementation.

Outputs

- Training needs identified;
- Training curricula and training materials addressing MEAs issues;
- Trained manpower; and
- Equipment and facilities in place

Indicators of success

- Training needs assessment reports;
- Curriculum review reports;
- Enhanced man power for implementation of MEAs; and
- Well-facilitated training institutions.

Estimated Budget

Activities	Amount (US \$)
Conduct capacity needs assessment for Universities and other tertiary institutions	20,000
Carry out a review of curricula of training institutions and integrate MEAs issues	50,000
Facilitate training of national and local actors in identified fields addressing training gaps in MEAs	500,000
Equip institutions with equipment and facilities for training on MEAs	200,000
Facilitate preparation of instruction materials on MEAs	50,000
Total	820,000

Annex 9(b) Project Profiles for Implementation of Convention-Specific Interventions of the NCSA Action Plan

PROJECT PROFILE 7

Project Title:	Strengthen Institutional Capacity for Conservation and Management of Biodiversity
Target Group:	Government agencies involved in NR management; Research and training institutions; District Technical Planning Committees and Local Environment Committees and Local communities
Total Funding:	\$ 1.95 Million
Funding Secured:	Nil
Time Frame:	5 years

Project background

Biodiversity plays an important role in poverty eradication and sustainable development. However, institutions directly involved in biodiversity management and conservation do not have adequate infrastructure, facilities and manpower to effectively carry out their functions. For instance, relevant institutions lack modern herbaria while the national herbarium and natural history museum require overhauling. In addition, there is need to strengthen the existing biodiversity information collection and management centre to act as a clearinghouse mechanism. Furthermore, training of actors, such as NGOs, private sector, and central and local governments in biodiversity areas, will go along way in improving biodiversity management in Uganda.

Objectives

1. To equip actors with relevant skills in biodiversity conservation and management;
2. To equip institutions with the necessary equipment and facilities to sustainably manage biodiversity; and
3. To strengthen capacity of the clearinghouse mechanism.

Implementation strategy

The project would involve strengthening of relevant institutions in terms of facilities and man power, both at national and local community levels. Acquisition of facilities, such as herbaria in institutions and the national museum would strengthen institutional capacities to implement biodiversity programs. Local actors at district and community levels should be trained in biodiversity management. The district institutions should be facilitated to create awareness and training in specialized biodiversity areas, while CBOs and communities should be involved in conservation programs. The project would be implemented by NEMA and MUIENR in collaboration with MAAIF, MWLE, UWA, MoLG, Local Governments, MUK, NGOs and research institutions.

Activities

- Facilitate training of actors at national and local levels in identified fields to address gaps in biodiversity conservation and management;
- Train taxonomists and parataxonomists;
- Procure equipment and facilities for training and management of biodiversity;
- Develop and strengthen guidelines and regulations for conservation of biodiversity;
- Upgrade the national herbarium and natural history museum;
- Equip or establish herbaria in institutions;
- Support community initiatives for biodiversity conservation; and
- Strengthen capacity for a national clearing house mechanism.

Outputs

- Skilled manpower in biodiversity conservation;
- Biodiversity conservation issues integrated into national and district development plans;
- Guidelines and regulations for conservation of biodiversity in place;
- Equipment and facilities in place for institutions;
- The national herbarium and natural history museum upgraded;
- Herbaria equipped or established in institutions; and
- Local community initiatives/projects on biodiversity conservation

Indicators of success

- Adequate manpower in relevant institutions;
- National and district plans integrating biodiversity issues;
- Adequately equipped institutions;
- Upgraded national herbarium and natural history museum;
- Institutions equipped with herbaria; and
- Sites for local community initiatives on biodiversity.

Estimated Budget

Activities	Amount (US \$)
Facilitate training at national and local level in identified fields to address gaps in biodiversity conservation and management	350,000
Procure equipment and facilities for training, research and management of biodiversity	100,000
Develop and strengthen guidelines and regulations for biodiversity conservation	150,000
Upgrade the national herbarium and natural history museum	300,000
Equip or establish herbaria in institutions	100,000
Train districts and local communities on biodiversity conservation	250,000
Support community initiatives for <i>in-situ</i> and <i>ex-situ</i> biodiversity conservation	500,000
Strengthen capacity for a national clearing house mechanism	200,000
Total	1,950,000

PROJECT PROFILE 8

Project Title: Promote Studies and Information Collection on Biodiversity Conservation

Target Group: Research and training institutions, and NGOs

Total funding: \$ 1.1 Million

Funding Secured: Nil

Time Frame: 5 years

Problem Statement

Research provides information that gives basis for planning and decision making on management of biodiversity. Currently, existing information on biodiversity is inadequate and spread in different institutions. This project intends to facilitate collection of relevant information, harmonize data collection and strengthen storage and management of information in institutions.

Objectives

1. To carry out relevant research and training in biodiversity.
2. To equip institutions with the necessary equipment and facilities.

Implementation strategy

The project will promote collection and management of specialized information and data on biodiversity. This will be done through conducting specialized research and collection of information and data, and equipping biodiversity related institutions with the required facilities to carry out this function. The project will be carried out at national, district and community levels, and will be implemented by MUIENR in collaboration with NEMA, MWLE, research institutions, NGOs and local communities.

Activities

- Conduct studies on ecology, biology and trends of invasive species;
- Carry out studies on status of endangered species;
- Collect data and information on habitat recovery;
- Equip relevant institutions with equipment for research on biodiversity; and
- Upgrade existing biodiversity information management systems in institutions.

Outputs

- Research reports on biodiversity;
- Institutions equipped with relevant soft and hardware for storage and management of biodiversity information; and
- Studies conducted on habitat recovery, invasive and endangered species.

Indicators of success

- Improved data and information on biodiversity;
- Equipped institutions with biodiversity research facilities; and
- Up to date biodiversity information management systems.

Estimated Budget

Activities	Amount (US \$)
Conduct studies on ecology, biology and trends of invasive species	250,000
Carry out studies on status of endangered species	200,000
Collect data and information on habitat recovery	200,000
Procure equipment for training and research on biodiversity	200,000
Upgrade existing biodiversity information management systems in institutions	250,000
Total	1,100,000

PROJECT PROFILE 9

Project title:	Developing Capacity for Rangelands Management
Target Group:	Researchers, Extension workers, NGOs, CBOs, Pastoral groups, Local governments and Local communities
Total Funding:	\$ 5.315 Million
Funding Secured:	Nil
Time Frame:	5 years

Problem Statement

Rangelands, like other fragile ecosystems, continue to be degraded as the human and livestock population increases. Government has in the past put more emphasis on developing high productive areas and less attention to rangelands development. Hence, there is lack of legislation and policies for rangelands management. This is coupled with lack of a rangelands management plan, including best practices for rangelands management and alternative livelihood systems that would relieve pressure on rangelands resources. This project is intended to promote investment and capacity building for sustainable management of rangelands, through institutional and local community level interventions.

Objectives

1. To put in place policy and legislative measures for sustainable management of rangelands;
2. To develop institutional capacity for rangelands management; and
3. To undertake measures that facilitate effective participation of local communities in the sustainable management of rangeland resources.

Implementation strategy

The project will focus on creating an enabling environment for rangelands management. Consultants will be procured to finalize the rangelands management policy, review existing legislation and institutional arrangements, and prepare rangelands management plans under different land tenure systems. Furthermore, consultants will be hired to prepared monitoring indicators and identify alternative livelihood systems and best practices for rangelands management. MAAIF will work in close collaboration with NEMA, MoFPED, MoEMD, Local Governments, NGOs, private sector, CBOs and local communities.

Activities

- Finalize development of a rangelands policy;
- Review of existing legislation and institutional arrangements for the implementation and enforcement of sustainable rangeland management;
- Raise awareness on policy and legislation on rangelands;
- Establish a rangelands research and development center

- Develop rangeland management plans under different land tenure regimes;
- Develop community level monitoring indicators and early warning mechanisms for rangeland degradation;
- Facilitate coping mechanisms against drought and its associated effects;
- Promote alternative community level livelihood systems; and
- Identify and promote best practices and technologies for sustainable and efficient utilization of rangelands resources, especially in the drought prone areas.

Outputs

- Rangelands policy, guidelines and legislation in place;
- A rangelands research and development center
- Rangeland management plans for different land tenure regimes in place;
- Monitoring indicators and early warning systems in place; and
- Increased adoption of best practices and technologies for sustainable rangelands management.

Indicators of success

- Policy and legislation on rangelands management;
- Increased awareness of rangeland issues among actors;
- Functional rangelands research and development center
- Improved rangelands management;
- Practices on alternative livelihood systems; and
- Sites with best practices and technologies on sustainable rangelands management.

Estimated Budget

Activities	Amount (US \$)
Finalize development of rangelands policy	50,000
Review of existing legislation and institutional arrangements for the implementation and enforcement of sustainable rangeland management	55,000
Raise awareness on policy and legislation on rangelands	250,000
Establish a rangelands research and development center	4,045,000
Develop rangeland management plans under different land tenure regimes	100,000
Develop community level monitoring indicators and early warning mechanisms for rangeland degradation	200,000
Facilitate coping mechanisms against drought and its associated effects	900,000
Promote alternative community level livelihood systems	150,000
Identify and promote best practices and technologies for sustainable and efficient utilization of rangelands resources, especially in the drought prone area	165,000
Total	5,315,000

PROJECT PROFILE 10

Project Title:	National Vulnerability, Adaptation and Mitigation Options' Assessment Study
Target Group:	Policy and Decision Makers, Research and Training Institutions, Law Enforcement Functionaries, Local Government Authorities, Non-State Actors and Communities
Time Frame:	3 years
Total Funds:	US Dollars 1 Million
Secured Funds:	Nil

Problem Statement

The UNFCCC requires country parties to take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Hence, the Convention commits Parties among others to promote adaptation and mitigation activities. Parties are expected to carry out national adaptation and mitigation assessments. Uganda carried out a preliminary vulnerability and adaptation assessment in the sectors of agriculture, forestry and water resources as well as mitigation options' assessment in the energy sector. There is need to conduct detailed studies on extreme weather events, vulnerability and adaptation to climate change, as well as monitor dynamics of emissions. Furthermore, mitigation and adaptation projects should be implemented, and also put in place a regulatory framework of implementation of climate change programs.

Objectives

1. Undertake sectoral vulnerability studies;
2. Assess medium to long term adaptation and mitigation options; and
3. Implement mitigation and adaptation projects.

Technical Description

The project will assess potential sectoral impacts of climate change and identifying possible adaptation and mitigation options. The project will initially review the previous studies on vulnerability and adaptation assessment as well as existing coping strategies and identify limitations and information gaps. The project will be implemented by the Department of Meteorology in collaboration with MWLE, MAAIF, NEMA, MEMD ARDCs, NGOs, MUK, research institutions and Local Governments.

Activities

- Monitor dynamics of emissions and develop local emission factors;
- Undertake sectoral consultative vulnerability assessments;
- Identify and develop adaptation and mitigation strategies;

- Develop and cost adaptation and mitigation projects;

Outputs

- Reports of emission dynamics
- Sectoral vulnerability assessment reports;
- Medium to long term adaptation and mitigation options identified;
- Adaptation and mitigation projects developed;
- Climate change committees integrated into district and sub-county environment committees;

Indicators of success

- Mitigation and adaptation plans/ options in place;
- Monitoring of emission dynamics;
- Mitigation and adaptation strategies/ plans; and
- Mitigation and adaptation projects implemented.

Estimated Budget

Activity	Amount (US \$)
Review previous studies and existing coping strategies	100,000
Vulnerability assessments	350,000
Develop comprehensive national adaptation and mitigation strategies	50,000
Develop and cost adaptation and mitigation projects	350,000
Strengthen capacity of the Meteorology Department	150,000
Total	1,000,000

Annex 10. Lists of Participants in the NCSA Project

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GLOSSARY

Action:	Is a process of carrying out a series of activities in order to deal with an existing situation.
Capacity:	Is the ability of an individual, organization or system to perform functions and meet objectives effectively and efficiently.
Constraint:	Is a phenomenon that prevents effectively addressing an identified issue.
Drudgery:	Is the over-working of local people to earn a living.
Issue:	Is a problem or worry that somebody has to deal with.
Need:	Is something required that is essential or very important to someone, not just for the sake of having it.
Opportunity:	Is a possibility or chance of addressing an identified issue, which may be through creating new capacity, mobilizing or deploying existing capacity, and enhancing existing capacity.
Protected areas:	Are areas with natural resources gazetted for a specific use.
Synergy:	A combined effect that exceeds the sum of individual effects.

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