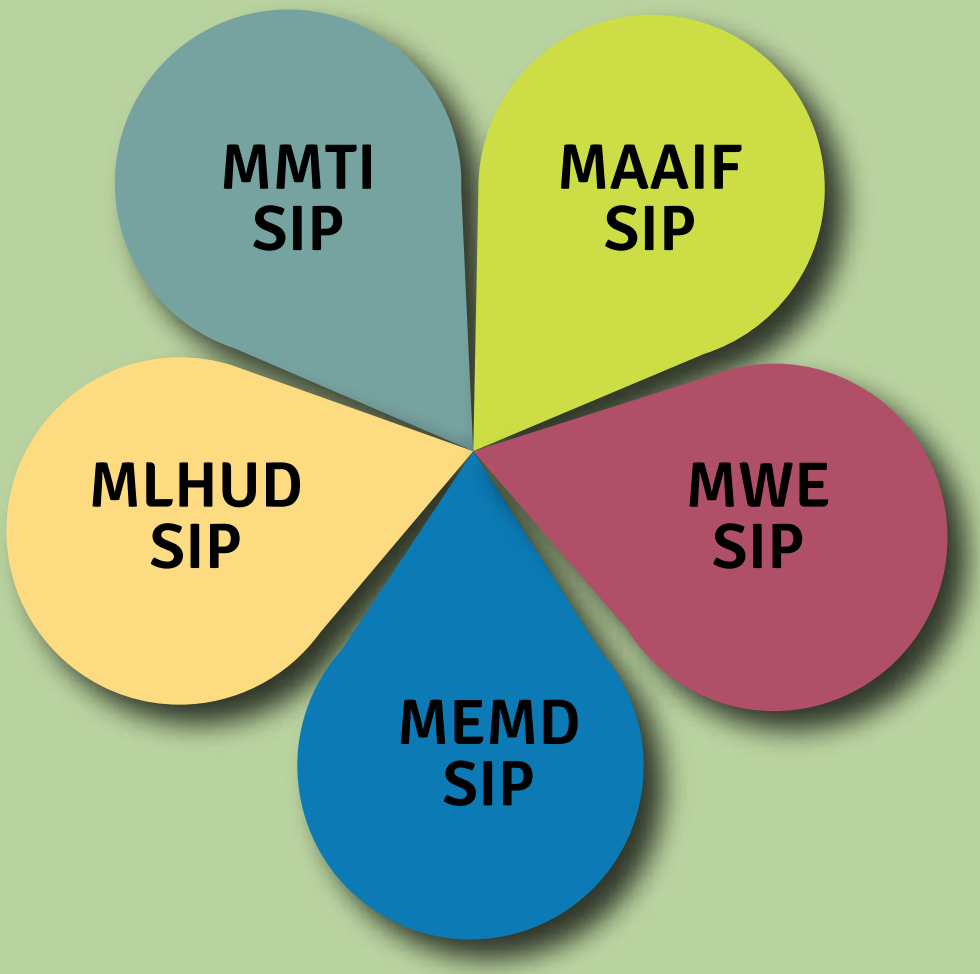
THE REPUBLIC OF UGANDA

Uganda Strategic Investment Framework for Sustainable Land Management 2010 - 2020



March 2010

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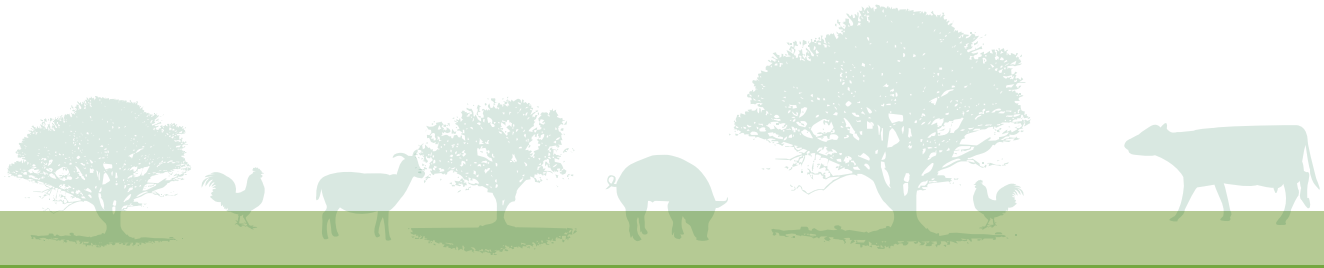
Printed in South Africa

March 2014

Design and Layout
Terrence Reddy

Printing
Seriti Printing



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UGANDA STRATEGIC INVESTMENT FRAMEWORK FOR SUSTAINABLE LAND MANAGEMENT 2010 - 2020

March 2010

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Acronyms and Abbreviations

ADF	African Development Fund
AfDB	African Development Bank
AFOLU	Agriculture, Forestry and Land Use
AfT	Aid for Trade
AGBD	Above Ground Biodiversity
AIDS	Acquired Immunodeficiency Syndrome
ASARECA	Association for Strengthening Agricultural Research in East and Central Africa
BNF	Biological Nitrogen Fixation
BGBD	Below Ground Biodiversity
CA	Conservation Agriculture
CAADP	Comprehensive Africa Agriculture Development Programme
CAP	Community Action Plans
CBA	Community Based Advisors
CBO	Community Based Organization
CDC	Commonwealth Development Cooperation
CDO	Community Development Officer
CDM	Clean Development Mechanism
CIAT	International Centre for Tropical Agriculture
COMESA	Common Market of Eastern and Southern Africa
CP	Country Program
CSIF	Country Strategic Investment Framework
CSO	Civil Society Organization
DANIDA	Danish International Development Agency
DDP	District Development Plan
DEAP	District Environment Action Plan
DFI	District Farm Institute
DFID	Department for International Development
DSIP	Development Strategy and Investment Plan
DTIS	Diagnosis Trade Integration Study
DWD	Directorate of Water Development
DWRM	Directorate of Water Resources Management
EIF	Enhanced Integrated Framework
ENR	Environment and Natural Resources
EPA	Economic Partnership Agreement
EU	European Union
FAO	Food and Agriculture Organization
FCPF	Forest Carbon Partnership Facility
FIEFOC	Farm Income Enhancement and Forestry Conservation Project
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Green House Gases
GIS	Geographical Information System
GM	Global Mechanism
GOU	Government of Uganda
GTZ	German Society for Technical Cooperation
HIV	Human Immunodeficiency Virus
IAEA	International Atomic Energy Agency
IFPRI	International Food Policy Research Institute
IAG	Inter-Group Association
ICRAF	World Agroforestry Centre
ICT	Information Communication Technology
IDA	International Development Agency
IDRC	International Development Research Centre
IF	Integrated Framework
IFAD	International Fund for Agriculture Development
IGAD	Inter Government Authority on Development
INM	Integrated Nutrient Management
INSPIRE	Integrated Soil Productivity Initiative through Research and Education
JICA	Japan International Cooperation Agency
LCD	Least Developed Country
LG	Local Government
LVB	Lake Victoria Basin
LVEMP	Lake Victoria Environmental Management Project
LUM	Land use Management
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MDGs	Millennium Development Goals

MEA	Multilateral Environment Agreement
ME&MD	Ministry of Energy and Mineral Development
MIS	Management Information System
MLH&UD	Ministry of Land, Housing & Urban Development
MoLG	Ministry of Local Government
MSP	Medium Size Project
MTTI	Ministry of Trade, Tourism and Industry
MUIENR	Makerere University Institute of Environment and Natural Resources
MW&E	Ministry of Water and Environment
NAADS	National Agricultural Advisory Services
NAP	UNCCD National Action Plan
NAPA	UNFCCC National Adaptation Programmes of Action
NARL	National Agriculture Research Laboratories
NARO	National Agricultural Research Organization
NCSA	National Capacity Self Assessment
NDP	National Development Plan
NEMA	National Environment Management Authority
NEPAD	New Partnership for Africa's Development
NFA	National Forestry Authority
NGDP	National Gross Domestic Product
NGO	Non Government Organization
NR	Natural Resource
NRB	Natural Resource Base
NWFP	Non Wood Forest Products
NWSC	National Water and Sewerage Corporation
PAD	Project Appraisal Document
PEAP	Poverty Eradication Action Plan
PELUM	Participatory Ecological Land Use Management
PER	Public Expenditure Review
PES	Payment for Ecosystem Services
PMA	Plan for Modernization of Agriculture
PS	Permanent Secretary

REDD	Reducing Emissions from Deforestation and forest Degradation
R&D	Research and Development
SEAP	Sub-County Environment Action Plan
SIDA	Swedish International Development Agency
SIP	Sector Investment Plan
SLM	Sustainable Land Management
SSA	Sub Saharan Africa
SWAP	Sector Wide Approach
TA	TerrAfrica
TDP	Trade Development Plan
TOR	Terms of Reference
UEPB	Uganda Export Promotion Bureau
UGX	Uganda Shilling
ULAMP	Uganda Land Management Project
UNCCD	United Nations Convention to Combat Desertification
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Program
UNEP	United Nations Environment Program
USAID	United States Agency for International Development
VCM	Voluntary Carbon Markets
WB	World Bank
WFP	World Food Program
WTO	World Trade Organization
QUISP	Quality Infrastructure and Standards Programme

Foreword

Uganda can achieve sustainable development and a green economy by focusing on sustainable management and use of the land and water resources owing to the high dependence on natural capital particularly agriculture and other land based natural resources.

Formulation of the Uganda Strategic Investment Framework for Sustainable Land Management (U-SIF SLM) was commissioned by the Government of Uganda in 2007 with direct support from key TerrAfrica partners including NEPAD, FAO, UNCCD-GM and the World Bank. CAADP partners such as DFID, USAID, Norway, SIDA and GTZ have directly or indirectly supported the process. U-SIF SLM was also developed as part of the new National Development Plan and its specific sector plans for agriculture, water and environment, energy, lands and trade – i.e. the Development Strategy Investment Plans (DSIPs) for the five sectors.

The purpose of the U-SIF is to upscale SLM practices across sectors programmatically and to avoid duplication across stakeholders and sectors. It will tap into synergies across sectors and promote sharing of common baselines, knowledge and monitoring and evaluation.

The goal of the Uganda Strategic Investment Framework for Sustainable Land Management (U-SIF SLM) is to promote key sectors co-operation to improve natural resource based livelihoods and other ecosystem services. The U-SIF SLM is a multi-sector national initiative spearheaded by the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – the focal ministry for the UNCCD, CAADP and TerrAfrica. The SIF aims at providing an integrated cross-sector approach to investing in solutions to crosscutting SLM challenges. It also aims at scaling up and mainstreaming SLM into the centre of the national development agendas.

The U-SLM SIF focuses on: (i) Supporting on-the-ground activities for scaling up SLM; (ii) Strengthening the enabling institutional and policy environment for SLM; (iii) Strengthening commercial and advisory services for SLM and alternative livelihood options; and (iv) Supporting SLM research and dissemination of best-bet technologies provides a broad coverage of interventions to improve the needed technological base and capacity as well as institutional synergies to effectively deliver impact on SLM in an integrated and participatory approach by a wide array of stakeholders.

Targets include but are not limited to:

- Development of Land Suitability maps and Land Use Plans for at least 50% of the country
- Updating the soils information/mapping for at least 50% of the country
- Development and operationalization of watershed management plans in at least 15 sites
- Rehabilitation/restoration of degraded agricultural landscapes in at least 20 districts
- Increase tree cover on agricultural landscape through promotion of agro forestry and afforestation with at least 60 tree nurseries.
- Strengthen and train at least 150 co-operative produce and marketing groups in the development of SLM friendly value chains in
- Support development of local community alternative livelihood initiatives in at least 30 districts.
- Support communities in at least 10 districts to acquire and use efficient charcoal making kilns and 200 schools acquire energy efficient cook stoves

In line with Uganda's development plans and strategies, the Ministry of Agriculture, Animal Industry and Fisheries in co-operation with the Ministries of Lands Housing and Urban Development, Water and Environment, Energy and Mineral Development and Trade, Industry and Cooperatives developed this Sustainable Land Management (SLM) Strategic Investment Framework (SIF) with the aim of pursuing an integrated approach to address cross cutting issues relating to SLM. The SIF identifies the key SLM challenges which undermine growth and productivity in the five key sectors that have a direct bearing and impact on land. In particular it points out land degradation hot spots where remedial SLM efforts need to be concentrated for investments to deliver significant impact.

The SLM investment areas in the SIF are aligned by sectors and take into account their respective mandates. The SIF however recognizes that most SLM issues are cross cutting thus requiring joint action across two or more sectors to be ached through inter-sectoral projects and programmes.

It is important to note that the SLM-SIF provides an effective platform to build synergies between the 3 Rio Conventions namely the UNCCD, the UNFCCC and the CBD at the local and national levels. This is largely justified by the fact that most of man's destructive activities on the environment are carried out mainly on the land. In addition, the contribution of SLM practices/technologies to biodiversity conservation, carbon sequestration and increased resilience to climate change risks are enormous. It is therefore urgent to continue pursuing the SLM agenda as a key component of our national development focus by ensuring its effective mainstreaming into Local Governments, sector and national development frameworks using simple, clear and measurable indicators.

I would like to thank Uganda's' development partners for the continuous support in developing the U-SIF. Special thanks go to UNDP, GEF, WB, FAO, Norway, NEPAD, CAADP and other TerrAfrica Partners for the financial and technical assistance provided in this regard.

V. R. Rubarema
Permanent Secretary,
Ministry of Agriculture, Animal Industry and Fisheries

Executive Summary

The Government of Uganda recognizes land degradation as a major impediment to sustainable growth in agriculture, natural resources productivity, and national economic development. Natural resources comprising land, forests, wetlands, soils, minerals, fisheries, climate, etc., contribute over 50% of the National Gross Domestic Product (NGDP). Currently, the country's population is estimated at 32.7 million (2009 State of the World Population Report by the United Nations Population Fund). However, 85% of the population is rural based and engaged in agricultural production which contributes 42% of the NGDP. Ugandan agriculture is characterized by low yields and low input use; fertilizer use is at an average of 1 kg of nutrients ha^{-1} $year^{-1}$; this is one of the lowest levels in the world. It is also important to note that 92% of Uganda's source of energy is wood fuel; while 7% is supplied by petroleum and 1% electricity.

Land degradation threatens to significantly undermine the future productivity growth in agriculture and forestry sectors in Uganda. This is especially important because of the limited scope for bringing additional land resources into production, in particular in most of the identified land degradation hotspots. The only viable option in these areas is sustainable intensification, i.e. increasing the productivity of land and genetic resources in ways that do not compromise the quality and future productive capacity of those resources. The urgently needed smallholder productivity revolution in Uganda must be based on a technology change that systematically integrates Sustainable Land Management (SLM). The figures presented above are a strong argument for the role of land resources in reducing poverty and fighting hunger. Sound management of these natural resources can support and sustain the welfare of countries, such as Uganda, as they move up the development ladder. SLM must therefore be a key part of the development strategy.

However, past investments in land productivity have not received the desired attention in the development agenda of the country. Despite some land and water management successes, past efforts have been insufficient in comparison to the scale of the problem due to a project-specific or single-sector approach to complex rural land use and land use change. This did not permit capturing the cross-sectoral nature of land management. The poor coordination and collaboration across sectors, themes, stakeholders and partners places a drag on investment performance. However, recent developments by the Government to remedy this situation, along with greater international attention being placed on climate risk and agriculture, provide reason for optimism regarding how we invest in the economic and environmental security that sustained land productivity can deliver. One challenge on this front that this framework aims to rectify is a comprehensive articulation of Uganda's investment priorities related to land use and management.

The Government recognizes that the SLM approach is one way of combating land degradation and mitigating climate change effects while supporting sustainable human livelihoods. Sustainable Land Management strategies and practices enable farmers and communities to adapt, as well as become more resilient, to climate change by increasing food production, conserving soil and water, enhancing food security and restoring productive natural resources. Additionally SLM strategies and practices can prevent land degradation, restore degraded lands, and reduce the need for further conversion of natural forests and grasslands. Successful SLM practices include water harvesting technologies; community based participatory watershed management; terracing; integrated nutrient management (INM); agro-forestry practices; energy saving stoves; etc.

Sustainable Land Management (SLM) is defined, according to the TerrAfrica partnership (2005), as the adoption of land use systems that, through appropriate management practices, enables land users to maximize economic and social benefits from the land while maintaining or enhancing ecological support functions of land resources.

Formulation of the U-SIF SLM was commissioned by the Government of Uganda with direct support from key TerrAfrica partners including NEPAD, UNDP, FAO, UNCCD-GM, and the World Bank. CAADP partners such as DFID, USAID, Norway, SIDA and GTZ have directly or indirectly supported the process. The framework is a living document owned by the government. The development of the U-SIF SLM began with stocktaking and gap analysis on SLM that brought together the body of recent analytical work undertaken in the country, such as the SLM Public Expenditure Review (2008) supported by the World Bank and the SLM Stocktaking and Gap Analysis (2008) supported by UNDP. The objectives of the SLM Stocktaking and Gap Analysis were: to take stock of completed SLM projects (2001-todate); on-going and planned initiatives in SLM; to document lessons

learnt, best practices and recommendations; to carry out a quick stakeholder analysis to assess their existing capacities and main capacity needs within their mandate with regard to formulation, implementation and monitoring of SLM activities, strengths and weaknesses; and to analyze the main bottlenecks and opportunities for SLM mainstreaming and up-scaling.

The highly consultative process for carrying out the stock-taking and gap analysis helped to identify barriers and gaps that hinder up-scaling existing good SLM practices. The barriers (which prevent addressing/ solving the root causes) and gaps were grouped into four categories, namely institutional and policy barriers, economic and financial barriers, social and behavioral barriers, and technological and knowledge management barriers.

U-SIF SLM was also developed as part of the new National Development Plan and its specific sector plans for agriculture, water & environment, energy, lands, and trade – i.e. the Development Strategy Investment Plans (DSIPs) for the five sectors.

Purpose

The purpose of the SIF is to upscale SLM practices across sectors programmatically and to avoid duplication across stakeholders and sectors. It will tap into synergies across sectors and promote sharing of common baselines, knowledge and monitoring and evaluation.

Added value

The use/ added value are the provision of common baselines; common priorities for the multi-sectoral approach; individual project preparation; etc. Additionally the U-SIF SLM will provide a programmatic tool to operationalize existing strategies and national action plans relating to SLM and to identify additional priority activities to complement existing plans which were not captured in sectoral approaches to SLM.

By providing a joint operational framework to implement priority interventions to combat land degradation, the SIF will also facilitate synergies in the country level implementation of the Rio conventions and across the broad themes of climate change, international waters, and biodiversity. Preparing and updating the SIF provides the opportunity to unite government, private sector and civil society stakeholders around a shared concrete plan of action to scale up SLM and to improve the governance of land management decisions in the country. The SIF design has taken into account and build upon other planning frameworks at national levels, including specific agreements with development partners who support SLM investments.

Goals and Objective of the Investment Framework

The goal of the Uganda Strategic Investment Framework for Sustainable Land Management (U-SIF SLM) is to promote key sectors cooperation to improve natural resource based livelihoods and other ecosystem services. The U-SIF SLM is a multi-sector national initiative to be spearheaded by the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – the focal ministry for the UNCCD, CAADP and TerrAfrica. The SIF aims at providing an integrated cross-sector approach to investing in solutions to crosscutting SLM challenges. It also aims at scaling up and mainstreaming SLM into the center of the national development agendas.

The development objective is to strengthen sector cooperation in order to halt, reverse and prevent land degradation/ desertification and to mitigate the effects of climate change and variability. The U-SIF SLM has a 10 year (2010-2020) horizon organized into two phases: Phase I (2010-2015) and Phase II (2015-2020. The SIF is intended to be a living document, and the implementation schedule will take the form of a "rolling" programme which will be updated at regular intervals. The planning and sequencing of investments will be aligned with National Development Plan planning horizons, including Medium Term Expenditure Frameworks, and other budgetary processes as well as country/ development partner planning frameworks.

The objectives will lead to impacts from discrete investments in multiple sectors and locations that will (i) raise crop and range productivity; (ii) reduce deforestation; (iii) secure ecosystem services such as water filtering, biodiversity, and carbon storage; and (iv) improve rural livelihoods.

The Investment Framework has five themes that guide interventions toward the objectives and impacts above. These are:

(i) Supporting on-the-ground activities for scaling up SLM;
(ii) Strengthening enabling environment for SLM;
(iii) Strengthening commercial and advisory services for SLM;
(iv) Supporting SLM research; and
(v) Improving and strengthening SLM knowledge management and monitoring and evaluation.

Geographical coverage and targets

The SIF SLM targets four (4) land degradation hotspots/ agro-ecoligical zones across the country that were identified/ based on the SLM PER (2008); SLM Stocktaking and Gap Analysis (2008) and other SLM analytical studies. These agro-ecological zones are: Southwestern and Eastern Highlands, Lake Victoria Crescent Region, the Cattle Corridor, Eastern and Northern Uganda.

Targets for priority technologies for scaling up in the target zones are shown in Table 1. Demonstrations will be established and fully financed and managed for at least three years and thereafter handed over to the farmers/ herders/ community. Incentives to the tune of 20-30% will also be provided to support the communities/ farmers to scale up SLM technologies.

It is anticipated that additional scaling up will occur through voluntary/ stimulation through advice and learning via farmer exchange visits; extension messages, etc.

Other targets include but not limited to:

- Development of Land Suitability and Land Use Plans/ Maps for at least 75% of the country
- Up dating the soils information/ mapping for at least 75% of the country
- Development and operationalisation of at least 15 participatory micro-watershed management plans
- Rehabilitation/ restoration of at least 10 badly degraded sites/ micro-catchments
- Establishment of at least 60 tree growing community groups with at least 60 tree nurseries to support agro-forestry, afforestation and reforestation initiatives
- Establishment/ strengthening of at least 150 groups/ cooperatives in the cattle corridor (that promote the development of SLM friendly value chains (e.g. Non-Wood Forest Products – NWFP)
- Establishment and operationalization of at least 150 pilot initiatives for alternative livelihoods/ income (bee keeping, aquaculture, etc)
- Training of at least 150 groups/ cooperatives in entrepreneurial skills/ business development skills
- Training of at least 150 local artisans in the construction of efficient charcoal making kilns and 200 local artisans in the construction of energy efficient stoves.

Table 1: Summary of targets for priority practices/ technologies for scaling up in the target zones

Practice (top priorities only)	Targets in the 4 Priority zones (Targets per zone) or Specific zone		
	Demonstrations	Established with incentives	Established voluntarily/ stimulated through advice
Integrated Nutrient Management (INM)	1,000 ha	10,000 ha	2,500 ha
Contour bunds	1,000 km	10,000 km	2,500 km
Grass contours/ bunds	1,000 km	10,000 km	2,500 km
Intercropping	2,000 ha	20,000 ha	5,000 ha
Mulching	2,000 ha	20,000 ha	5,000 ha
Conservation Agriculture	1,000 ha	20,000 ha	5,000 ha
Agroforestry	1,000 ha	20,000 ha	5,000 ha
Woodlots	1,000 ha	20,000 ha	5,000 ha
Terracing (mainly targets SW & Eastern Highland Zones)	100 ha	1,000 ha	250 ha
Rehabilitation/ reclamation of degraded watersheds & sites (Strategic Interventions)	200 ha/ zone		
Shallow wells	50 units	500 units	125 units
Household rain water harvesting /Ferro-cement tank	100 units	1,000 units	250 units
Institutional rain water harvesting /Ferro-cement tank	50 units	500 units	125 units
Run-off/ Water harvesting from roads, paths etc	2,000 ha	20,000 ha	5,000 ha
Large surface runoff harvesting reservoirs (mainly targets cattle corridor)	100 units (350 M^3 lined with HDPE dam liners/ valley tanks or small check dams)	200 units	50 units
Household energy saving stoves	5,000 units	20,000 units	5,000 units
Institutional energy saving stoves	100 units	1,000 units	250 units
Efficient kilns for charcoal production (mainly targets cattle corridor)	100 units	500 units	50 units

The U-SLM Investment Framework will cost US$ 245,305,000 and is expected to be financed through a mix of resources.. Funding sources for U-SIF SLM implementation will include general budget support at national and decentralized levels; private sector investment by farmers, herders, forest users and private sector service providers; as well as funds made available from bilateral and multilateral development partners.

The agriculture sector is the SLM focal sector, and also considered a crucial sector for rural development. The sector also receives off-budget support from donors and international NGOs. Special government initiatives such as the Integrated Water Resource Management IWRM), the Poverty Alleviation Fund (PAF), and the Northern Uganda Peace Recovery and Development Plan (NUPRDP) are also opportunities to leverage financing for SLM. Financing through projects is another of the mechanisms, and of significance are initiatives that advocate for cross-sectoral cooperation to deliver sectoral and development objectives such as the Aid for Trade Framework (ATF) of the World Trade Organization (WTO).

Innovative financing through trust funds, banking institutions, climate change related funds [e.g. Clean Development Mechanism (CDM) and Voluntary Carbon Markets (VCM)], and market based mechanisms such as organic production offer opportunities to harness financing for SLM.

1.0

Introduction

It is estimated that 85% of Uganda's population is rural and dependant on the land for its livelihood. The availability and productivity of land in turn depends on how it is managed to generate food, income, and environmental benefits such as clean water and reduced climate risk. Land and unskilled labour are, in general, the principle assets of the rural poor. The few human or capital endowments spent by farmers on land care can be overwhelmed by land degradation and climate risks.

The associated loss of productivity imposes high social and economic costs because of linkages that exist between lagging agricultural growth, rural poverty and food insecurity. In Uganda, land degradation in the form of soil erosion and soil nutrient depletion is a serious problem. Around 36% of Uganda is affected by severe land degradation and 10% by very severe land degradation. Land degradation has important consequences on the productivity of agricultural land and other natural resources, and is closely linked to poverty. The socio-economic implications of land degradation and climate risk in Uganda include rural poverty, food insecurity, high cost of food, rural to urban migration and encroachment on natural reserves.

Available information in Uganda shows that the poor are increasingly farming marginal land prone to land degradation. Expansion into marginal areas brings increased risks of crop failure and loss of soil, forest, watershed functions, and biodiversity. Consequently there is an urgent need in Uganda to break the cycle between poverty and land degradation by employing strategies that empower farmers economically and promote sustainable agricultural intensification using efficient, effective and affordable SLM practices.

Highly degraded areas are also more prone to the effects of climate variability and change because those areas have reduced resilience. Climate variability and change is expected to have adverse impacts on the existing and potential development activities in Africa (Ottichilo et al., 1991; Box 2). It affects the bio-productive system on which most economic investments in Africa are based. The impacts of increased temperature and decreased rainfall have been projected to cause shifts in vegetation zones which is likely to be felt in the various sectors of the economy such as agriculture, tourism and industry. People living in poverty are the least equipped to adapt to climate variability and change.

As a consequence, Uganda, with at least 38% of its population still living below the poverty line and deriving their livelihood largely from agriculture, climate variability and change pose serious concerns. Uganda, like most African countries, remains vulnerable to the effects of climate change since agriculture depends primarily on climate. Under the current situation of climate change which has a big influence on economic and ecological issues, the condition of vulnerable social groups like women and children in Uganda and most African countries is likely to worsen.

However, investment in land productivity has not received the desired attention in the development agenda of the country. Despite some land and water management successes, past efforts have been insufficient in comparison to the scale of the problem due to a project-specific or single-sector approach to complex rural land use and land use change. This did not allow for capturing the cross-sectoral nature of land management; the poor coordination and collaboration across sectors, themes, stakeholders and partners places a drag on investment performance.

However, recent developments by the Government to remedy this situation, along with greater international attention being placed on climate risk and agriculture, provide reason for

optimism that we are all standing upon a turning point in how we invest in the economic and environmental security that sustained land productivity can deliver.

One challenge on this front that this document aims to rectify is a comprehensive articulation of Uganda's investment priorities related to land use and management. The Government recognizes that the SLM approach is one way of combating land degradation and mitigating the effects of climate change while supporting sustainable human livelihoods. Cognizant of the above challenges, the Government convened a range of agencies and stakeholders to prepare a harmonized Strategic Investment Framework (SIF) for SLM.

The thrusts of the U-SLM SIF are:

- Enhancing productivity by supporting yield increases,
- Improving land quality and sustainability (soil health; water availability; vegetation cover, soil carbon targets, ecosystem services)
- Improving household welfare (livelihoods, food security, incomes; diversification)
- Building sectoral collaboration and synergies in SLM
- Reducing risk exposure (from climate variability and change)
- Mainstreaming SLM principles and practices into sector DSIPs (Development Strategy and Investment Plans) and inputs in the NDP (National Development Plan)

Document Structure

This U-SIF SLM document comprises 6 main sections. Following this introduction, Section 2 describes the strategic context and rationale of the framework including sector issues, the country's overall vision for SLM, the visions for each sector and the hotspot areas, and shared principles and commitments of the framework; Section 3 describes the framework, including the objectives, intermediate and long-term results, framework components, and prioritized and costed investment activities. Institutional/ implementation arrangements are described in Section 4, while Section 5 outlines the framework's Monitoring and Evaluation arrangements to measure collective progress and achievements, centered on a small set of shared indicators and targets. Section 6 is on financing mechanisms for the framework.

2.0

Context And Rationale

2.1 Country issues

The proposed U-SIF SLM is a multi-sectoral national initiative bringing together five sectors in government with mandates that have a direct bearing on land degradation vis-à-vis sustainable land management. These include the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – the focal ministry for UNCCD (United Nations Convention to Combat Desertification); Ministry of Energy and Mineral Development (MEMD); Ministry of Water and Environment (MWE); Ministry of Land, Housing and Urban Development (MLHUD); and Ministry of Trade, Tourism and Industry (MTTI).

The SLM SIF aims at providing an integrated approach to finding solutions to the crosscutting SLM challenges. It also aims at scaling up and mainstream SLM into the Sector Investment Plans (SIPs) which feed into the National Development Plan (NDP). There is need for both horizontal scaling up i.e. extending the use of research outputs to larger groups in either the same or a different environment and vertical scaling up i.e. influencing and effecting institutional and policy changes. The goal of the U-SIF SLM is to promote sectors cooperation to improve natural resource based livelihoods and other ecosystem services. The overall vision of the U-SIF SLM is - Natural resources based livelihoods and ecosystem services/ functions improved.

2.2 Sector issues

2.2.1 Agriculture

In Uganda, 85% of the population is engaged in agricultural production, which contributes 42% of the National Gross Domestic Product, 80% of the export earnings and employs 90% of the labour force. Over 95% of the farmers are smallholders with landholdings averaging 2 ha of land (Kisamba-Mugerwa, 2001). The majority of these smallholder farmers have some land but limited by capital. The largest group of households classified as being poor has consistently been those engaged in agriculture, with recent increase in poverty being particularly marked for those engaged in crop husbandry (rising from 39% in 1999/ 2000 to 50% in 2002/ 03). This is mainly attributable to low profitability from agricultural enterprises arising from low input use, rainfall dependency, non competitive market prices, etc. For households involved in non-crop agriculture, on the other hand, poverty declined from 42% to 34% (UBOS, 2005).

The vision for the agriculture sector therefore is – Sustainably managed land and water resources contributing to improved productivity and rural welfare (livelihoods, food security, income) and ecosystem services/ functions (water availability, buffering against climate change risks such as drought and floods, and genetic diversity/ biodiversity).

Box 1. Agriculture sector SLM priority bottlenecks and interventions

A. Bottlenecks and gaps

- Nutrient mining
- Soil erosion/ limited use of land management practices
- Poor infrastructure for water for production
- Under developed early warning system with regard to food security
- Climate change and variability
- Poor knowledge management and M&E
- Poor policy harmonization and implementation
- Mono-cropping production for export

B. Priority interventions

- Integrated Nutrient Management including inorganic and organic fertilizers, BNF, agro-forestry, etc.
- Soil and water conservation
- Conservation agriculture (entailing minimum tillage, cover crops, judicious crop rotations, etc)
- Water utilization components e.g. drinking structures, irrigation, etc.
- Development of an early warning system
- Adaptation to climate change and variability e.g. drought resistant/ early maturing crop varieties, etc.
- Validation of decision support tools/ crop models
- Knowledge management and M&E
- Policy harmonization & implementation (e.g. Land Use Policy, agriculture and trade development policies)

2.2.2 Water and Environment

Currently, there is insufficient understanding of the directions and severity of climate change in Uganda, and the potential impacts of these climate changes for land management. These impacts will differ strongly for the various parts of the country, and may be most significant in the fragile/ high risk areas experiencing accelerated land degradation in form of soil erosion, nutrient and biomass depletion, etc.

2.2.2.1. Climate Change Impacts

Climate change is likely to have a wide range of interrelated impacts for the environment and economy of Uganda and the well-being of its people. The impacts and mechanisms identified in existing literature are collated in Box 2. Whilst many of these are negative, there may also be potentially beneficial outcomes such as increased grazing area for livestock in the cattle corridor with increased rainfall or opportunities to grow more profitable crops and watering points arising from extensive runoff from degraded hilltops e.g. artificial lakes formed in Mbarara after the 2008 second rain season. Climate change impacts are also likely to exacerbate some existing stresses, for example land degradation.

Box 2.: Impacts of climate change in Uganda – collated from the literature (Orindi and Eriksen 2005, Orindi and Murray 2005, Hepworth and Goulden 2008, MWE 2007)

Impact		Mechanism
Water	Change in river flow regimes	Higher temperatures and melting of Rwenzori glaciers temporarily increasing and then reducing flows in the Semiliki river downstream
	Water scarcity	Higher temperatures, evaporation and recurrent drought leading to stress, higher demands for water, conflict, and biodiversity loss. Partially implemented water resource regulation system hands legal access to water to the powerful
	Flooding	Higher mean and increased intensity rainfall, coupled with land degradation and encroachment raises risks of loss of life and property and damage to infrastructure via flooding
Health	Malaria	Extension into higher or once cooler areas with temperature increase where resistance may be low
	Water Borne Disease	Flooding is associated with diarrheal disease including cholera epidemics, particularly where sanitation is poor and in slum areas
	Respiratory disease & eye infections	Associated with dust storms arising from prolonged dry spells
	Malnutrition and famine	Associated with lower food production and insecurity, particularly with widespread damage brought by floods and droughts
Agriculture and food security	Seasonal rainfall change	Erratic onset and cessation of the rainfall seasons. Shorter rains. Crop failure or lower yields of staple foods like beans, cassava, maize and bananas; reduction in traditional varieties; and more crop disease (e.g. Banana Bacterial Wilt and Coffee Wilt Disease) Additional agricultural workloads – particularly women.
	Higher average rainfall, high intensity events	Crop damage and soil erosion
	Pastoralists	Increase in rainfall in semi-arid areas could be beneficial, given mobile pastoralists take advantage of the rains. Droughts reduce viability of cattle corridor and precipitate conflict Lower milk production
	Fisheries	Changes in nutrient cycling and loss of spawning brought by temperature and water level change reduce productivity
Environment	Land degradation and deforestation	Higher forest fire risk in dry periods; pressure on forests when other livelihood assets collapse; salinization and soil erosion
	Species extinctions	As niches are closed out by shifts in climate regime
Infrastructure	Transport links and settlements	Damage to bridges, roads, telecommunication and buildings during flood and storm events
Economy	Energy	Changes in Lake level reducing flows available for power generation. Higher energy costs and energy poverty with knock on implications for charcoal use, deforestation and land degradation
	Exports (e.g. coffee)	Changes in temperature may affect export capacity. For example, Coffee is Uganda's primary export crop. Robusta sensitive to higher temperatures. Too much rain reduces flowering, which reduces production and also effects drying of beans. Diseases, pests and mould, hit both production and quality.
	Food prices	Increase due to pressure on internal and international production capacity
	Tourism	Potentially in decline due to degraded environment and infrastructure
Poverty	Multiple	Exacerbated. Vulnerability increased
Insecurity	Nile flows	Changes in water balance and demand heightens competition, potential for conflict.
	Migration	In response to acute or chronic climate induced stresses

2.2.2.2 Vulnerability

Uganda is highly vulnerable to climate change and variability – its economy and the well being of its people are tightly bound to climate. Human induced climate change in the coming century has the potential to halt or reverse the country's development trajectory. A recent International Climate Risk Report labels Uganda as one of the most unprepared and most vulnerable countries in the world (CIGI, 2007).

Poverty, low diversity of income and livelihoods, HIV/AIDS, insecurity and weak institutions are key factors in heightening Uganda's vulnerability to climate change, lowering its resilience and adaptive capacity. Resilience, the ability to cope and recover is low within Uganda. Therefore in planning interventions around climate change it is vital to understand and consider these underlying issues and their often unequal distribution as well as direct sectoral impacts.

2.2.2.3 Adaptation

Adaptation in the context of climate change is an adjustment in a system in response to actual or expected climatic changes and its impacts. It includes changes and adjustments designed to moderate, offset potential damages or to capitalize on the changes in climate. In turn, adaptive capacity is the potential or ability of a system, region, or community to adapt to the effects or impacts of climate change (IPCC third Assessment Report, 2001).

Early adaptation to climate change can moderate impacts and even secure benefits. SLM can reduce vulnerability and help people adapt to climate variability and change. Despite the large potential for SLM to contribute to climate change mitigation and adaptation in SSA, little of this potential is currently being realized. SLM practices are adopted on only a small percentage of agricultural land in SSA.

Many SLM practices can simultaneously achieve both adaptation and mitigation goals, especially those that increase soil organic carbon. SLM represents a preventative approach to climate change that can reduce the need for costly ex post coping measures, like changing crops and livelihoods, clearing new lands for agriculture and migration. The predicted negative yield impacts of climate change are often dwarfed by proven positive yield impacts of improved land management. In addition to positive impacts on average yields, many SLM practices reduce the variability of agricultural production (for example, soil and water conservation and organic amelioration practices that improve soil moisture holding capacity or integrated pest management practices that reduce vulnerability to pests), while others can help to diversify agricultural income (for example, agroforestry with non-timber tree products or crop rotations). A combination of SLM practices can be used to combat the different manifestations of climate change.

Adaptation to climate change takes place in a dynamic social, economic, technological, biophysical, and political context that varies over time, location, and sector (IPCC 2001). This complex mix of conditions determines the capacity of systems to adapt. The main features of communities or regions that seem to determine their adaptive capacity are: economic wealth, technology, information and skills, infrastructure, institutions, and equity. These factors combine to contribute to the very low adaptive capacities of many countries in Africa. Within a given country, determinants of this capacity cascade down along nested spatial and economic scales.

Recently IFPRI and Makerere University Institute of Environment and Natural Resources - MUIENR (Majaliwa et. al., 2009) conducted a study in Uganda, with an objective of generating context specific recommendations on how to improve food security and economic development while reducing climate change related risks using sustainable land and water management practices and other strategies.

The communities involved in this research revealed high level of awareness of climate change and how this phenomenon is affecting livelihoods. All 12 communities involved in the study reported to have experienced climate change in a variety of ways in the past 30 years.

Responses to climate change and other biophysical and socio-economic changes are related in a complex way. For example, deforestation and tree cutting were the most frequently reported biophysical changes. Communities have taken sustainable land and water management (SLWM) practices that have been empirically shown to be effective in addressing moisture stress and rainfall variability. Notably, communities reported to have adopted or enhanced use of mulching, manure and tree planting. Communities in Kapchorwa and Kamuli also reported to have adopted new varieties that are drought tolerant.

Majaliwa et al. (2009) further reported that communities in Moroto have shifted from pastoral livelihoods to crop production. Such change has been a result of cattle rustling

and insecurity in northeastern Uganda. The change has increased vulnerability of the communities to climate change since crop production in the area is riskier than the pastoral livelihoods that the communities have practiced for ages. These findings underscore the complex nature of response to climate change and the need to address adaptation by taking multi-sectoral approach.

Box 3. Land and water management practices adopted in response to climate change in Uganda.

New or increased SLWM practices in the past 30 years	Moroto	Kapchorwa	Kamuli	Total (out of 12 villages)
	No. of villages reporting (out of 4)			
Manure	2	3	2	7
Mulching	3	2	3	8
Improved crop varieties	0	1	2	3
Agroforestry	0	2	0	2
Stone lines/contour ridges	2	1	0	3
Diversion channels/trenches/trash lines	3	1	2	6
Water harvesting	2	2	0	4
Protection and management of water resources	1	3	2	6
Tree planting & protection	2	2	2	6
Controlled grazing	4	2	0	6
Water resource development1	4	0	1	5

[1]Water resource development includes:
Development of livestock watering points – such as dams, and private or community potable or livestock water boreholes

Source: Majaliwa et al., 2009 (IFPRI & MUIENR, UgandaCase Studies).

2.2.2.4 Mitigation/ Innovative Mechanisms

Climate change mitigation through the Clean Development Mechanism (CDM) and Voluntary Carbon Markets (VCM) has had a limited impact in Uganda, although it is thought there is potential for Uganda to benefit from these in the future. Constraints such as high transaction costs and limited indigenous capacity are being tackled through a number of initiatives, but the situation should be strengthened to ensure that Uganda benefits from these mechanisms.

There are opportunities to promote climate change mitigation and adaptation through SLM in Uganda using existing mechanisms.

In the present context, the opportunities include:

- Increased use of the CDM to finance Afforestation and Reforestation (A/R) projects;
- Increased use of voluntary carbon markets (VCM) and carbon mitigation funds to test and demonstrate methodologies for a wider range of agriculture, forestry and land use (AFOLU) activities;
- Increased use of adaptation funds to support SLM priority activities
- Increased funding for climate change mitigation and adaptation through programs promoting SLM; and
- Increased integration of climate change mitigation and adaptation activities, including SLM, into development strategies of GOU and donors.

2.2.2.5 Forests

Uganda's natural forest cover consisting of tropical high forest (THF), woodlands and forest plantations has declined drastically from 54% (approx. 13.2 million hectares) in the 1950s to the present 4.9 million hectares representing approximately 20% of the total area of the country (ENR-SIP, 2007; NEMA, 2004/05). A large proportion of the rural population depends on forest resources for basic needs and forestry provides a range of environmental services and

biodiversity values, such as greenhouse gas (GHG) mitigation, watershed regulation, climate regulation, soil and water conservation, and nutrient cycling.

The forestry sector contributes about 6% to Uganda's GDP and creates about 850,000 jobs; about 100,000 in the formal sector and the majority in fuel-wood and charcoal production. The gross economic output attributable to biodiversity use is estimated to be US$ 546.6 million per year while indirect benefits from ecosystem services and functions that support and maintain production are estimated to be a further US$ 200 million per year (Uganda National Biodiversity Strategy and Action Plan, 2002)

Despite the value of Uganda's natural resources to its economy, the environment is severely strained. The stress has been attributed to deforestation, population growth and human encroachment. The problem is particularly acute outside of protected areas, on forested private and public/ communal lands that are not regulated or managed by government. Communities living in these non-regulated forest lands depend on forest resources for firewood, building materials, medicinal plants but are also faced with more immediate livelihood needs, prompting over-exploitation. The deforestation rate is estimated to be 55,000 ha per year, based on habitat change from 1990-1995. Other estimates push the figure higher to between 1.1% and 3.15% per year. Today, while only 15% in forest reserves is degraded, 50% of all the tropical high forest on private land is degraded.

Most of the proposed SLM interventions have strong ecosystem rehabilitation attributes and carbon sequestration elements and hence can benefit from CDM mechanisms. Additionally, Uganda's action plans and programs provide an enabling environment for Payment for Ecosystem Services (PES). Uganda has also entered/ engaged (2009) in the Forest Carbon Partnership Facility (FCPF) and taken the lead in promoting PES throughout the East African region - activities undertaken by Eco-Agriculture and Katoomba Group – Forest Trends and other partners are good starting initiatives. These initiatives provide opportunities for incentives to promote SLM interventions. Consequently, there is need to increase benefits to communities from ecosystem services markets by increasing supply of solid SLM projects from the U-SIF SLM and to build an aggregate model to efficiently support a range of small-scale farmers, pastoralists, etc.

2.2.2.6 Water Resources

The rapidly growing population and economy have placed increased demand on the water resource. The water resources are also under threat from land degradation on-site and off-site effects; especially those associated with soil erosion. The main ecological concern with soil erosion and siltation is the loss of water storage capacity of water bodies and wetlands. Land degradation also affects the hydrological regime (rainfall, run-off, evapotranspiration, infiltration, etc.), which have several negative consequences including climate change, siltation, and increased flood hazards. Nutrient loading into aquatic eco-systems has led to eutrophication of some water bodies. In that regard, land degradation is becoming both a growth and environmental issue in Uganda. Sustainable land management will greatly contribute to halt the land degradation trends and hence protect the national ecosystems and those which are international in nature like the Lake Victoria and Nile River basins.

The thrust of the U-SIF SLM in this sector therefore is to have environmentally sound, sustainable, integrated socio-economic development of micro/ small watersheds and climate change mitigation.

The vision in this sector therefore is reduced risk exposure (climate change risks and mitigation) and community-based participatory managed watersheds providing desired goods and services (see Box 4).

Box 4. Water and environment sector SLM priority bottle necks and interventions

A. Bottlenecks and gaps

- Impacts of climate change and variability;
- Inadequate early warning systems (short and medium term weather and climate forecasts - drought, floods, etc)
- Deforestation and poor watershed management
- Poor infrastructure for water for production
- Poor knowledge management and M&E
- Poor policy harmonization and implementation

B. Priority interventions

- Adaptation and mitigation to impacts of climate change and variability
- Establishment of early warning systems (short and medium term weather and climate forecasts - drought, floods etc)
- Water harvesting/ water supply to pastoral communities
- Watershed management ,
- Afforestation, reforestation and agro-forestry
- Knowledge management and M&E

2.2.3 Energy

Biomass, representing 93% of energy consumption, is the main source of energy in Uganda. Fuel wood energy is the major source of energy for domestic cooking, heating and lighting the country. Over 90% of Ugandans use fuel-wood as their main or only source of energy, consuming 22 million tons annually as domestic firewood and 4 million tons as charcoal (MWLE, 2002). It has been estimated that even if the entire hydroelectric potential of the country is fully utilized, 75% of total energy consumption would continue to be met through biomass energy by the year 2015 (Akankwasa and Tromborg, 2001).

As a means of mitigating these staggering statistics, government is in the process of implementing programs such as the Energy for Rural Transformation and has enacted policies for modernization and liberalization of energy production, thus the country is progressively moving from a position of low-intensity-energy-use towards higher levels of clean energy intensity. Nevertheless, electrification access in Uganda is still very low, standing at approximately 10% nationally and 4% in rural areas.

The electrification of most parts of the country through the grid extension in the near future is still a far cry (MEMD, 2007). In that regard, biomass principally firewood and charcoal, is projected to continue being an important source of energy, especially for the rural poor, who constitute the majority of Ugandans. There is need therefore to develop a sustainable energy economy, which will ensure its security, availability and affordability, while sustaining the diversity of both the resources and systems. The focus/ thrust in the energy sector is sustainable use of biomass energy, and development and increased use of renewable energy from the current 4% to 60%.

Box 5. Energy sector SLM priority bottle necks and interventions

A. Bottlenecks and gaps

- Unsustainable biomass energy sources management (inefficient utilization, over extraction, losses, etc)
- Underdeveloped renewable energy sources
- Poor knowledge management and M&E
- Poor policy harmonization

B. Priority interventions

- Sustainably managed biomass energy sources (balanced and efficient utilization)
- Developed renewable energy (e.g. gasification for homes and institutions)
- Improve efficiency in charcoal production
- Knowledge management and M&E
- Watershed management (water availability, soil erosion control, etc)

The vision in the energy sector therefore is – sustainably managed biomass energy sources and adequately developed gasification processes to reduce pressure on biomass and improve end-use efficiency.

2.2.4 Lands

Poor land use leading to the degradation of natural and environmental resources is partly attributed to the insufficient data and information on environmental, ecological and socio-economic parameters. Decision-making on the use of the land resources is seldom based on current data and information on available resources and their respective comparative advantage in supporting sustainable livelihood systems and provision of quality environmental/ ecological services and functions.

The focus/ thrust in the lands sector is development of land use plans and the community based watershed management and development process i.e. Participatory Land Use Planning (PLUP) that results in/ into community action plans (CAP). The communities have to appreciate that the interventions will benefit them and hence "ownership". There is a need to methodically link this effort with sector interventions to maximize sector investment performance. The vision for this sector therefore is - Adequately planned land use systems countrywide supported with strong/ well developed community based participatory micro-watershed plans.

Box 6. Lands sector priority SLM bottle necks and interventions

A. Bottlenecks and gaps

- Lack/ absence of Land Use Plans
- Lack of support for LGs, investors, and other land users to implement the land use policy and land use plans
- Land tenure insecurity
- Poor knowledge management and M&E
- Poor policy harmonization

B. Priority interventions

- Development of land use plans
- Participatory land use planning (PLUP)
- Participatory watershed management plans
- Improved land administration
- Knowledge management and M&E
- Policy harmonization & implementation (e.g. Land Use Policy)

2.2.5 Trade

Trade has a direct bearing on how farmers, herdsmen and communities manage their land. Land quality determines the degree of production in both quantitative and qualitative terms; hence, it determines the tradability of agricultural products. Trade impacts on SLM in a number of ways. Trade pressures may trigger:

- Inefficient and wasteful use of land, forest and water resource (e.g. charcoal production);
- Inappropriate crop intensification and use of agronomic practices not suitable for local soil and water conditions;
- Expansion of agriculture to marginal lands which are not capable of sustaining food production;
- Land conversion to meet cultivation needs e.g. depletion of wood and bush lands (Statistical Abstract, 2009)

Trade remains the main driver for the country's economy through exports and imports, with US$ 3.4bn as total exports for goods and services in 2007, and the total import bill in the same year as US$ 5.5bn, representing a trade deficit of US$ 2.1bn. The shrinking world market for the country's traditional exports e.g. coffee, tea, cotton, etc. has resulted into wider trade imbalances with imports growing faster than exports. However, most of the imports do not necessarily feed into the production process because they are mainly consumables, a situation which is unsustainable and undesirable. Uganda is for instance increasingly importing agricultural food products (e.g. cereals and cereal preparations – accounting for 3.83% of total imports). Import substitution in food crops offers the opportunity for a favourable trade balance by promoting food production for commercialization, and strengthening the respective value chains for this purpose.

Export diversification has been a key component of the trade policy reform. Non-traditional exports such as fish and fish products, horticultural products, etc account for the bulk of the county's merchandise export earnings. The National Export Strategy 2008-2012 also puts emphasis on trade development for non traditional exports including natural ingredients. Many of such natural ingredients are derived from Non-Wood Forest Products (NWFP) and regarded as having a great trade development potential which may work as an incentive for reducing deforestation and promoting sustainable forest management. For example, world demand for essential oils was US$ 755m in 2006, with a growth rate of 7% between 2002 and 2006, and used for therapeutic and aromatic purposes while the world demand for Gum Arabic stood at US$ 278m in 2006 and grew by 30% in 2002 – 2006, and traded volumes increased by 3% in the same period. Other promising natural products include honey and wild fruits.

SLM may add value to trade processes by providing opportunities for product diversification, making supplies more reliable, reducing waste, optimizing the use of resources and improving product quality. SLM can also be a powerful marketing instrument through eco-labeling and organic certification.

One of the major concerns in the trade sector is the absence of inter-sectoral linkages between trade and the productive sectors - primarily agriculture and environment. Trade

development is hinged on the development and implementation of harmonized sectoral plans, and continuous monitoring and feedback on trade opportunities and challenges, and also the socio-economic and ecological impacts. Opening up trade opportunities to provide alternative livelihoods, improving the productive capacity and enhancing the competitiveness of the commodities and non commodities are some of the priorities defined for the trade sector.

Box 7. Trade sector priority SLM bottle necks and interventions

A. Bottlenecks and gaps

- Weak value chains for SLM friendly products e.g NWFP
- Limited use of SLM production practices within commodity sectors such as coffee, cotton and tea
- Weak compliance to trade standards and requirements
- Limited access to trade and market information
- Poor knowledge of SLM value added to value chain development
- Lack of M&E of trade impacts on SLM
- Absence of integrated/ multi-sectoral sub-sector strategies
- Weak cross-sectoral collaboration and cooperation
- Weak harmonization of trade and agriculture development policies

B. Priority interventions

- Promote trade diversification by encouraging food import substitutes (e.g. production of cereals) and value chains that do not increase pressure on land e.g. pineapples, vanilla and Non Wood Forest Products (NWFPs)
- Increase the use of SLM practices in the value chains of commodity products such as coffee, cotton and tea
- Align production of export commodities to climate change by adopting practices that make the value chains more resilient to climate change impacts
- Enhance inter-ministerial cooperation on trade development for agricultural and natural product sectors
- Build capacity and facilitate standardization, packaging, labeling and certification for SLM friendly value chains
- Increase access to information on markets and key requirements
- Knowledge management and M&E
- Mainstreaming SLM into trade planning and policy making processes, and related implementation plans.
- Support the alignment of trade and agriculture development policies

The growing number of eco-labeling and certification schemes for environmentally-friendly products reflect the growing demand for sustainably traded products as private companies realize that environmentally-friendly practices are opportunity for innovation, product diversification and improving brand image. In order to respond to the urgent need to diversify the country's export base in light of the continued low performance of the traditional export commodities on the international markets, SLM could contribute by (i) promoting the use of SLM-friendly practices in the major export commodity sectors; (ii) supporting market diversification by encouraging food import substitutes and value chains that do not increase pressure on land ; and (iii) aligning planning and policy making processes in the trade and agriculture sectors as well as the related implementation plans.

The vision for this sector therefore is - To develop and nurture private sector competitiveness, and to promote trade diversification by supporting the development of value chains based on SLM production systems.

2.3 Geographical coverage of the Framework

Soil nutrient depletion and soil erosion are the major forms of land degradation in Uganda and therefore commonly used as indicators for land degradation (World Bank, 2008). The spatial distribution of land degradation in the country has been determined by considering both biophysical and socio-economic factors.

The biophysical factors include topographical characteristics such as slope, elevation, rainfall, land cover, climate and soil erodibility (Voortman et al., 2000), while socio-economic factors include population pressure, poverty, land tenure, agricultural commercialization, access to markets, among others (World Bank, 2008).

On that basis, four (4) land degradation hotspots across the country were identified, namely: Southwestern and Eastern Highlands, Lake Victoria Crescent Region, the Cattle Corridor, Eastern and Northern Uganda (Box 8).

Box 8: Criteria for ecosystem/ zone selection

Three factors determine the comparative advantage (development domain) of locations across Uganda: (i) agro-ecological potential; (ii) access to markets; and (iii) population density (World Bank, 2008). Selection of the land degradation hotspots took into account these three comparative advantages of the locations across the country. The criteria used for the selection of the specific land degradation hotspot are reported below.

1. Uganda's drylands/ Cattle corridor	Generally the area is characterized by low population density, low market access and low agro-ecological potential. However, in relative terms, Uganda's drylands particularly the "Cattle Corridor" bears the greatest impacts of land degradation - land use trends show an increase in deforestation, reduced fallow periods, overgrazing, bush-burning, etc. SLM trends on the other hand indicate generally very low adoption. In addition, the area experiences erratic rainfall patterns and drought is a recurrent phenomenon. Ultimately, areas characterized by low rainfall and high temperatures, heavy land use and lack of conservation measures succumb to desertification/ effects of climate change and variability
2. Uganda's Highlands [Southwestern & Eastern Highlands]	The highlands are characterized by high population density, high market access, and high agro-ecological potential. Land scarcity is extreme in the densely populated region. Land use trends show a substantial increase in cultivated areas but given the fragile ecosystem of the highlands this has lead to increased soil erosion. Settlements are also on the increase. SLM trends on the other hand indicate declining fallow periods, destruction of fallow strips and soil bunds. High population density has lead to extensive land fragmentation; a problem for sustainable land management. High population areas are also often associated with poverty and the need for improved management systems to increase food security.
3. Eastern and North-ern Uganda	Eastern and Northern Uganda are characterized by high population density, high market access, and high agro-ecological potential. Generally, the Eastern region has inherently low soil fertility and nutrient depletion is extreme where there is agricultural intensification. Land use trends show reduced fallow periods, deforestation, and extensive drainage of wetlands. SLM trends indicate very low adoption. Northern Uganda experienced a 2 decade insurgency which seriously impacted land management and resulted in unprecedented poverty levels. Currently, the area is undergoing resettlement with rapid ecosystems dynamics where conflicts in land use is increasing and environmental degradation is enhanced. Eastern and Northern Uganda contain the poorest households in Uganda, yet poor households have less ability to invest in soil and water conservation measures
4. Lake Victoria Crescent/ Basin	The Lake Victoria Crescent is characterized by high population density, high market access, and high agro-ecological potential. High temperatures and intense rainstorms subject the soils in the region to climate induced degradation. Land use trends show an increase in area under cultivation but with unsustainable land management practices e.g. continuous cultivation due to increasing population pressure; deforestation; and decreasing wetlands

2.3.1 The Cattle Corridor

Uganda's "Cattle Corridor" stretches from the northeast through central to the southwest of the country (Fig. 1). It generally traverses 25 districts with total area coverage of 84,000 km^2, which is approximately over one third of the total 241,000 km^2 land area in Uganda.

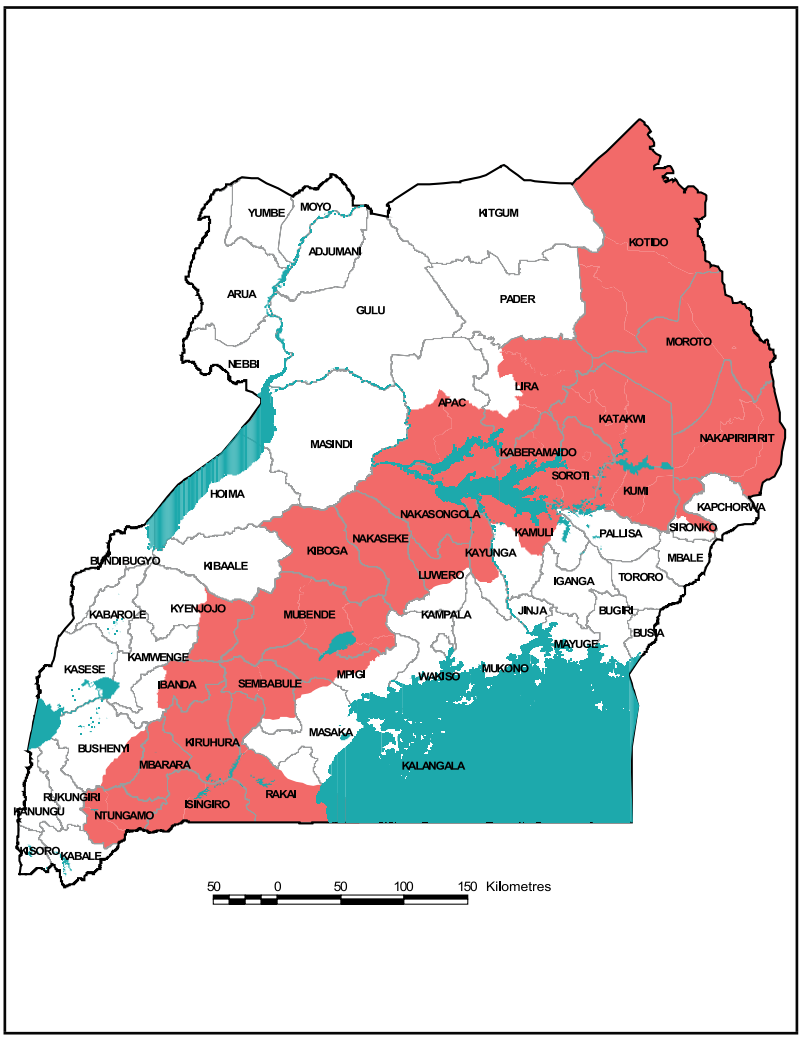


Figure 1.
Uganda's Cattle Corridor (Source: Land Resources Database, NARL – Kawanda)

Box 9. SLM issues in the Cattle Corridor-

Why is the zone important?

- covers approximately one third of the total land area in Uganda
- holds over 80% of the national cattle herd
- livestock production contributes 7.5% to the NGDP and 38% of the agricultural GDP

Land degradation impacts & drivers

Decline in the carrying capacity of land and therefore low productivity; the main driver being overgrazing which has led to

- soil compaction
- erosion (particularly gully erosion)
- emergence of low-value grass species & vegetation

Additionally, there is extensive deforestation/ tree cutting for charcoal production. The zone is very susceptible to impacts of climate change and variability

SLM practices with potential

- Fallow strips
- Community based participatory watershed management
- Construction of SWC structures [contour bunds or channels]
- Water harvesting
- Afforestation and reforestation

On average, it receives 500 – 1,000 mm of rainfall annually and drought is a common recurrent phenomenon. The area accounts/ holds over 80% of the national cattle herd. Livestock production contributes 7.5% to the national GDP and 38% to the agricultural GDP (FAO Yearbook, 1994).

With a potentially available rangeland area of 7.5 million hectares and an average stoking rate of 1.82 ha per cow, the country has a potential of grazing over 4.0 million cows for meat production. However, the utilization of rangelands for sustainable agricultural (crop & livestock) production faces severe limitations and challenges. The major constraints to agricultural production include low and declining soil fertility, poor management of important resources like pastures, water, and soils. In general, Uganda's Cattle Corridor/ dry-lands bear the greatest impacts of land degradation.

The situation in this area is aggravated by frequent and severe drought, lack of viable alternative livelihoods systems and employment, poor access to information and credit, poor infrastructure and in some cases lack of political participation.

Overgrazing has led to soil compaction, erosion (particularly gully erosion) and the emergence of low-value grass species and vegetation with subsequent declines in the carrying capacity of land and therefore low productivity.

Other features characterizing the drylands of Uganda include "export" of wood fuel (especially charcoal), seasonal fires, communal land ownership, communal conflicts, livelihoods dominated by rearing livestock, marginal productivity for arable farming, frequent food emergencies, squalor and endemic abject poverty. All these trigger and drive poverty, overuse of land and damage to its recoil capacity, eventually manifesting in negative physical and social characteristics.

The vision for this area therefore is – improved water supply/ availability to pastoral communities, increased vegetative/ biomass cover and reduced resource use conflicts.

2.3.2 Uganda's Highlands

The highlands occupy around 25 percent of the country's land area and contain 40 percent of the country's population. They are found in the South western, Eastern, Western and North eastern regions (Figure 2.).

Those with steep slopes, such as Kabale, Kisoro, Bundibugyo, Mbale and Kapchorwa, are the most seriously affected by erosion.

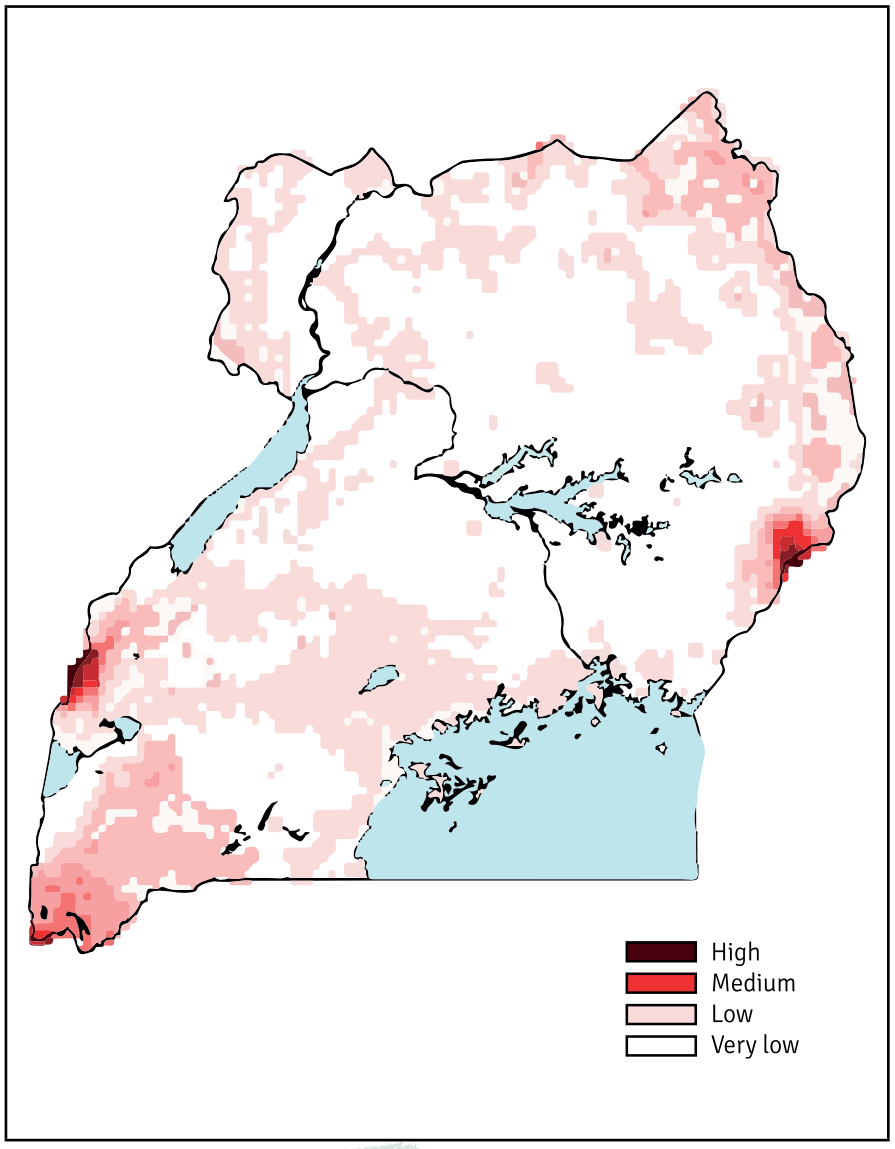


Figure 2. Soil erosion hotspots in Uganda (Source: World Bank, 2008)

Box 10. SLM issues in the highlands
Why is the zone important?

- Contains 40% of the country's population
- Highest population density 270 people km-2
- Extensive soil erosion and frequent fatal & destructive landslides
- Land degradation impacts & drivers
- Declining soil productivity due to extreme levels of soil erosion driven mainly by steep slopes, population pressure, deforestation, vulnerable soils, poor farming methods e.g. reduced fallows

SLM practices with potential

- Terraces
- Improved fallows
- Community based participatory watershed management
- Construction of SWC structures [contour bunds or channels]
- Afforestaion; reforestation and agroforestry

Population densities are, in general, high in these areas, averaging to about 270 people km^{-2} (NEMA, 2001/2002) and most land, including marginal lands, are under cultivation. Furthermore, fallowing is practiced by less than 10% of the households and the average fallow period has declined from 1.4 years in the late 1980s to 0.6 years in the late 1990s (World Bank, 2008).

A key issue in the highlands is nutrient depletion of soils. Nutrient depletion is most intense in East Africa because of high outputs of nutrients in harvested products, erosion and the relatively high inherent fertility of the soils. Losses of up to 130 kg N, 44 kg P and 25 kg K per ha per year have been reported in the East African highlands (Smaling et al., 1997).

Inorganic fertilizers are not used but organic manures from homesteads are applied on bananas. Crop harvests and soil erosion are the major causes of nutrient losses at the crop level. There is as yet little evidence that the increases in population densities have led to sufficient adoption of land management practices to offset worsening erosion and nutrient depletion (Nkonya et al. 2002).

The vision for the highlands therefore is – improved land management practices leading to reduced soil erosion.

2.3.3 Eastern and Northern Uganda

Eastern Uganda covers districts in the traditional Busoga and Tororo/ Bukedi area. Generally, the Eastern region (Figure 3) has inherently low soil fertility and nutrient depletion is extreme where there is agricultural intensification. Land use trends show reduced fallow periods, and increased deforestation and drainage of wetlands. Wetlands drainage has reached alarming levels in eastern Uganda, where the region ranks highest with 20% of wetlands destroyed, compared to an average of 2.9% for the central, northern, and western regions (NEMA, 2001/02).

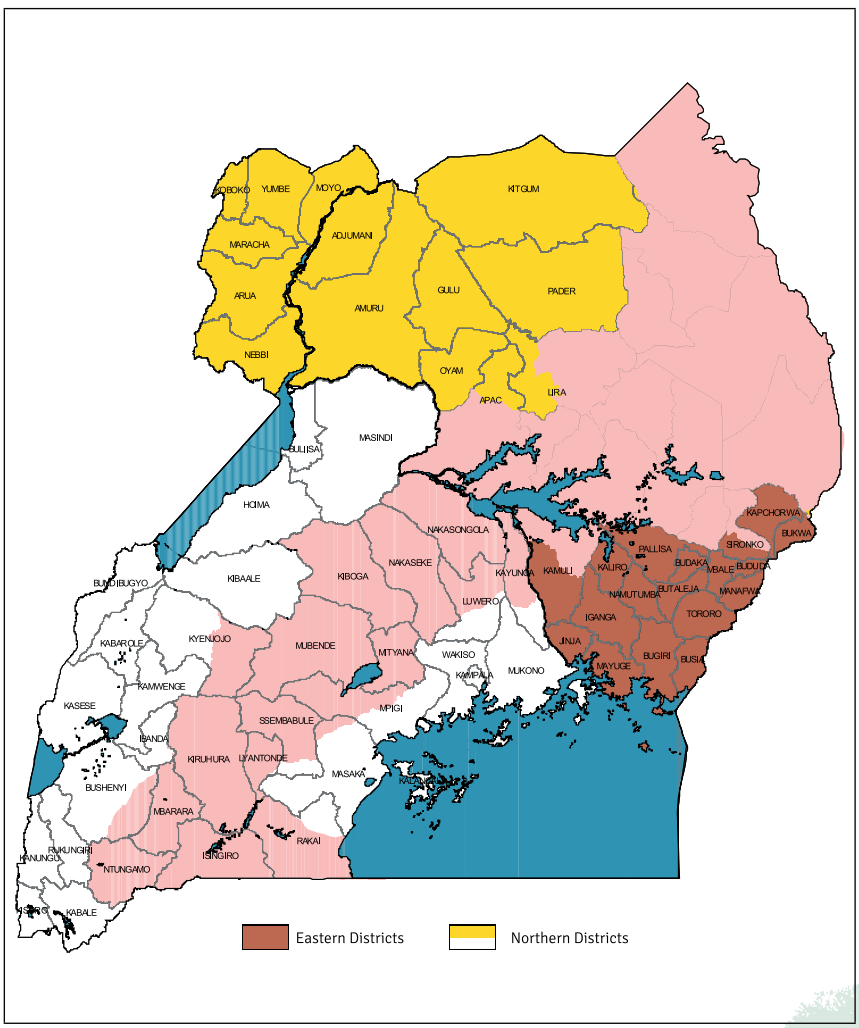


Figure 3. Map of Uganda highlighting Eastern and Northern regions

Box 11. SLM issues in eastern and northern Uganda

Why is the zone important?

- Recovering from civil strife
- High potential of being a grain basket for the country & contributing to the GDP

Land degradation impacts & drivers

- Inherently low soil fertility in eastern Uganda and extreme nutrient depletion where there is agricultural intensification
- Increase in flood and drought events due to wetland reclamation and climate change
- Rapid ecosystem dynamics due to resettlement in northern Uganda

SLM practices with potential

- Conservation agriculture
- Improved fallows
- Community based participatory watershed management
- Construction of SWC structures [contour bunds or channels]
- Afforestation; reforestation and agro-forestry

SLM trends indicate very low adoption of best practices. Northern Uganda (Figure 3) experienced a two decade insurgency which seriously impacted land management and resulted in unprecedented poverty levels. Currently, the area is undergoing resettlement with rapid ecosystems dynamics where conflicts in land use is increasing and environmental degradation is enhanced. Eastern and Northern Uganda have the poorest households in Uganda; yet poor households have less ability to invest in soil and water conservation measures

The vision for eastern and northern Uganda therefore is – improved land management to enhance and maintain soil fertility for increased productivity.

2.3.4 The Lake Victoria Crescent

Lake Victoria, with a surface area of about 68,800 km^2 is the second largest freshwater body in the world, and it's a trans-boundary resource shared by Kenya, Tanzania, and Uganda.

It has a catchment area of 194,000 km^2 with the catchment/ basin in Uganda covering about 31,040 km^2 (16%) (Fig.4). The population density in the basin estimated at 180 per km^2 is higher than the national average.

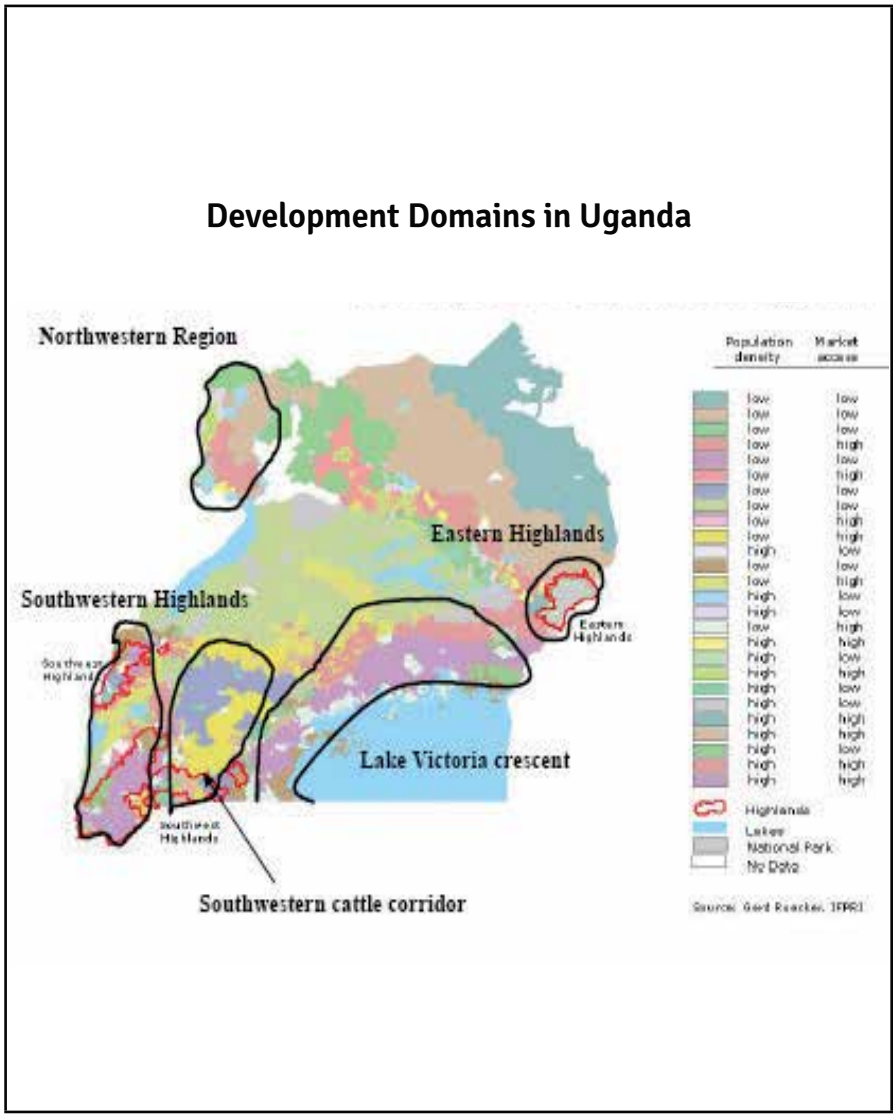


Figure 4 The Lake Victoria Crescent (Source: World Bank, 2008).

Box 12. SLM issues in the Lake Victoria Crescent

Why is the zone important?

- Most urbanized region and therefore with high population
- Extensive pressure on land and lake based resources
- Point and non-point pollution of Lake Victoria
- Land degradation impacts & drivers
- Deforestation through increased demand for charcoal, firewood & construction timber
- Reduced fallows
- Encroachment/ Conversion of wetlands/ sediment filter for farming and house construction

SLM practices with potential

- Improved fallows
- Community based participatory watershed management
- Construction of SWC structures [contour bunds or channels]
- Alternative livelihoods e.g. high value crops, zero grazing, etc.
- Afforestation; reforestation and agro-forestry

High population growth, coupled with poverty and unsustainable agricultural practices have increased pressure on land. Small-scale farmers have resorted to cultivating in areas with steep slopes, riverbanks, forests, and wetlands. Their activities have contributed to increased soil erosion, decreased nutrient retention in soils and wetlands, and thus increased mineral and biogenic sedimentation in Lake Victoria.

Over-grazing has also contributed significantly to soil erosion. The highest erosion risks are fields cultivated with annual crops, and rangelands on bare hills. The average annual soil loss is highest on annual crops (85 ton ha^{-1}), followed by degraded rangelands (45 ton ha^{-1}), banana (28 ton ha^{-1}) and coffee (27 ton ha^{-1}). The estimated economic value of the soil lost due to erosion in the LVB is approximately US$ 10 million per year (Lake Victoria Environment Management Project II Appraisal Document (PAD), 2009).

Extensive wetlands around Lake Victoria are being destroyed or degraded through conversion to agricultural land, excavation for sand and clay, and use as disposal sites. It is estimated that about 75% of Lake Victoria's wetlands area has been affected significantly by human activity, and about 13% is severely damaged. Deforestation in the basin has been severe over the last few decades, including loss of high altitude forests, riverine forests, and lowland forest/ woodlands in then national parks and reserves.

The loss in permanent vegetation cover has accelerated runoff and increased exposure of soil to sheet and gully erosion. The remaining forests, woodlands and trees in the savanna systems and on-farm across the basin are facing severe pressure due to increasing demands of the growing population for biomass energy, timber, etc. Valuable indigenous trees, wildlife, and non-wood forest products, including diverse medicinal plants are threatened.

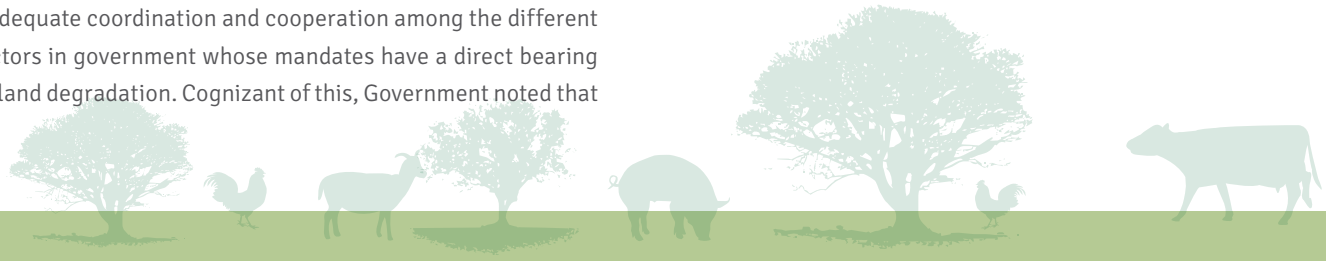
The regional vision for the Lake Victoria Basin is - "A prosperous population living in a healthy and sustainably managed environment providing equitable opportunities and benefits" (LVEMP II PAD, 2009)

2.4 Commitment to the U-SIF SLM

Uganda Government's main development objective is poverty eradication. Therefore the value of addressing land degradation to Uganda can be measured in accordance with its relevancy and contribution to this broad objective. The Government of Uganda has, since ratifying the United Nations Convention to Combat Desertification in 1997, progressively undertaken efforts to mainstream and support initiatives aimed at adapting and scaling up SLM practices in Uganda. The GoU further recognizes land degradation as one critical threat to underpinning sustainable growth in agriculture and natural resources productivity. This is evidenced by a growing consensus in Uganda that addressing issues of SLM is inextricably tied to the reduction of poverty and achieving food security and environmental sustainability.

However, past efforts have failed to comprehensively address land degradation due to several critical barriers including, a narrow, project-specific or at times ad hoc approach to the problem, which does not address the cross-sectoral nature of land degradation. The other critical barrier has been inadequate coordination and cooperation among the different sectors in government whose mandates have a direct bearing on land degradation. Cognizant of this, Government noted that SLM is a wide and cross cutting issue involving and requiring joint and collective interventions whose key elements may fall under the mandate of different ministries/ sectors.
It is in this context that the GoU through its core related Ministries, namely the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), the Ministry of Water and Environment (MWE), the Ministry of Energy and Mineral Development (MEMD) and the Ministry of Lands, Housing and Urban Development (MLHUD), undertook to collectively pursue objectives of mainstreaming work on SLM as an integral and critical component of the new agriculture drive as detailed in the NEPAD's Comprehensive African Agriculture Development (CAADP) and the NEPAD's Environmental Action Plan (EAP).

In this regard MAAIF, MWE, MEMD, MLHUD concluded an Inter-Ministerial Cooperation Framework (IMCF) on SLM on 3rd October, 2007. The IMCF aims at enhancing collaboration and joint action between the sectors in developing and implementing a Country SLM SIF. Due to mandates such as wild life protection, protected areas, bio-trade which in one way or another are related to SLM, a Technical Working Committee (TWC) established by the IMCF brought on board Ministry of Tourism, Trade and Industry (MTTI).



3.0

Framework Description

Taking into account the visions, priorities, gaps and bottlenecks identified above for each sector and zone the U-SIF SLM includes the following goal , objectives and results:.

3.1 Goal

The overall goal of the U-SIF SLM is to ensure that key sectors are cooperating to improve natural resources based livelihoods and other ecosystem services

3.2 Development Objective

The development objective is to strengthen sector cooperation in order to halt, reverse and prevent land degradation/ desertification and mitigate the effects of climate change and variability

3.3 Activity Themes

The Uganda SIF SLM has five thematic areas under which discrete activities are grouped. These activities are/ will be funded from various sources and implemented by various actors. The five themes are: (i) Supporting on-the-ground activities for scaling up SLM; (ii) Strengthening the enabling institutional and policy environment for SLM; (iii) Strengthening commercial and advisory services and alternative livelihood options; (iv) Supporting SLM research and dissemination of best-bet technologies; (v) Improving and strengthening SLM knowledge management, M&E and information dissemination.

Interventions under Theme 1, Theme 2 and Theme 3 will be implemented and concentrated in the selected micro-catchments in the four zones in a manner similar to operations of the "Millennium Villages" i.e. the micro-catchments will be the operational areas for all interventions. It is anticipated that this approach will promote synergies, complementarities and create a greater impact which can easily be scaled out to other areas. Working with same groups will reduce operational costs e.g. in formation of groups and group dynamics. Additionally, the 10 year U-SIF SLM interventions/ operations will be split into two phases: Phase I covering the first 6 years (2010-2015) and Phase II covering 2016-2020. The phasing approach will enable mid-term assessment and bringing on board emerging issues.

3.3.1 Theme 1: Supporting on-the-ground activities for scaling up SLM

This theme aims at scaling-up proven technologies/ SLM best practices (Box 14) in the four priority agro-ecological zones or target fragile high risk areas experiencing accelerated land degradation in form of soil erosion, nutrient depletion, etc. There exists a wide range of experiences on SLM management techniques/ technologies that are ready for scaling up in the appropriate farming systems, such as erosion control through terracing, mulching and contour ploughing, agroforestry, conservation agriculture, integrated nutrient management (INM), etc.

Under the micro-watershed management approach the capacities of the communities will be developed to plan and implement participatory micro-watershed management plans and overall watershed management. The communities will be empowered to rehabilitate degraded sites and micro-watersheds.

Transition to catchment based water resources management will be a major driving principal under this theme. Conventional soil and water management practices, integrated nutrients management, conservation agriculture, etc. will be scaled

up in the priority zones. Incentive mechanisms based on Voluntary Carbon Markets (VCM), carbon mitigation funds, etc will be promoted. Additionally, this component will support the promotion of energy saving stoves [with efficiency improvements of 30-50% over traditional charcoal stoves] in homes and institutions; efficient kilns in charcoal production to improve efficiency; [this will reduce per capita consumption and thus reduce biomass extraction]; renewable energy e.g. gasification for homes and institutions and overall improvement in biomass management at the grassroots level. To promote sustainability of this intervention, local artisans will be trained in the fabrication of energy saving stoves and charcoal production kilns. Establishment of woodlots will be promoted to improve vegetative cover and reduce pressure/ demand on existing forests.

Theme 1 will further promote water supply to pastoral communities by promoting construction of rainwater harvesting ferro-cement tanks for homes and institutions. Valley tanks and check dams will be constructed to harvest runoff from roads, large rocks, etc. to provide water for domestic and livestock use. Small scale irrigation practices will be promoted via demonstrations on water/ run-off harvested and harnessing of water from permanent and semi-permanent sources.

Micro-projects have been proposed under Theme 1 as a vehicle to implement/ scale out strategic interventions. Micro-projects or sub-projects will be determined and implemented in a participatory manner with the communities and the line institutions providing technical backstopping. The micro-projects will address strategic interventions/ activities that cannot be handled by the communities on their own e.g. construction of check dams to prevent massive soil erosion; demarcation and fencing off sensitize/ highly vulnerable areas, etc.

A summary of the most common best practices/ technologies available in Uganda and other areas in the region for scaling up is reported in Box 13. Table 1 summarizes indicative costs of selected SLM technologies/ interventions to be promoted under Theme 1. It is important to note that the indicative costs do not include other overhead costs e.g. training of trainers and other operational expenses by extension agents. Detailed schedule of activities, implementation arrangements/ responsible sectors/ lead institutions and costs are shown in Annex VII. The budget/ estimated costs for Theme 1 is US$ 124,475,000

Box 13. SLM best practices/ technologies available in Uganda and other areas in the region for scaling-up

I. Practices to improve SWC

- Community based participatory watershed management
- Construction of SWC structures [contour bunds, channels, live/ grass contour bunds in low lying areas or foot slopes, terraces]
- Conservation agriculture [minimum soil disturbance, cover crops, mulching, judicious crop rotations]

II. Practices to restore and maintain soil fertility

- Integrated Nutrient Management
- Adapted leguminous cover crops for improved fallows [biological nitrogen fixation]
- Compost making and application
- Agro-forestry

III. Water for production & domestic use

- Water harvesting structures/ valley tanks and dams; ferro cement tanks
- Small scale irrigation
- Run-off harvesting

IV. Practices to increase forest cover [afforestation; reforestation] or reduce pressure on forests

- Biomass management (Agro-forestry & afforestation; reforestation)
- Energy saving stoves
- Efficient kilns for charcoal production
- Gasification
- Woodlots

V. Alternative livelihoods

- Non Wood Forest Products (NWFP)
- Livestock-based products e.g. zero grazing, ruminants
- High value crops e.g. fruits & vegetables (e.g. pineapple, and apples for the highlands)

Table 2: Targets, indicative costs and benefits of selected SLM practices[1]

Practice (top priorities only)	Establishment Costs (US $)	Annual Maintenance costs	Targets in the 4 Priority zones (Targets per zone) or Specific zone			Benefit (economic, ecosystem, climate)
			Demos	Established with incentives	Established voluntarily/ stimulated through advice	
INM	$ 400/ ha	$ 300/ ha	1000 ha	10,000 ha	2,500 ha	Short – term: Higher productivity when combined on the plot; soil nutrient mining reduced; yields increased; Climate change adaptation measure / risks reduced. Long term - Soil carbon increased
Contour bunds	$280/ km	$ 50/ ha	1,000 km	10,000 km	2,500 km	Short term - Checks the velocity of run off, conserves in situ moisture, increases ground water recharge; yields / rangelands improved Long term - Improves ecosystems services
Grass contours / bunds	$120/ km	$ 40/ ha	1,000 km	10,000 km	2,500 km	Short term - Checks the velocity of run off, conserves in situ moisture, increases ground water recharge; yields improved Long term - Improves ecosystems services
Intercropping	$90/ ha	$ 45/ ha	1,000 ha	20,000 ha	5,000 ha	Short term - Improves soil fertility, reduces soil and water loss and improves production/ yields of main crop; Climate change adaptation measure / risks reduced. Long term - Soil carbon increased; ecosystem services improved
Mulching	$ 250/ ha	$ 100/ ha	1,000 ha	20,000 ha	5,000 ha	Short –term : Checks and minimizes soil erosion mainly through reduced tillage practices and improved soil cover; Improves chemical and physical properties of the soil; Controls weeds; Climate change adaptation measure / risks reduced. Long term - Soil carbon increased ; ecosystem services improved
Conservation Agriculture	$ 300/ ha	$ 200/ ha	1,000 ha	20,000 ha	5,000 ha	Short –term: Checks and minimizes soil erosion mainly through reduced or no-tillage practices and improved soil cover; Improves chemical and physical properties of the soil; Controls weeds; Improves water infiltration rate and conserves soil moisture; Improves soil fertility; cost-effective and timely crop establishment. Climate change adaptation measure / practice Long-term: Builds soil organic matter (SOM) content ; Improves ecosystems services
Agroforestry	$ 200/ ha	$ 100/ ha	1,000 ha	20,000 ha	5,000 ha	Short term: Improves soil fertility, reduced erosion; improved yields and short term benefits of intercropping; Improved nutrition; improves incomes through sales/production of high value crops ; Climate change adaptation and mitigation measure / practice Long term: Productive tree specie ; improved ecosystem services
Woodlots	$170/ ha	$ 100/ ha	1,000 ha	20,000 ha	5,000 ha	Short term: Reduced demand on available biomass; Reduced deforestation; REDD; Rehabilitation of degraded lands; wind break; Climate change mitigation measure Long term: Improves ecosystem services; REDD; long term benefits through productive tree species

1 Source of costs: Land Use Management – Lake Victoria Environment Management Project and Soils Database – NARO Kawanda and MAAIF – Directorate of Crop Resources

Practice (top priorities only)	Establishment Costs (US $)	Annual Maintenance costs	Targets in the 4 Priority zones (Targets per zone) or Specific zone			Benefit (economic, ecosystem, climate)
			Demos	Established with incentives	Established voluntarily/ stimulated through advice	
Terracing	$700/ ha	$ 250/ ha	100 ha	1,000 ha	250 ha	Short – term: Change in slope to reduces soil loss, runoff and increase rainfall infiltration and yield; improves soil fertility Long-term: Improves ecosystem services
Rehabilitation/ reclamation of degraded watersheds & sites	$190 - 500/ ha (depending on state of site)	$35-150/ ha	Strategic interventions: 200 ha/ zone			Short-term: Rehabilitation of degraded lands: gully rehabilitation by check dams, revegetation of bare hills, filling and revegatation of clay, sand, stone and murrum quarries/ mines Health – reduced prevalence of malaria via reduced mosquito breeding sites (rehabilitated pits/excavation sites that serve as breeding grounds for mosquitoes) Long –term: Improves ecosystem services
Shallow wells	$3,000/ unit	$ 400/ unit	50 units	500 units	125 units	Short –term: Conservation measure for livestock watering, also provides clean drinking water for schools/ institutions and domestic use Health: reduced incidence of waterborne diseases (diarrhea; typhoid etc) through provision of clean drinking water
Household rain water harvesting /Ferro-cement tank	$ 500/ unit (2,000 to 3,000 liters capacity)	$ 100/ unit	100 units	1,000 units	250 units	Short-term: Conservation measure to collect and retain roof runoff, easy to construct and materials readily available, also provides clean water for domestic use Health: reduced incidence of waterborne diseases (diarrhea; typhoid etc) through provision of clean drinking water
Institutional rain water harvesting /Ferro-cement tank	$ 5,000/ unit (20,000 to 30,000 liters. Capacity)	$ 200/ unit	50 units	500 units	125 units	Short-term: Conservation measure to collect and retain roof runoff, Easy to construct and Materials readily available, also provides clean drinking water for schools/ institutions Health: reduced incidence of waterborne diseases (diarrhea; typhoid etc) through provision of clean drinking water
Run-off / Water harvesting from roads, paths etc	$ 300 / ha	$ 100 / ha	1,000 ha	20,000 ha	5,000 ha	Short –term: Checks and minimizes soil erosion mainly through reduced overland water flow volume and velocity; Increases infiltration and underground water recharge; Increases yields; reduces moisture stress; Climate change adaptation measure/ risks reduced. Long term - Ecosystem services improved
Large surface runoff harvesting reservoirs (mainly targets cattle corridor)	$ 5,000/ unit	$ 500/ unit	100 units (350 M^3 lined with HDPE dam liners/ valley tanks or small check dams)	200 units	50 units	Short – term: Economical/ suitable where soils are highly permeable with significant water seepage losses; dam liners guarantee high water retention; small scale irrigation feasible Health: reduced incidence of waterborne diseases (diarrhea; typhoid etc) through provision of clean drinking water
Household energy saving stoves	$ 25/ unit	$ 10/ unit	5,000 units	20,000 units	5,000 units	Short –term: Mitigation measure to combat vegetation/ fuel wood depletion Long-term: Ecosystem services improved

Practice (top priorities only)	Establishment Costs (US $)	Annual Maintenance costs	Targets in the 4 Priority zones (Targets per zone) or Specific zone			Benefit (economic, ecosystem, climate)
			Demos	Established with incentives	Established voluntarily/ stimulated through advice	
Institutional energy saving stoves	$ 400/ unit	$ 50/ unit	100 units	1,000 units	250 units	Short – term: Mitigation measure to combat vegetation/fuel wood depletion Long-term: Ecosystem services improved
Efficient kilns for charcoal production (mainly targets cattle corridor)	$ 2,000/ unit	$ 500/ unit	100 units	500 units	50 units	Short – term: Mitigation measure to combat vegetation/fuel wood depletion Long –term: Ecosystem services improved

Notes:

1. Demonstrations will be financed in full for a period of at least 3 years (per site) and thereafter left to the beneficiaries/ community to manage
2. Incentives will be provided at a rate of at least 20-30% of the technology costs at the time of establishment and thereafter left to the beneficiaries/ community to manage.
3. Voluntary/ stimulated through advice – all costs solely met by the farmer/ community

3.3.2 Theme 2: Strengthening the enabling institutional and policy environment for SLM

This theme will strengthen the enabling environment required for effective scaling up of SLM. This will include mainstreaming of SLM into sector (DSIPs), national development frameworks (NDP), district development plans (DDPs) and district environment action plans (DEAPs) and Sub-county Environment Action Plans (SEAPs). Interventions for adaptation and mitigating the effects of climate change will also be targeted under this theme. The capacity for climate monitoring will be strengthened and old climatic data will be collected from up-country stations, analysed, archived and disseminated. The implementation and up-grading of the NAPA to cover medium to long-term national climate change adaptation will be supported under this theme. To reduce risks and vulnerability to climate change impacts, early warning systems (drought; floods; food security/ forecasts) and emergency response plans will be developed and implemented under this theme.

Development of land use plans will be a major activity under Theme 2. Outputs from Theme 4 (Land Suitability Mapping) will be used to develop Land Use Plans and it is anticipated that by the end of the second phase (2020) 75% of the country will have been covered and appropriate land use plans developed. The harmonization of polices and regulatory frameworks in support of SLM will be carried out under this theme. Each sector will be responsible for updating policies and regulatory frameworks within the sector and thereafter the policies will be harmonized by a joint multi-sector team of experts. Local institutions will be empowered to enforce bye-laws and regulations in SLM.

Another aspect of the enabling environment is institutional coordination. The capacity of UNCCD National Focal Point Office will be strengthened and an SLM Secretariat established. The overall coordination and management framework will be established to oversee the implementation of the SLM agenda. The Inter-Ministerial National Steering Committee (NSC) that provides oversight on all SLM activities, Inter-Ministerial Technical Working Committee (IMTC) that provides technical guidance, and the SLM Country Platform that brings together all SLM stakeholders will be supported under this theme. The capacity of implementing institutions; participating NGOs, LGs, etc will be strengthened.

The other main thrusts of this theme are:

- Strengthening institutional capacity (at all levels) to plan, implement, monitor SLM interventions
- Developing capacity of local institutions to enforce bye laws and regulations in SLM
- Establishing a platform that provides a forum for strengthening collaboration, sharing information, joint implementation of activities; clear separation of roles and responsibilities among others.
- Improving land tenure security
- Mainstreaming gender issues in SLM
- Promoting avenues to reduce conflicts on natural resource use – especially in the cattle corridor/ semi-arid areas
- Delivery of services to mobile pastoralists/ communities.
- Improved coordination and advocacy for SLM

Activities under Theme 2 are estimated to cost US$ 62,570,000

3.3.3 Theme 3: Strengthening commercial and advisory services for SLM and alternative livelihood options

Sustainable trade means ensuring continuous and stable supplies, reducing inefficient and wasteful use of resources, reducing pressure on the land resource and promoting use of sustainable production practices. Identifying the links between trade and the productive sectors of the economy notably agriculture and environment is important in establishing the impact of trade on land degradation. The process is also mirrored onto the trade priorities as defined in the Action Matrix of the DTIS report, presenting five major thrusts to constitute this theme:

i) Promoting trade diversification. The emphasis is on trade diversification with due consideration of the impacts of trade on land degradation and also the SLM value added to trade development. Diversification by; supporting value chains which do not increase pressure on the land resource (e.g. NWFP, pineapples, vanilla), supporting value chains that may contribute to increased food security and improve the trade balance through food import substitution (e.g. maize, rice, cassava), and supporting development of non commodity value chains (livestock and related products, and services such as eco-tourism);

(ii) Aligning production for trade to climate change by promoting the use of SLM practices in the production of the key commodity products (coffee, cotton, tea) and adaptation practices that could make these value chains more resilient to climate change impacts thence ensuring sustainable supplies;

(iii) Build capacity and facilitate standardization for value chains that do not increase pressure on the land resource, and also for non commodity value chains to enhance their competitiveness and entry into markets;

(iv) Promote trade in sustainably produced commodities and non commodity products;

(v) Enhance coordination and inter-sectoral collaboration between agriculture and trade to match supply and demand, and to increase the coherence of trade and agricultural development plans and related investments.

Investments in alternative livelihoods will be promoted by supporting the development of value chains that reduce pressure on land resources, and also enhancing land productivity through SLM friendly production practices. Focus will be on communities living in degraded areas to reduce the impact of the human activities, reduce the effects of climate change and land degradation, and also provide incomes through enhanced trade opportunities.

Capacity enhancement (institutional and enterprise level) for sustainable production, standards compliance and business skills development will be core areas of support, and so will be trade promotion activities for the selected value chains. Value addition through the development of market based technologies (storage and processing facilities) and market information are also elements under this theme.

A review of the ongoing and pipeline programmes and projects reveals numerous sectoral opportunities to leverage financing towards the above mentioned trade interventions through project formulation and enhanced inter-sectoral synergies and collaboration using the SLM platform. A matrix of the mentioned interventions is included as Annex VI and Theme 3 activities are estimated to cost US$ 13,700,000

3.3.4 Theme 4: Supporting SLM research and dissemination of best-bet technologies

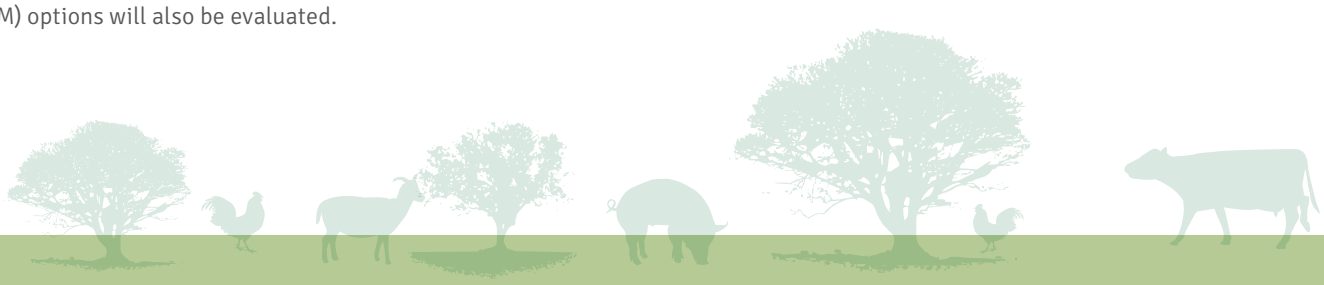
Additional studies are required to build the knowledge base in a number of SLM areas. Research will be carried out to develop site-specific fertilizer recommendations for 5 key cereal/ legume crops, since the current fertilizer recommendations were developed in the 1960s. Integrated Nutrient Management (INM) options will also be evaluated.

Using a combination of satellite images, aerial photo interpretation and other field based approaches / methodologies land resources assessments will be carried out to update soils information, land cover / vegetation, etc and there-after develop land suitability maps that are a pre-requisite for the development of land use plans. The assessment will cover all the four target zones (full coverage in the zones) and produce detailed land suitability maps at a scale of 1:50,000.

Most of the Land Resources and INM studies will be carried out by the National Agricultural Research Organization (NARO). The National Agricultural Research Organization is responsible for all agricultural research in Uganda and operates under the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF). NARO's Research Strategy notes the environmental challenges that face Uganda and, in particular, soil degradation, mining of nutrient resources, deforestation, and desertification. It recognizes the need to demonstrate that land better managed will not only yield better crop/ livestock and financial returns but also contribute to sustainable livelihoods and environmental quality.

Climate change adaptation information will be generated to develop climate change scenarios and establish costs/ implications of climate change. The climatic data is required for managing climate risk to ensure that SLM gains are durable, and to harness synergies between adaptation and mitigation. Land degradation assessment studies, under this theme, will provide information on the magnitude, effects and monetary value of land degradation. This information is vital for planning purposes.

Crop simulation models will be used to investigate the effects that climate change and variability will have on agriculture under a variety of potential scenarios. The potential scenarios will give researchers opportunities to plan future strategies including adaptation and mitigation based on the most likely outcome. Activities under Theme 4 are estimated at US$ 29,880,000



3.3.5 Theme 5: Improving and strengthening SLM knowledge management, M&E and information dissemination

This component aims at targeting knowledge generated being effectively managed and disseminated, in user friendly modes, to all stakeholders. It further aims at building transparent and participatory action, coalition among sectors, enhancing alignment around common goals and reinforcing trust via a robust M&E system.

The main thrusts of this theme are (a) the development and operationalization of an integrated Geographical Information System (GIS) supported Management Information System (MIS); (b) the development and operationalization of a Results-based Monitoring and Evaluation (M&E) Framework and (c) development and implementation of an effective Information Management and Communication Strategy. Activities under Theme 5 are estimated to cost US$ 14,680,000

3.4 Communication Strategy

A communication, advocacy and consensus building strategy centered on a common SLM vision is a key priority in the investment framework. A communication objective specifies what one would wish a particular target audience to do, when and over what period; it may also be for information purposes only. In order to achieve these objectives each level needs its own approach in terms of target audiences to be reached, message to be channeled and media to be used.

Effective communication moves in progressive levels from awareness, understanding, knowledge, positive attitudes, and informed choice to positive behavior. It promotes interaction among stakeholders through information, dialogue, co-ordination, and partnership and ultimately mitigates the challenges of land degradation and sustainable development.

To address the challenges of land degradation, climate change, etc requires intensive, strategic, professional and well resourced communication efforts. Therefore strategic approaches should include:

- Internal communication
- Advocacy and outreach to policy makers, opinion leaders, etc
- Public information and education campaign
- Media advocacy
- Capacity development/ strengthening (institutional, human and infrastructural)

Development of M&E and knowledge management tools, capacities, and IT will need financial support. These activities have been costed and included in the SLM Investment Framework.

4.0

Institutional / Implementation Arrangements

4.1 Delivery Mechanism

One of the expected outcomes of national U-SIF SLM is the establishment of national and local partnerships that operate across sectors and leading to the adoption and institutionalization of SLM approach. The delivery mechanism for SLM implementation is expected to facilitate the realization of local and global linkages by targeting mostly small scale farming activities such as CA, soil and water conservation, agro-forestry and agro-biodiversity conservation.

SLM interventions within the framework of rationalized land use planning, community participation, coalition building at local and national levels and integrated ecosystem/ watershed approach are expected to contribute towards realization of local and global environmental benefits. Implementation of the framework will take place through existing and new projects and programs, institutions, and stakeholders. The need for an inclusive and integrated implementation approach that takes into account synergies and partnerships between various players in dealing with challenges of SLM is well articulated and needs to be understood by stakeholders.

Due to its multi-sector nature, the U-SIF SLM will involve many stakeholders at the various levels. Consequently it is vital to establish a well structured and coordinated implementation arrangement that will bring together all the actors.

The implementing institutions will be in five main categories as per schedule in Annex IV

- NGOs, CSOs, CBOs
- Private sector organizations
- Local governments
- Parastatals
- Government institutions

At the national level, overall coordination is anchored in the Ministry of Agriculture Animal Industry and Fisheries but actively involves all relevant line ministries. MAAIF will be responsible for the SIF coordination through the UNCCD Focal Point Office. The implementation of activities will be carried out by relevant sector departments, local governments, research institutions, universities, private sector, NGOs, CBOs and civil society. Figure 5 Shows the organogram of national implementation arrangements while Annex V gives details of the institutional mandates, etc (Institutional Map and Responsibilities).

There is an Inter-Ministerial National Steering Committee composed of Permanent Secretaries (MFPED, MAAIF, MWE, MLHUD, MEMD, MTTI, and the MoLG) to provide policy guidance and overall oversight. The steering committee will meet quarterly. At the second level there will be a National Technical Working Committee (TWC) that will provide overall technical guidance.

Taken together, this forms a national SLM Country Platform that convenes all key implementers and other stakeholders in one forum for the U-SIF SLM coordination, sharing information, harmonizing protocols for data collection, and providing an opportunity for participatory monitoring of the program.

4.2 SLM Country Platforms

The SLM Country Platforms are made of:

- The Inter-Ministerial National Steering Committee composed of Permanent Secretaries of the five sectors
- The National Technical Committee (SLM-NTC) composed of technical officers from the five sectors
- The National SLM Multi-Stakeholder Platform/ Committee composed of NTC members , 2 representatives from the NSC, etc
- The CSO – SLM Network composed of CSOs, etc and led by/ under the PELUM (Participatory Ecological Land Use Management) umbrella.

The SLM Country Platforms will bring together all key implementers and other stakeholders. The platforms will be a national level all-inclusive (with CSOs/ NGOs, CBOs, LGs and private sector representation) facility for national level consultation and dialogue in elaboration and implementation of the SLM agenda.

The National Platforms reinforce sector performance. Membership to the Country Platforms will be from the following categories of representation:

- NGOs, CSOs, CBOs
- Private sector organizations
- Local governments
- Parastatals
- Government institutions

Women, the disabled and the disadvantaged groups should be represented on the country platform.

Technical Working Committee/ SIF Coordination Team

The team is constituted by technical officers from lead implementing departments, institutions, academia and the LGs. The TWC provides overall technical guidance for the implementation of the U-SIF SLM. Membership to this committee should not exceed 15 members. The TWC will be responsible for harmonizing protocols for data collection and provide an opportunity for sharing of experiences on program implementation.

Implementing Institutions

Local level

Existing structures at the grassroots are to be the main entry points for implementation of activities, such as farmer groups or environment committees. Where committees do not exist communities should be supported to establish them. Lessons learnt during the stocktaking and gap analysis showed that implementation of activities is more successful when implemented by groups/ committees. Creation of parallel structures should be avoided.

5.0

MONITORING AND EVALUATION

5.1 Monitoring & Evaluation Objectives

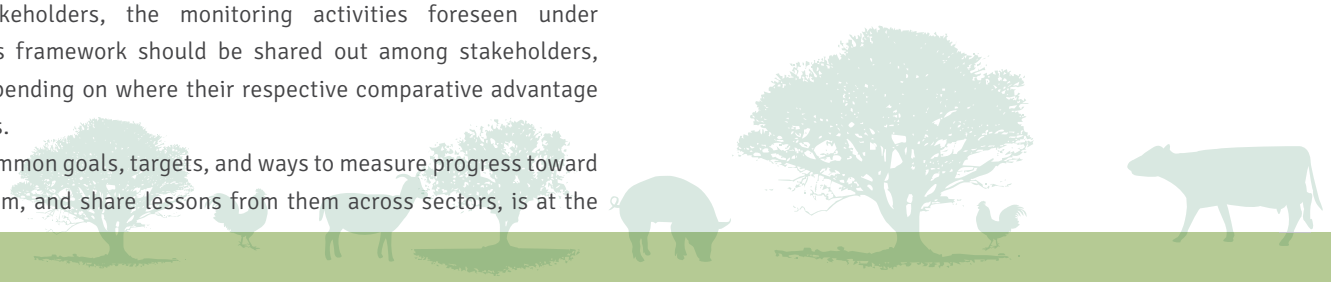
The objective of the M&E is to achieve efficient and effective U-SIF SLM performance by providing feedback to project management and other stakeholders at all levels to improve operational plans and to take timely corrective action in case of shortfalls and constraints. Monitoring of the investment framework will be a combination of continuous assessments and periodic reviews by key stakeholders at every level of implementation in order to ensure that input deliverables/ deliveries, work schedules, targeted outputs and other required actions are according to plan.

It (M&E) should be a well planned flow of information from investment activities to the coordinating center and vice versa. Monitoring should provide the means for implementing agencies to track the progress of all/ development activities during implementation and remain alert in case of shortfalls or deviations, for early corrective action. It should keep other stakeholders (the legislature, the public, CSOs, and development partners) informed about the progress being made in implementing the investment framework, and therefore enable them to offer informed advice to decision makers.

In translating the provisions of this framework into actions for monitoring and evaluation, it is envisaged that individual agencies should identify specific activities with their respective mandates. It is also recommended that through a joint planning exercise involving, representatives of all stakeholders, the monitoring activities foreseen under this framework should be shared out among stakeholders, depending on where their respective comparative advantage lies.

Common goals, targets, and ways to measure progress toward them, and share lessons from them across sectors, is at the heart of this investment framework. The M&E is building on existing processes and methodologies at country level particularly that of the National Planning Authority (NPA). The M&E will strengthen knowledge management, benchmarking, and design and implementation of discrete investments on the ground. This in turn will help build transparent and participatory action coalitions in sectors, enhances alignment around common goals, and reinforces trust.

The performance monitoring of the investment will be carried out on the basis of predefined indicators and on the progress made against execution of specific activities defined in the schedule of activities (Annex VI). Taking cognizance of the fact that this is a long term intervention (10 years) intermediate outcomes and outcome indicators have been developed for the first five years (Phase I). After the first five years new challenges, emerging issues and opportunities will be considered/ brought on board and thereafter outcomes and indicators for the remaining five years (Phase II) will be developed.



5.2 Key shared indicators across sectors

Implementation will be guided by one shared Results framework and monitoring system (Results Matrix Annex II) to which all activities contribute, and on which all stakeholders report. Data and experience will be gathered from the monitoring system and transformed into actionable knowledge that directly supports investment planning and project implementation.

Several of the developed indicators and targets can be aggregated and disaggregated e.g. uptake rates of SLM practices by farmers, hectares with SLM practices (reported by land use: crop, range, forest), country level knowledge products developed and disseminated (disaggregated by audience and activity) while others are locally specific e.g. SLM friendly products (number of groups/ cooperatives established, rate of production of agreed crops/ products) for the "Cattle Corridor".

5.2.1 Benchmarks/ baselines

Baselines are a vital part of the M&E plan of the U-SIF SLM. Right at inception, baselines will be established and the U-SIF SLM targets will be building on completed and on-going initiatives in SLM.. Realistic targets have been set (Table 2 and the Results matrix – Annex II) and these should guide the establishment of baselines and benchmarks that tally with the indicators.

Several on-going initiatives have attempted to indicate baselines but most of them are very crude estimates and hence unreliable. Hence the recommendation of establishing baselines, at inception, based on secondary literature and quick field surveys. Short term consultancies will expedite the process of establishing reliable baselines.

5.2.2 Aggregation procedures

At the national level where and when possible, indicators will be aggregated to help cross fertilize knowledge, reflect progress made at sub-regional and regional levels, and contribute to enhance accountability and benchmarking. These will be reported by land-use type, and target agro-ecological zone, range, crop, gender (to the extent possible), and forest and measured against baseline data: e.g. satellite imagery and databases; the aggregation procedures will be standardized in all sectors to the extent possible. It is expected to take time, and as such a phased approach to alignment will be pursued.

5.2.3 Management Information System (MIS)

A management information system is composed of elements, which operate in coordinated and integrated manner, with each element making a specific contribution to the systems output. These elements are: users; data or information; methods of data collection, storage, processing, output and dissemination; hardware and software; trained personnel; data exchange mechanisms (standards, protocols and communication networks); and feedback mechanisms. The MIS should be GIS based/ supported.

The objectives of the MIS are:

- To establish national and institutional MIS to improve data gathering, monitoring and information dissemination
- To harmonize the central node MIS with other relevant sector nodes MIS (lands, water & environment, agriculture, trade and energy, NPA) to ensure cost effective management of information

In the context of the investment framework MIS should provide powerful set of tools, and a holistic approach to the decision-making and development planning, to all stakeholders, by providing reliable and timely data. For effective use of information generated within the investment framework institutions, there should be both vertical and horizontal information flow. Institutions should be able to provide information to the coordinating secretariat, which is the central hub or clearing house, and they should be able to exchange information amongst themselves and other sectors.

Institutional MIS should be integrated to the central hub MIS. Institutions should be able to provide information to the central hub where the main database server will be hosted. Each participating institution should therefore be linked to the coordinating hub using technologies of Local Area Networks (LAN) and Wide Area Networks (WAN). The Central Hub MIS should in turn harmonize with other relevant sector MIS, as efficiency savings are possible when efforts are coordinated and data shared. A consultant will be hired to recommend system design and system requirements.

5.3 Knowledge Management

Knowledge Base for SLM (integrated with MIS)
A country knowledge base with GIS capabilities will be used to track progress of the SLM portfolio and the coalition. Knowledge management embodies collection, analysis, and packaging and information dissemination.

5.4 The future

Looking forward to USIF 2.0: what needs to be done to fill gaps and improve the Framework and the Uganda land coalition (The USIF is an iterative process). Establishment of baselines is very critical for the M&E framework. Consequently the baselines should be established after inception of the U-SLM SIF first batch of activities.

The capacity of the UNCCD Focal Point will have to be gradually improved until it is in position to effectively handle all the required central coordination activities.

Prior to full capacity development some of the activities of the Focal Point may have to be temporarily delegated to lead institutions in the relevant sector/s.

It is further envisaged that in future several projects will be developed based on the U-SLM SIF and these will then be funded by different agencies / partners.

6.0

SLM SUSTAINABLE FINANCING MECHANISM

6. 1 Introduction

A study was commissioned to support Uganda's effort to combat land degradation and desertification using a holistic and integrated planning approach achieved through the Country Strategic Investment Framework. Specifically, it analyzed funding opportunities and amounts for Sustainable Land Management from three perspectives, namely internal, external and other innovative financing mechanisms. The summary below highlights the main findings of this study.

Overall, it was found that there hasn't been a structured way to record and continually trace funding for Sustainable Land Management. For this reason, and until this is addressed, one can only gauge the funding opportunities and amounts in a broad way for SLM relevant sectors and sub-sectors. Nonetheless, there is evidence that the flow of Overseas Development Assistance and Foreign Direct Investment to Uganda has been steadily rising. Following Uganda achieving above 0.500 Human Development Index, the proportion of grants in relation to loans is falling. By implication, it is going to require strong justification for the government to borrow for many programmes including that of Sustainable Land Management.

Even after the external resources are received, it is going to demand that SLM relevant sectors prioritize SLM interventions if they have to compete for resources. This is more so in view of the fact that increasingly, government is showing its preference to use external funds under the general budget support in comparison with projects. It is however gratifying that Poverty Action Fund, National Agricultural Advisory Services, transfer to Local Governments and re-installment of Graduated Tax Compensation collectively offer opportunities and potential increased amounts for SLM. Other funding opportunities for SLM are to come from commercial banks, micro-finance institutions, and special area programs like the Northern Uganda Reconstruction Programme and Luwero Triangle and Rwenzori Rehabilitation Programmes. Importantly, beginning July 2009, government is to fund several projects relevant for SLM. Overall, the projections of government are that funding levels will continue to increase, even before it realizes revenue from the oil exploration.

Further, the project mode of delivery mechanism and off-budget support point to the conclusion that opportunities for SLM funding still exist. A critical limitation of projects in delivering for SLM is that they lack a coherent, coordinated and integrated approach. Accordingly, they do not, in any one geographical setting, bring the necessary mix of interventions-technologies, extension, water for production, pest control, marketing, etc. to the farmers. Rather instead, they are scattered all over different places, concentrating on limited interventions with a consequence that more land degradation continues to be registered despite increased funding. There is no doubt that it is going to require high level commitment to improve coordination of delivering of SLM interventions. In that regard, the role of Inter Ministerial Coordination Committee for SLM becomes eminent.

However, it is gratifying to note that in addition to a few isolated successful SLM related interventions, government wants to re-orient its programmes to make SLM receive the necessary support. The World Bank and Norway for example, have committed $7 million and $1.8 million respectively to market SLM in its own right. Other global initiatives such as the Aid for Trade Initiative promote integrated approaches to trade development to meet the Millennium Development Goals and particularly poverty alleviation. The Aid for Trade (AfT) framework is implemented through the Enhanced

Integrated Framework with a Trust Fund whose contributions come from multi-lateral and bilateral donors including the EC, World Bank, and Japan among others. Donor support to the Aid for Trade framework implementation is also channeled through donors' traditional ODA. Taking advantage of sectoral opportunities to meet mutual goals such as poverty reduction is paramount and multi-sectoal platforms such as the SIF provide the opportunity to do so.

It is also going to be imperative that government invests in overcoming barriers to accessing funding from new and innovative mechanisms like carbon funds. Equally, as commercial banks and micro-finance institutions continue to be used to channel agricultural credit, government must study why they still face barriers with a view of getting long term solutions. The current incentives government gives for agricultural lending, coupled with new opportunities on the horizon- carbon funds, Standard Bank agricultural loans should fully be taken advantage of.

In addition, government will need to address causes of low absorption rates even when resources are available. The external negative factors like global recession could hit Uganda harder if sufficient preparedness is not made to hold on to the modest resources already received for SLM.

Over time, government has improved its macro planning frameworks, sector plans and local government plans. A major achievement has been to link the plans to the Medium Term Expenditure Framework through the Budget Framework Papers. In that regard, units, departments, ministries, etc. must link their budgets to verifiable indicators they want to achieve and be held accountable. Following that approach will be the most dependable way to trigger resources at all SLM relevant sectors. The on-going process of formulating the Nation Development Plan offers another entry point for SLM. Sectors are obliged to comply with the guidelines for submission of their thematic papers that will in turn inform the content of the National Development Plan.

6.2 Concluded, On-going and Planned SLM initiatives

As noted earlier, past investments in land productivity have not received the desired attention in the development agenda of the country. In addition, past efforts have been insufficient in comparison to the scale of the problem a factor attributable to a project-specific or single-sector approach to complex rural land use and land use change. However, this does not mean that there has not been any effort to address land degradation in the country.

The government of Uganda with financial support from several development partners is implementing several multilateral and bilateral SLM initiatives at multiple levels (local, national, and regional). Annex VI gives a detailed project-by-project listing including concluded, on-going and planned project profiles from the different sectors. It also provides the delivery mechanisms/ areas of intervention, the target areas, implementing agencies, among other parameters.

6.3 Analysis of potential sources, instruments and mechanisms

6.3.1 Internal funding sources, instruments and mechanism

A critical gap for SLM financing has always been failure to link the planned activities with resources allocation framework. Until recently, the Medium Term Expenditure Framework has played a useful role in supporting fiscal discipline and the allocation and reallocation of resources to priorities. There are a number of path breaking approaches to resource

allocation decision making that have reinforced, and been reinforced by, the Medium Term Expenditure Framework. The first of these is the Poverty Eradication Action Plan (PEAP), which was the model for Poverty Reduction Strategy Papers. The PEAP is the basis for all planning related to the Medium Term Expenditure Framework and guides the setting of priorities for the annual budget process. It is reviewed annually, involving very broad based consultation. For the annual budget, Cabinet translates this broad based consensus into guidance on priorities.

Sectors then prepare sector Budget Framework Papers, which are also informed by sector strategic plans and any new policy decisions by government. This leads into the second path breaking approach, namely the creation of Sector Working Groups (SWGs). Each Sector Working Groups consists not only of relevant officials but also donor, civil society and private sector representatives. This group is responsible for preparing the sector budget request, including new policy proposals, in the form of the sector Budget Framework Paper.

Working through this arrangement is the only way to be sure that from sector's point of view, SLM is a priority. If it is not, it will not be prioritized. It is important to support the priority setting with strong evidence for SLM. It is imperative that the recommended planning framework by National Planning Authority is followed by sectoral institutions advocating for SLM. This is yet another important entry point for SLM.

A third path breaking approach relates to the interaction with donors. In addition to donors being members of Sector Working Groups, they also participate actively in the annual Public Expenditure Review process (managed by the Government, not donors) that culminates in a national Budget Framework Paper that is presented to the Parliament. This close interaction has led donors to gradually shift towards budget support and away from projects.

6.3.2 Opportunity from internally generated revenue

The generation of internal revenue has improved over the years and is likely to improve further (Table 8). This improvement is very crucial because often, the release of donor funding or ODA is tied to governments counter-part funding.

Thus, failure to raise and provide local contribution can be a barrier to resource mobilization for SLM. It is also the intention of government to increase its share of the development budget.

6.3.3 Opportunity from Local Service Tax and Graduated Tax Compensation

In 2006, government abolished the Graduated Tax, which was the main source of revenue for local governments. At the time, it was the policy to leave 35% of the tax collected for use at source while 65% was remitted to the higher local governments. At that time, local governments collectively collected $27.5m. The mode of providing Graduated Tax Compensation to local governments in lieu of the loss of revenue from Graduated Tax to finance decentralized service is not sustainable. Accordingly, government introduced a local Service Tax as a sustainable tax measure for local government to generate their local revenue. However, one pending barrier is that the Local Service Tax as an alternative source of revenue for local governments has not yet been turned into law.

In meantime, the government has agreed in the FY 2008/09 to reinstate the budget item for Graduated Tax Compensation to local governments. US$ 27.5m has been provided for compensation, out of which, $16.5m was maintained in the Unconditional Grant item. By implication, it will be imperative to impress it upon local governments to allocate some of these funds to SLM at community level.

6.3.4 Barriers to mobilisation of internal revenue

Over the years there has been modest progress in the generation of internal revenue. However, there are still many barriers and constraints to be overcome namely:

- Disrupted economic activities, particularly in Northern Uganda for the last 20 years. Government is addressing this problem now by resettling people from the Internally Displaced People's Camps.
- Low revenue base, mainly on account of disruption of economic growth in the 1970s and early 1980s. Government has been very aggressive in attracting foreign investment and diversifying economic activities
- Low culture for tax compliance. The Uganda Revenue Authority (URA) is addressing this barrier through non formal education programmes. It has also supported the integration of tax education in the formal education curriculum
- Weak tax administration. This is being addressed through the rationalisation of the tax regime, and continuous training of URA staff.

6.3.5 Major policy and strategic implications

Based on the review of funding opportunities, amounts and constraints, the following are the major policy implications.

(i) SLM funding can best be triggered by all relevant sectors. They must conform to the Budget Framework Papers as fully elaborated in the previous sections.

(ii) In as much as internal revenue is increasing, so are the national developmental demands. It will be imperative therefore to bring the definition of SLM to operational levels so that all emerging developmental demands advocate for SLM.

(iii) Ministry of Agriculture, Animal Industry and Fisheries should come up with a "theme" which can be used by Ministry of Finance, Planning and Economic Development to capture and track funding for SLM

(iv) Special effort should be undertaken to sensitise Local Governments so that they can invest part of the UGX 45 billion for Graduated Tax Compensation into SLM.

(v) The SLM relevant sectors should comply with the monitoring and evaluation matrix recommended by the National Planning Authority in their submissions of thematic papers to feed into the National Development Plan.

6.3.6 Opportunities from external funding sources, instruments and mechanisms

6.3.6.1 Sources: major donors

The current and projected 10 major funders to Uganda are given in the Table 2. The World Bank through the International Development Association window has cumulatively remained the top donor. It is followed by the European Union, African Development Fund, Sweden, in that order. Strategically, it will be imperative that government markets SLM among these donors. It was found that the World Bank and Norway have already earmarked funds in the name of SLM.

Table 3: Summary of actual and projected aid disbursements by top donors

		Actual			Projected		
		2006/07	2007/08	2008/09	2009/10	2010/11	Plan Total
		----------US$ (m)----------					
1.	International Development Association	559	64	221	200	50	472
2.	European Union	109	74	106	112	107	327
3.	African Development Fund	87	96	57	83	0	141
4.	Sweden	17	6	37	26	12	76
5.	Denmark	34	33	21	21	16	59
6.	Germany	38	2	15	14	11	40
7.	Norway	26	25	18	10	8	37
8.	Japan	5	0	22	11	3	36
9.	United Kingdom	85	71	9	10	5	25
10	Nordic Development Fund	5	0	9	12	3	24

Source: Public Investment Plan FY 2009/10-2011/12

Uganda receives aid flows in terms of loans and grants. A changed pattern has been noticed in these flows. In 2005/06, the government received more grants (87%) and few loans (13%). At the time, this was in line with the debt strategy that favoured grants to loans as a measure to maintain debt sustainability. However, in 2006/07, the composition changed to more loans (79%) than grants (21%). The underlying reason is that Uganda graduated to a middle income country and can no longer get grants from multilateral institutions [MFPED, 2009]. This will have implications for raising funds for SLM. In particular, government will have to find it extremely profitable to borrow for SLM.

On average, donor commitments during the period 2003/04 to 2007/08 were US$722.8million per year. In 2003/04, total donor commitments were US$ 583.5 million; they increased and more than doubled in 2004/05 to US$ 1,269.8 million before decreasing to US$509.8 million in 2005/06.

The decline was due to aid cut back because of delayed fulfillments of related good governance conditionalities and high government expenditure on public administration. The implication there is that should Uganda not always aspire to score highly on good governance conditions, it could be a big barrier to resource mobilization generally to the country, and specifically to SLM.

6.3.6.2 Donor delivery mechanisms

Further, it can be seen from the table below that, there is clear indication that government has systematically shifted from using project mode mainly to general budget support, the latter being the preferred mode of assistance to the country.
With regard to the grants, it should also be noted that agriculture absorbed 17% of the total grants in the FY 2007/08. Overall, the implication is that it is now going to be more competitive to access funds for SLM under budget support compared to the projects. In fact, the Uganda SLM PER established that funding to SLM reduced systematically after 2003/04, which coincided with more resources shifted to general budget support.

However, despite the government's effort to convince Development Partners to put their aid on budget, some continue to provide support managed outside government systems. These projects mainly grants are those activities or finances most directly managed by a Government Institution. This is not only contrary to the partnership principles but also to the Paris Declaration and Accra Action Agenda.

6.3.6.3 Donor disbursements by sector

Excluding security and payments of interest, the main sectors absorbing donor funds are as follows:

Table 4: Main sectors absorbing donor funds

Sector	Amount ($million) 2007/08	Percentage (%)
Land, Housing and Urban Development	47.8	10.76
Works and transport	46.3	10.41
Agriculture	34.5	7.76

6.3.6.4 Donor Coordination Mechanisms

Recognizing the high transaction costs, government promoted donor coordination and alignment throughout the 1990s. At the 1999 Stockholm Conference on "Making Partnerships Work", the government laid out its intent for its relationship with donors and proposed a set of principles for the management of donor assistance that were later signed by both government and key donors as far back as 2003. This spurred the birth of PEAP Volume 3 "Building Partnerships to implement the PEAP". This further led to the establishment of joint sector working groups, the development of sector wide approaches programs and pooled funding mechanisms, joint missions, informal partnerships, and joint analytical work and advisory services by development partners.

Subsequently, the annual poverty reduction support credit process played an important role in strengthening donor harmonisation. The poverty reduction support credit has been a focus for donors that provide budget support to participate in joint discussions with government and to link their disbursements to the fulfillment of agreed prior actions that are themselves derived from PEAP. As described later, donors are now adopting Division of Labour exercise.

6.3.6.5 Factors likely to influence the mobilisation of external funding

(i) Division of labour exercise

In a bid to improve partnership and aid effectiveness, government has embarked on the above exercise. The objective is to generate a more efficient development partner division of labour that ensures balanced spread of financial support and policy dialogue. Development partners will increasingly become selective in their programming and policy dialogue, with each concentrating efforts on sectors or areas based on their comparative advantage. The division of labour is expected to result in reduced transaction costs in external resources and management.

(i) Effects of the ongoing global recession

The current global financial crisis is likely to affect domestic consumer demand for both locally produced goods and services as well as for imports. The slowdown in economic activity will affect domestic tax revenues directly. In addition, falling remittances from abroad are expected to negatively affect domestic consumption, and hence revenue from consumption taxes such as VAT, Excise duty, etc. The tourism industry is also likely to perform poorly as potential visitors cancel their holiday plans. Overall, companies are likely to register loses with adverse consequences for domestic taxes such as corporation tax and VAT, and the situation may be exacerbated by increased applications for tax exemptions to keep local companies afloat. Owing to the global recession, Ministries have had budget cuts in this quarter.

(i) Flouting of procedures to manage external resources
MFPED has laid down procedures to manage external resources efficiently. Briefly, the SWG is supposed to identify and prioritise its needs, formulate proposals and then for MFPED to seek external funding. In case of loans negotiations with potential credit institutions on the terms and conditions are made, and cabinet and parliament approvals are sought before signing of loan agreements. However, according to MFPED, 2009, these procedures have been flawed. This has led to a real challenge in utilisation of the external resources to an extent that a lot of the resources remain unutilised for a long time and a number of projects have gone beyond their appraisal life. In the case of both loans and grants, such institutions as IDA and African Development Bank /F this money has attracted commitment charges (a charge for not utilising the money) which has denied the economy of vital resources.

Owing to these barriers, government has stated that it will limit its borrowing to (i) infrastructure, (ii) education and health and (iii) agriculture.

6.3.6.6 Major policy and strategic implications

There is no doubt that the government is still receiving modest funding from ODA. Given that much of this is increasingly favoured to be disbursed under the General Budget Support, it is going to be imperative for the sector to own SLM issues so that in turn, they compete for resources under the budget support.

There are of course barriers to attracting and utilising additional ODA, some of which are within the means of the government to address, whereas others are beyond. Included in the former are poor absorption rates, and weak governance. In the latter are included the financial crunch associated with global recession.

6.3.7 Main vehicles used to finance SLM

6.3.7.1 Introduction

It has emerged from the previous sections that government raises a pool of resources from within and externally. Thereafter, it can choose to disburse the funds to different institutions through either: (i) general budget support; (ii) project; (iii) off-budget

The following sections show the opportunities for SLM funding by the recipient SLM-related sectors and institutions.

6.3.7.2 Funding SLM through agricultural sector's budget

Agriculture has been listed as one of the SLM focal sectors. There is great opportunity that resources will systematically increase. By vote function, most of the resources will be allocated to Agricultural Advisory Services, crops and animal resources in that order. In addition, there are off-budget opportunities from donors and Non-Governmental Organisations, especially JICA (for rice), WFP& FAO, Heifer project (send a cow) to mention but a few.

6.3.7.3 Funding SLM through Integrated Water Resources Management

There are emerging good practices for SLM related funding opportunities in respect of integrated water Resources Management (IWRM). A catchment-based IWRM was piloted in Rwizi catchment in Western Uganda. More initiatives are to be rolled out countrywide. The government has allocated $4.218 m in the Medium Term Expenditure Framework period to support integrated water resources management through the catchment model.

6.3.7.4 Funding SLM through poverty alleviation fund (PAF)

Another instrument through which SLM related interventions are funded is the Poverty Alleviation Fund (PAF). The main advantage of PAF is that its resources are ring-fenced, that is, not subject to budget cuts. In the FY 2007/08, government undertook reform of the PAF, whereby it shifted away from the inclusion of individual items of expenditure under the PAF (often resulting in fragmented interventions), to the inclusion of an all encompassing sector strategy to improve the focus of pro-poor budgeting.

6.3.7.5 Funding to SLM through Peace, Recovery and Development Plan

As already mentioned, one of the instruments the government is going to use to support the recovery of Northern Uganda is the PRDP. If well coordinated, some of the planned interventions could support SLM. Up to 40 PRDP districts are to benefit. There is no doubt that failure to provide for natural resource management was a big omission.

6.3.7.6 Funding to SLM through Luwero Triangle and Rwenzori Rehabilitation Programmes

Although the Budget Framework Paper does not reflect the break-down in use of the funds to support the above programmes, suffice it to mention that part will go to economic

activities like agriculture. The amount budgeted for is $5.0 million for next financial year.

6.3.7.7 Local and municipal budgets

Local Governments used to generate a lot of local revenue from Graduated Tax, out of which 35% was let at the local level for development work. Since it was abolished in 2006, all local governments (districts and municipalities) depend on transfers from the centre, and projects located in these districts. In the FY 2008/09, local governments will receive UGX 1.23 trillion or 34% of national budget (excluding) donor projects. To tap part of this amount, local governments must mainstream SLM issues not only in their development plans, but also the Budget Framework Papers. However, suffice to mention some of the resources to be transferred to local governments:

- Local Government Development Programme. This non-earmarked discretionary funding to local governments has two components of Local Development Grants and Capacity Building Grant
- National Agricultural Advisory Services. A total of UGX.86.74 billion will be availed in 2008/09
- Agriculture Extension Conditional Grant
- Plan for Modernisation of Agriculture Grant
- Natural Resources Conditional Grant

6.3.7.8 Funding SLM through Projects

As already reflected, project modality is one of the ways in which funding for SLM is managed. To support SLM resource mobilisation, a database of on-going projects with direct and indirect bearing to SLM has been made. It needs to be regularly updated.

6.3.7.9 Implications for SLM

The disjointed nature of projects, without providing funding for adequate mix of interventions is not sustainable for SLM. This is going to require high level commitment by the Inter-Ministerial Committee for SLM. However that stated, it has been shown that there are many funding opportunities under the projects, although some geographical areas are more favoured than others.

6.3.7.10 Key constraints and barriers

- Low staffing levels
  In particular, the Local Government Production structures are currently operating at below 50% staffing levels. Yet most of SLM programmes are delivered at their local level. In order for Local Governments to adequately deliver agricultural services, an additional recruitment of staff to a level up to 75% for next financial year is required. To realise this target government would need additional resources amounting to $5 m. Until government improves its earning capacity, it may not recruit more staff.

- Failure to fund established structures
  As part of restructuring, Ministry of Agriculture Animal industry and Fisheries established agencies like Dairy Development Authority, NAGRIC and COCTU. However, the start up funds for these semi-autonomous institutions has never been realised. The current provision under MAAIF non wage for these institutions leaves a funding gap of $4.6 m the factors lower the capacity of the sector to support SLM.

- Weak plans and reporting on outputs
  The Local Governments have been preparing work plans as one of the major requirement for accessing the money under central government transfers. However, it has been noted that some work plans are not so detailed and specific to provide the detailed activities and the corresponding geographical location. This constrains the verification process while undertaking monitoring by the various stakeholders, including those supporting SLM relevant programmes like NAADS.

With effect from FY 2009/10, each local government will prepare a comprehensive work plan based on the format of the Performance Contract Form B indicating the planned activities both at the Higher Local Governments (HLG) and Lower Local Government (LLG) clearly specifying the activity location by sub county. This information will provide a critical input for public accountability and monitoring under the new modality for public discussions, the “Barazas”.

6.3.8 Opportunities from innovative funding sources, instruments & mechanisms

6.3.8.1 Funding SLM through national and sector specific funds

A financing approach has been the establishment of national funds. Table 4 provides clear evidence of such funds. Some are operational but not necessarily supporting SLM and others are about to be made operational.

Table 5: Status of various environmental funds in Uganda

	Fund name	Legal basis	Status
1.	National Environment Fund	National Environment Act, 1995	In existence, but funds only used by NEMA
2.	The Wildlife Fund	Uganda Wildlife Act, 1996	Not yet operational
3.	The Land Fund	The Land Act, 1998	Just been set in motion, mainly for tenants to acquire land titles
4.	National Tree Fund	National Forestry and Tree Planting Act, 2003	Not yet operational , may be after July, 2009
5.	Desertification Fund	United Nations Convention to Combat Drought and Desertification	Not yet operational
6.	Fisheries Fund	Uganda Fisheries Policy	Yet to be given legal status
7.	Bwindi and Mgahinga Conservation Trust	Bwindi and Mgahinga Conservation Trust Deed	Operational
8.	Energy Fund	Energy Act	Operational

One of the longest funds is the Bwindi and Mgahinga Conservation Trust. It was formed in 1992 initially with GEF funding of $4 million. Both USAID and the Royal Netherlands Embassy provided additional funding. According to the Deed establishing the trust, 60% of the revenue from the interest on the fund finances community projects some of them very relevant to SLM. However, the projects are only those within the first parishes adjacent to Bwindi and Mgahinga National Parks. Overall, it can be stated that the Bwindi and Mgahinga Conservation Trust has been and will continue to be a source of funds for some SLM related activities in that geographical area. Annually, the drawings from the TRUST have ranged from $150,000 to $ 200,000.

6.3.8.2 Funding SLM through commercial banks

Banks as private institutions can play a big role in SLM-related projects, through lending say to agriculture or forestry. Unfortunately, over the years, the proportionality of credit to agriculture continues to fall compared to other sectors rise. Otherwise in absolute terms, banks lent UGX 94 billion in 2007 to agriculture. It is probable that about the same or more money could be channeled to agriculture in future. The concern however is that much of this is taken by big rather than small farmers. Besides, almost three quarters of the agricultural credit goes for crop finance that is, marketing.

The government has taken deliberate steps to give incentives to banks through Bank of Uganda so that they can lend to agriculture. However, going by the trend in the past, the incentives have not stimulated banks yet. By implication, there are many barriers which hinder banks from taking advantage of these incentives.

Perhaps in the lead to capitalise on the above incentives, Standard Bank has announced a $ 100 million fund especially for agriculture. No doubt this will boost some of the SLM related interventions particularly those implemented by the private sector. The fund is earmarked to benefit four African countries of Ghana, Mozambique, Tanzania and Uganda for use as loans to small farms and agricultural businesses. (New Vision, 7 April, 2009). Mozambique has already signed for $ 25 millions.

6.3.8.3 Funding SLM through micro-finance institutions

The Microfinance Centre Ltd, which was incorporated by government in 2001, is now considered a linchpin of government micro-credit programmes under the Rural Financial Services Strategy. From SLM point of view, the Centre will offer a great source of funding because it offers affordable credit through loan products that support the agricultural production value chain namely: production, value addition and marketing.

Currently, the centre offers five products, namely: (i) Agricultural Development Fund; (ii) Business Development Fund; (iii) Micro-Enterprise Fund; (iv) Small and Medium Enterprise (SME) Fund, and (v) Guarantee Fund

It should be noted that the Microfinance Centre Ltd

provides wholesale credit to savings and Credit Cooperative Organisations commonly known as Savings and Credit Cooperative Organisations (SACCOs) and to Micro-Finance Institutions. It is projected that between 2004 and 2011, the centre will disburse $24.6 million, out of which $ 18.43 million has already been secured. The spread of 12 regional branches countrywide will ensure widespread access to credit from the Centre. More resources are likely to be mobilized by the Centre, especially from the African Development Bank ($30 million) and Islamic Development Bank ($10 million).

There are some few barriers of using the Centre for SLM. First, it does not offer extension services to agriculture and cannot dictate good practices of land management. Secondly, by insisting that borrowers pay from the profits of their enterprises, the borrowers are more likely to look for profits at all costs even when it may cause over-use or degradation of the land.

6.3.8.5 Funding SLM through small grant making institutions

Besides commercial banks, and Micro-Finance Institutions, there are other small grant making institutions and programmes that offer opportunities for SLM. The main limitation about them is that they too invest in resource mobilisation and they do not offer a predictable pattern of future funding. It should be noted that it is difficult to establish a national picture of funds absorbed by NGOs, CBOs, etc. in the name of SLM. This is because there is no central location where that information is obtained. The same applies to the private sector.

6.3.8.6 Compensation for environmental services (CES)

In Uganda, one can state broadly that there are two forms of incentives for rewarding ecosystem services, namely:

(i) direct monetary payments to land managers or resource users as providers and guarantors of particular ecosystem services, and
(ii) payments/ incentives in kind such as access to resources in protected area, access to markets, access to information and training

In the first category, one can site a few examples like ECOTRUST-Trees for Global Benefits Program, West Nile Power Project, UWA FACE project in Mt. Elgon and Kibale and Rwoho. Examples in the second category are also many particularly by NGOs like Nature Uganda and CARE International supporting communities in afforestation programs. The World Bank has announced a $360 million carbon fund for Africa, and Uganda hopefully will benefit from it. Otherwise the government through the National Forestry Authority has prepared a concept note lobbying for support to make its Readiness Action Plan to tap carbon funds. Until it is made, one cannot tell how much Uganda will obtain.

6.3.8.7 Climate change-related funds and mechanisms

The private sector interest in climate change is generally still low because of low awareness and lack of systematic national programme to guide it. The few companies that are taking interest are motivated by the emerging business enterprises and related funds. However, they have found that there are many procedures to be fulfilled. They also need to invest substantial money before they get benefits, and presently they lack sufficient capital for investment. To sum up the private sector has come to realise that Clean Development Mechanism projects are bureaucratic, risky and complex. These are critical barriers.

Despite the many barriers yet to overcome, suffice it to mention that there are some positive developments emerging both in private and public-private projects. Uganda has already benefited from the sale of carbon credits at the Nyagak Mini-hydro project of West Nile Electrification Company. Currently, it is estimated that the average annual carbon reduction (CERs) from this project is 36,210 tonnes. Further, there a few other projects being prepared for registration. There are (i) the Uganda Nile Basin Reforestation Project implemented by National Forest Authority (NFA) in partnership with Rwoho Environmental Conservation and Protection Association, a 250 member community organisation (ii) Kakira Co-generation project (iii) Kikagati Co-generation project and (iv) landfill gas recovery initiatives under development within nine municipalities. Equally, the Bujagali Hydro-power project is on line for preparation for registration as a Clean Development Mechanism project. A climate Change Unit has been set up in the Ministry of Water and Environment and it keeps the National Register of Clean Development Mechanism Projects

The potential for Uganda to benefit from Clean Development Mechanism is significant. The Uganda Investment Authority which markets opportunities for Clean Development Mechanism and carbon market investment has identified thirty sites suitable for mini-hydro power investment which could generate between 10 -20 MW each and parcels of land of between 500 and 16,000 hectares available for afforestation on 49-99 year leases.

That said, Uganda also has a more extensive track record with the Voluntary Carbon Market than with the Clean Development Mechanism, with reforestation projects associated with carbon offsets operating as early as the mid 1990's, through the work of the FACE foundation. Examples of successful entry into international carbon markets are evident through schemes like Plan Vivo. Environmental conservation Trust of Uganda work with communities to plan afforestation and reforestation projects enabling them to access voluntary carbon market through the Plan Vivo system. They are currently working with around 300 farmers, selling about 75 tonnes of CO_2 a year with a target of 100 tonnes a year. Around 400 farmers are on a waiting list for Ecotrust.

It should also be noted that Uganda is advocating for Reduction of Emissions from Deforestation and Degradation (REDD). In preparation to take advantage of the emerging related funding opportunities, it has approached both the World Bank and the Norwegian Embassy to prepare its readiness plan. World Bank has already shown willingness to support Uganda, under the auspices of the Forest Carbon Partnership Facility (FCPF). The World Bank has announced a $360 million carbon fund for Africa from which Uganda could benefit.

Like other funds, one cannot fully predict how much of the innovative funds would actually be realized by Uganda. This is because they are channeled under agreement. They can only be accessed on first come first serve basis. In other words, they are not like ODA. The lack of enabling policy framework complicates the issue. For example, the government cannot raise $200,000 or more to finalize the readiness plan for carbon funds.

6.3.8.8 Trade Related Financing Mechanisms

The Aid for Trade Initiative (AfT) was established to help developing countries, particularly LDCs, to build the supply-side capacity and trade-related infrastructure that is needed to implement and benefit from WTO agreements and to expand their trade. Since the launch of AfT at the 6th WTO Ministerial Conference in Hong Kong in 2005, commitments to finance trade development have been constantly increasing by about 10% a year. In 2007 commitments from bilateral and multilateral donors reached USD 25.4 billion; non-concessional lending in trade-related financing provided an additional USD 27.3 billion.

Within the AfT framework, in Least Developed Countries (LDCs), a specific mechanism has been set for the identification of trade needs, the Enhanced Integrated Framework (EIF). The EIF is a mechanism for coordinating the delivery of AfT technical assistance and the channeling of AfT funds. The goal of the EIF is to enhance the capacity of LDCs to use trade as a means to reduce poverty and promote sustainable development. Priority interventions for the EIF are identified through a national diagnostic study, the Diagnostic Trade Integration Study (DTIS) and the related Action Matrix, which lists all trade priorities, including constraints to overall competitiveness, sectors of greatest export potential, and main actions for better integration into the global trading system.

A specific Trust Fund was created to support the creation of the EIF implementation structure at the national level and the implementation of the priority activities identified through the DTIS. The EIF plays only a catalytic role which should trigger the bulk of AfT financing from the bilateral and multilateral donors who committed to support AfT implementation. Uganda is one of the beneficiaries of the EIF. The Ministry of Trade, Tourism and Industry (MTTI) is the EIF focal point within the country. Uganda therefore has developed a DTIS and Action Matrix, establishing trade priorities for the country. It can therefore access funds for trade development both through the EIF Trust Fund and through the funding provided by donors supporting the AfT process in the country.

Trade and SLM are closely interlinked. The DTIS supports export development for traditional commodities, such as cotton, tea and coffee. These have major implications on the use of natural resources through land use practices, input utilisation and also land conversion to accommodate agricultural expansion needs. It is therefore crucial that SLM relevant ministries and institutions engage in the AfT/EIF implementation process and mainstream actions aimed at mitigating the impacts of trade on SLM. At the same time, the SLM focal point ministry and other relevant ministries and institutions may also need to lobby with the trade institutions to integrate in the DTIS other value chains which may contribute to enhancing SLM such as the NWFPs.

To access EIF Trust Fund resources to promote SLM-friendly activities, the SLM focal point ministries have to submit eligible proposals that take into consideration the cross-sectoral issues and also contribute to trade development. The CSIF is a multi-sectoral platform that provides the framework to formulate and design proposals for AfT/EIF funding that take into account both environmental and trade-related needs.

The EIF Trust Fund is just one of the funding options under AfT. By increasing engagement with MTTI and participating more actively to the implementation of the AfT/EIF agenda, the other ministries will also be able to access the trade support programmes of bilateral and multilateral donors. Sweden for example has a major programme to support the EIF implementation and this is the Quality Infrastructure and Standards Programme (QUISP). A summary matrix of ongoing programmes related to trade and SLM is included as Annex VI.

Eco-labels and organic certification schemes

Uganda farmers are increasingly selling organic products because of their niche on the market. The FAO/ WHO Codex Alimentarius guidelines, recognized by UNCTAD in its Trade and Environment Review 2006, defines organic agriculture as "a holistic production management (whose) primary goal is to optimize the health and productivity of interdependent communities of soil, life, plants, animals and people". Similarly, the International Federation of Organic Agriculture Movements (IFOAM), which has over 750 member organisations in 108 countries, defines it as "a whole system approach based upon sustainable ecosystems, safe food, good nutrition, animal welfare and social justice. Organic production therefore is more than a system of production that includes or excludes certain inputs".

A large percentage of agriculture production especially by rural smallholder farmers can be considered organic. Indeed, in the African region, Uganda enjoys a huge and strategic comparative advantage in the production of organic agricultural products. This is largely because of a number of factors. First, Uganda is considered to have very conducive weather conditions that can support organic agriculture allowing increasing agricultural production without having to resort to non-organic agricultural inputs.

Secondly, Uganda currently has one of the lowest agro-chemical usages in Africa estimated at less than 1 kg/ha. This figure is substantially less than the African average of 9 kg/ha or the East African average estimated at less than 5 kg/ha.

Funding SLM through private sources of funding

A limiting factor in Uganda is that there is no central point where one can get good grasp of the flows of funds to SLM. However, suffice it to mention the practices adopted by the private sector in the key sectors relevant to SLM, that is, agriculture and forestry.

- **Forestry**

Uganda has long history of afforestation by communities, sometimes supported by international Non-Governmental Organisations and organisation. Most of the support came under the auspices of conservation agencies and from equally minded agencies and Non-Governmental Organisations. Notable examples of supporters included USAID, CARE International, African Wildlife Foundation, WWF, IUCN. Most of them continue to provide that support.

However, a recent case study has demonstrated that the private sector can set aside and use substantial funds in tree planting. Under the European Union-funded Sawlog Production Grant Scheme, over 5,000 hectares have been planted with the understanding that it is a 50:50 cost share between the scheme and the private planters. At an estimated cost of UGX 1,200,000 per hectare, it implies that the private farmers have been investing at minimum of UGX 600,000.

This would translate to UGX 3 billion for 5,000 hectares, equivalent to $1.7 million. Owing to the success of the scheme, European Union and Norway are jointly preparing to inject additional €10m and $10m respectively. This will in turn trigger more resources from the private sector in the next 4 years. The scheme ensures that tree planters under it do not reduce the flow of environmental services. For example, some of the big farmers are borrowing a lot of funds to invest in afforestation with hope that they could also benefit from the carbon funds.

Commonwealth Development Corporation (CDC) is currently looking for a grant manager to manage $100 million fund for commercial forestry in Uganda. With very many investors in Uganda now conversant with commercial forestry, the likelihood that they could be some of the beneficiaries is also very high.

Further, the cabinet has now approved the set-up of a Tree Fund, under the auspices of the National Forestry and Tree Planting Act, 2003. The modus operandi is yet to be determined. Until then, one cannot confirm whether many donors would subscribe to this fund that could trigger the use of additional private funds.

It should also be noted that there are many increasing private companies contracting farmers for certain groups. This is true for tobacco with British American Tobacco; sorghum with Nile Breweries; cotton with Duvenant.

- **Agriculture/ farming**

The support by private companies to agriculture/ farming is built on their linkages to smallholder farmers. British American Tobacco (U) Ltd has been supporting tobacco growers to also plant trees, mainly eucalyptus, for use in curing tobacco.

In turn, this reduces their likelihood to degrade the environment in search of fuel. British American Tobacco (U) Ltd adopted this strategy out of both business and social responsibility. Notura is exploring feasibility to export beef to Europe. The Norwegian Confederation Associates are identifying suppliers from East Africa and Ethiopia to supply them with textiles, crafts and herbs among others.

Likewise, Nile Breweries supports farmers to grow sorghum it uses in the manufacture of some beer brands. Duvenant, another private company also offers credit for cotton it eventually buys.

6.3.8.9 Key policy recommendations

(i) Government should hasten to make its Readiness Plan so that it can trigger funding opportunities for carbon funds under the World Bank

(ii) Government should study organic agriculture with a view of coming up with a realistic policy to support it

(iii) Government should work closely with commercial banks and Micro-finance institutions so that their lending for agriculture is also environmentally benign

7.0

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8.0

Appendices

i. Proposed definition for SLM, and land degradation, land quality and typology of SLM practices
ii. Results Matrix for U-SIF SLM
iii. Diagnostic summary (existing USIF text, stocktaking, barrier analysis, SLM PER, IFPRI overview of land degradation in Uganda, emphasis on quantifying land degradation and SLM, etc.)
iv. Institutional mapping
v. Schedule of activities, Key Inputs , Responsible Institution and Indicative Costs
vi. Detailed project-by-project listing

Annex I

Proposed definition for SLM, and land degradation, land quality and typology of SLM practices

Sustainable Land Management (SLM) is defined, according to the TerrAfrica partnership (2005), as the adoption of land use systems that, through appropriate management practices, enables land users to maximize economic and social benefits from the land while maintaining or enhancing ecological support functions of land resources.

Land refers to cropland, range, pasture, forest and woodlands. Land is defined by the UN Convention to Combat Desertification (UNCCD) as the terrestrial biologically productive system that comprises soil, vegetation, other biota, and the ecological and hydrological processes that operate within the system.

Land degradation refers to the reduction or loss of the biological or economic productivity and complexity of land, resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation pattern. These include long-term loss of natural vegetation; soil erosion caused by wind and/or water; deterioration of the physical, and chemical and biological or economic properties of soil (UNCCD).

Land quality refers to the degree of biological productivity and complexity of land.

SLM practices include both technologies and approaches applied to raise land quality. The precise practices are usually site specific, and this indicator allows project managers freedom in defining what is an SLM technology or practice. For example, tree planting may be an SLM practice in one area but not in another because the practice may negatively affect downstream water availability. Technologies refer to agronomic, vegetative, structural, and management measures that control land degradation in the field. Examples include terracing, forestation, reduced tillage, micro-irrigation, etc. Approaches include ways and means of support that help to introduce, implement, adapt, and apply technologies in the field. Examples include watershed management, climate risk management, community land use planning, etc.

SLM friendly products refers to commodities and non commodities produced based on sustainable practices such as INM, inter-cropping, conservation agriculture, and agro-forestry, and also products that do not increase pressure on the land such as pineapples, vanilla, and tree crops.

SUGGESTED WORKING DEFINITION FOR SLM IN UGANDA

Sustainable Land Management (SLM) can be defined as any intervention that is aimed at sustaining or restoring the productive capacity of land.

Specifically, in agriculture, SLM is the maintenance over time of soil productivity. This requires the combination of soil fertility treatment (application of mineral and organic fertilizers to the soil) with soil and water conservation measures (implementation of agronomic, soil management and physical measures such as contour ridging, terracing, tied ridges or providing ground cover through mulching, use of plants, leaving crop residues, and water harvesting and conservation structures). Management regimes such as grazing reserves and corridors are also included. SLM will focus more on some elements of this combination depending on the terrain, ecosystem, climate and use of land which determine the potential forms of degradation; SLM will always encompass all elements of the farming system (small and large livestock, commercial and subsistence crops, agro-forestry) which impact on ecosystem services such as water infiltration, biodiversity, carbon storage.

Specifically, in natural resources management and energy, SLM is the maintenance over time of the country's forest and water resources. SLM involves the rehabilitation of degraded environments, and watershed areas, the prevention of forest destruction

and depletion, and the systematic replanting of felled trees. Measures to ensure sustainable management of water and forests would include watershed planning, the creation of forest reserves, the prevention of bush fires, tree planting schemes for firewood, sustainable logging and harvesting permits accompanied by replanting, and forest management regulations and legislation and non timber forest products.

Typology of SLM actions

Specific practices that can be used in combination to advance toward SLM are listed in the table below:

SLM practices		
Land/water mgt approaches	**Land/water mgt technologies**	
Land use regimes	**Agronomic and vegetative measures**	**Structural measures**
• Watershed plans • Community land use plans • Grazing agreements, closures, etc. • Other	• Intercropping • Agro-forestry in crop or grazing systems • Afforestation and reforestation • Mulching and crop residue • Crop rotation • Fallowing • Low till • Composting/green manure • Integrated pest mgt • Vegetative strip cover • Contour planting • Re-vegetation of rangelands • Integrated crop-livestock systems • Woodlots • Alternatives to wood fuel • Sand dune stabilization • Other	• Terraces and other physical measures (e.g., soil bunds, stone bunds, bench terraces, etc.) • Flood control and drainage measures (e.g., rock catchments' water harvesting, cutoff drains, vegetative waterways, stone-paved waterways, flood water diversion, etc.) • Water harvesting, runoff management, and small-scale irrigation (shallow wells/ boreholes, micro ponds, underground cisterns, percolation pits, ponds, spring development, roof water harvesting, river bed dams, stream diversion weir, farm dam, tie ridges, inter-row water harvesting, half-moon structures, etc.) • Gully control measures (e.g., stone check dams, brushwood check dams, gully cut/reshaping and filling, gully re-vegetation, etc.) • Other

Annex II

Results Matrix for U-SIF SLM

The U-SIF SLM is a 10 year investment framework that is multi-sectoral. The following Results matrix based on results that should be achieved within the first five years (Phase I) They are based on the assertion/ premise that the framework will be implemented in a highly evolving and innovative mode. The framework will be evaluated midway (end of Phase I) and challenges, opportunities and emerging issues will have to be brought on board. Baseline figures are scanty and in most cases not available. It is therefore mandatory to establish the baselines right at the beginning of the U-SIF SLM. The targets at the end of each phase (2015 and 2020) will be based on baselines that have to be determined right after inception. The Framework is organized along 5 thematic areas, each addressing a critical barrier identified during the diagnostic studies.

Table 6: Results Matrix for SLM Investment Frame Work

Goal: The goal of the Uganda Strategic Investment Framework for Sustainable Land Management (U-SLM SIF) is to promote key sectors cooperation to improve natural resource based livelihoods and other ecosystem services.

Development Objective: The development objective is to strengthen sector cooperation in order to halt, reverse and prevent land degradation/ desertification and to mitigate the effects of climate change and variability

Results chain hierarchy	Indicators	Baselines& Targets (Other detailed targets in Table 2)	Data sources	Reporting Responsibility	Assumptions	Use of results information
Theme 1 : Supporting on-the ground activities for scaling up SLM						
Result 1: SLM scaled-up in priority zones	1.1 Hectares with SLM practices (reported per target zone, land use, crop, range, etc). 1.2 Number or % land users adopting SLM practices (reported per target zone; land use: crop, range, forest etc)	Baseline established at inception/ 2010	Project implementation reports from discreet operations aggregated	MAAIF- UNCCD Focal Point / National Technical Committee (NTC)	SLM up take is driven by strengthened policies institutions, stake holder involvement, knowledge sharing; financing availability and alignment of efforts	Provide feed back on adoption to improve the country's scaling-up approach and investment.
Theme 2 : Strengthening enabling institutional and policy environment						
Result 2: Improved policies institutions, and financing for SLM	2.1. Total change in investment toward SLM (disaggregated if possible by district and domestic or external funding source)	Baseline – SLM Sustainable Funding Mechanism Report 2009. Net increase per annum	SLM Investment Frame work portfolio including operations public expenditure reviews; budgetary data, etc	MAAIF- UNCCD Focal Point / NTC	Domestic funding sources exist to be leveraged by well-organized country level stakeholders and can be tracked	Benchmarking and advocacy on barriers in the enabling environment that hinder investment expansion in SLM
	2.2. Improved score on the Composites Index for the SLM Enabling Environment	10% increase each year based on 2009 figures	Expert survey tool	MAAIF- UNCCD Focal Point / NTC	Composite Index tracking tool	Benchmarking.
	2.3: Country's SLM coalition strengthened, as measured by an improved score on the coalition Assessment survey tool	10% increase each year based on baseline	Expert survey tool	MAAIF- UNCCD Focal Point / NTC	Multi-sector based approaches reduce transactions cost over the medium to long term, allowing greater investment efficiency . Stakeholders see benefits in coalitions	Benchmarking
Result 3: SLM actions are mainstreamed in government and donor programmes	3.1 SLM actions are included in DSIPs, NDP and CAADP compact,	NDP by 2010 & 2016 CAADP compact by 2010 5 DSIPs by 2015 80 DEAPS by 2020 300 SEAPS by 2020	Primary documents PRSPs, CAADP roundtables, etc	MAAIF- UNCCD Focal Point / NTC	Main streaming will lead to greater investment on the ground.	
	3.2 Number of international partners' country assistance strategies with SLM actions	2 by 2010 4 by 2015 5 by 2020	Primary documents : Country Assistance Strategy (CAS) etc.	International partners in country, MAAIF-UNCCD Focal Point / NTC		Demonstrate tangible increase in international support to SLM.

Result 4: Climate risk incorporated into decision -making on SLM	4.1 % of major strategies and plans with interventions to manage climate risk to SLM	25% by 2010 100% by 2015 100% by2020	Primary documents National SLM CT coalition members	UNFCCC & UNCCD Focal Points; NTC	Sufficient data available for statistical analysis clear and comparable definitions of disasters and climate hazards	
	4.2% of SLM operations that address specific climate vulnerabilities	30% by 2010 70% by 2015 90% 2020	Project implementation reports from discrete operations, portfolio reviews	UNFCCC & UNCCD Focal Points; NTC	Sufficient data available for statistical analysis, clear and comparable definitions of disasters and climate hazards.	
Theme 3 : Strengthening commercial and advisory services for SLM and alternative Livelihood options						
Result 5: Marketing information and market infrastructure for SLM friendly products	5.1 # or Percent of SLM friendly products and practices developed 5.2 # of value chains developed and based on SLM production systems 5.3 # Cumulative number of investments in alternative livelihoods in support of SLM	25% by 2015 60% by 2020	Project implementation reports from discrete operations, portfolio reviews	MTTI – IF & MAAIF-UNCCD Focal Point / NTC		
Theme 4 : Supporting SLM research and dissemination of best – bet technologies						
Result 6: Reliable data/ technologies generated and disseminated	6.1 # of datasets / technologies 6.2 # of institutions using the data / databases for planning and management		Project implementation reports from discrete operations, portfolio reviews	NARO, Universities & Other Lead Agencies		
Theme 5 : Improving and strengthening SLM knowledge management, M&E and information dissemination						
Result 7: Knowledge generated and disseminated on SLM	7.1# knowledge products developed and disseminated	10 by 2010 15 by 2015 20 by 2020	Reports from l SLM Platform and partners	MAAIF- UNCCD Focal Point / NTC; Coalition members and international partners.	Data and capacity exist to carry out and apply analytical work to inform development of programme based approaches	Increase stake holder capacities to share and apply knowledge to prioritise investment across sectors. Support advocacy and decision- making.
	7.2 # Comprehensive SLM information system operational (knowledge base M&E aggregation and tools, etc	2011: pilot 2012: full product available 2012 and annually sufficient maintenance training and use	Reports from SLM Platform	MAAIF- UNCCD Focal Point / NTC; Coalition members and international partners.	Existing or new systems can be well utilized to enhance knowledge access	Improves investment targeting, alignment, comparability and implementation

Annex III

Diagnostic summary

Land Degradation and National Economic Development

Land degradation is the reduction in quality, productivity (biological or economic), capacity or stability of a natural resource resulting from human activities, natural catastrophes and climatic changes. Degradation has sapped the production capacity out of most environments thus undermining the production sustainability. It is a serious problem not only in Uganda, but the whole of Africa. According to Scotney and Dijkhuis (1989), if the degradation of cultivated lands were to continue at present rates, crop yields could be reduced by fifty percent within 40 years. This makes the problem very significant because the agricultural sector in Uganda accounts for almost half the GDP and employs over 80% of the people (NEMA, 2001). It is also estimated that, the natural resource base contributes about 54 per cent of GDP, almost 100 per cent of the direct employment and 90 per cent of the country's exports. Over 80 per cent of the population lives in rural areas and mainly dependent on land, forests, wetlands, fisheries, wildlife and other natural resources for their livelihoods with interactions mainly at subsistence level (ENR-SIP, 2007). The massive dependence on natural resources for the livelihoods of millions of its people has resulted in deterioration of the productivity of the resource. Land degradation in Uganda, as elsewhere in the world, is in most cases an unintended side effect of production activities. Natural resources users do not deliberately set out to degrade these resources, but are obliged to pursue practices irrespective of the implication (Erenstein, 1999); and more often than not, the costs of degradation outweigh the benefits underlying the degradation process (de Graaf, 1993).

In regard of the foregoing, the costs of environmental degradation to the country's economy are quiet substantial. Recent cost estimates of natural resource degradation, in the country, put the costs at 17% of GDP per year of which 6% consists of deforestation and 11% is constituted by soil degradation (Yaron and Moyini, 2003). As environmental quality deteriorates, it is the poorer segments of society that are affected the most since their livelihoods and welfare very much depends on the environment. The current state of poverty in the country is partly attributed to the degradation and unsustainable exploitation of the environment and natural resource base (Yaron and Moyini, 2003).

The major forms of land degradation in Uganda are: soil erosion; decreasing soil fertility; agrochemical pollution; and desertification. However, the magnitude of land degradation varies from one part of the country to another depending on the farming practices, population pressure, vulnerability of the soils to erosion; and the general relief of the area (NEMA, 1999). Studies have shown that soil erosion is a major constraint in all 9 cropping systems in Uganda and soil fertility in 5 of the 9 systems and wherever there has been agricultural intensification (NARO/MAAIF, 1996). The main causes of land degradation are: high population growth rates; poor methods of cultivation; deforestation; bush burning; and overgrazing, among others (NEMA, 2001). These factors have had a negative impact on food production and hence food security. Per capita food production (tones/ year) reached a record high of around 1.47 in 1978 and then hit a low of about 0.83 in 1980. Despite increases from 1986, per capita food production is less than in the 1970s.

In cognizance of these deficiencies, the Government of Uganda has come up with several frameworks e.g. the Poverty Eradication Action Plan (PEAP) and the Plan for Modernization of Agriculture (PMA) to address issues of land degradation and increase agricultural production (MFPED/ MAAIF, 2000). Government also recognizes that the Sustainable Land Management (SLM) approach is one way of combating land degradation while supporting sustainable human livelihoods. Government's commitment in promoting SLM for national economic development is manifested in the development policies, institutional frameworks and targeted programs to ensure sustainable utilization of natural resources. There are five sectors in government with mandates that have a direct bearing on land degradation vis-à-vis sustainable land management (SLM). These include: Agriculture; Energy; Water and Environment; Land, Housing and Urban Development; and Trade and Tourism.

Land degradation and Rural Poverty Linkages

It is estimated that 85% of Uganda's population is rural-based and depend on natural resources, mainly agriculture, for their livelihood. They generally have land and unskilled labour as their principle assets, and thus few human or capital endowments.

Poverty may not be a direct cause of environmental degradation, but instead may operate as a constraining factor on poorer rural households' ability to avoid land degradation or to invest in mitigation strategies (Barbier, 1997). Land degradation and the associated loss of productivity impose high social and economic costs because of linkages that exist between lagging agricultural growth, rural poverty and food insecurity.

Around 36% of Uganda is affected by severe land degradation and 10% by very severe land degradation. Land degradation has important consequences for the productivity of agricultural land and other natural resources, and is closely linked to poverty. Land degradation in Uganda is expressed through stagnating and declining yields in food crops, in particular cereals. The socio-economic implications of land degradation in Uganda include rural poverty, food insecurity, high cost of food, rural to urban migration and encroachment into natural reserves (SIP1-2 Uganda Report).

A large proportion of the rural poor in Africa appears to be located on "low potential" and "fragile" lands, which are prone to chronic land degradation. Much of these marginal and resource-poor lands may also have been non-agricultural land (forests, wetlands, hillsides) originally. Consequently, rural poverty and human-induced soil degradation are inexorably related in Africa (Cropper and Griffiths, 1994). Expansion into marginal areas brings increased risks of crop failure, environmental degradation and loss of biodiversity.

Available information, in Uganda, shows that the poor are increasingly farming marginal land prone to land degradation. Consequently there is an urgent need in Uganda and indeed in Sub Sahara Africa (SSA) to break the cycle between poverty and land degradation by employing strategies that empower farmers economically and promote sustainable agricultural intensification using efficient, effective and affordable SLM practices. SSA is the only region in the world where, overall, livelihoods and food security continue to deteriorate.

Causes of Land Degradation in Uganda

The key drivers for land degradation and low productivity on small-scale farms nationally are lack of labour and capital to invest in sustainable land management; poverty and land fragmentation leading to over-exploitation of the land; inappropriate farming practices/ systems including, burning of grasslands/ organic residues, continuous cultivation with minimum soil fertility enhancement, overgrazing, etc.); increasing rural population densities leading to deforestation and encroachment on rangelands and wetlands; lack of non-farm income opportunities; inadequate policies e.g. policies on land tenure and land management.

a. Labour and Capital

Labour and capital resources available at the household level to invest in soil maintenance and management remain limited. The middle income and poorer farmers in particular cannot afford to hire agricultural labour. The absence of a well functioning rural financial system is considered to be a significant obstacle to agricultural development in Uganda. In 2000, 95% of households had access to some form of credit, but only about 20% of households had access to formal credit. Access varied widely across the country (Nkonya et al., 2004). Lack of credit reduces their ability to acquire and use purchased inputs needed for sustainable agricultural development (Larson and Frisvold, 1996). It also contributes to a short-term perspective of farmers, which fuels overexploitation and degradation of the natural resource base (Pender, 1996; Holden et al., 1998).

b. Deforestation

Uganda's natural forest cover consisting of tropical high forest (THF), woodlands and forest plantations has declined drastically from 54% (approx. 13.2 million hectares) in the 1950s to the present 4.9 million hectares representing approximately 20% of the total area of the country (ENR-SIP, 2007; NEMA, 2004/05). A large proportion of the rural population depends on forest resources for basic needs and forestry provides a range of environmental services and biodiversity values, such as greenhouse gas (GHG) mitigation, watershed regulation, climate regulation, soil and water conservation, and nutrient cycling. The forestry sector contributes about 6% to Uganda's GDP and creates about 850,000 jobs; about 100,000 in the formal sector and the majority in fuel-wood and charcoal production.

According to the Millennium Ecosystem Assessment (2005), the expansion of agricultural land into forest areas leads:

- to loss of below ground biodiversity (BGBD) and above ground biodiversity (AGBD). Reduced BGBD leads to reduced agricultural productivity and reduces the resilience of agricultural systems, which then become more vulnerable to adverse climatic events (erosion, pests, diseases, and other threats),
- to loss of capacity to fix below and above-ground carbon as organic matter and biomass respectively,
- loss of trees that are a global carbon sink that contributes to controlling climate change,
- loss of other ecosystem services (provisioning, cultural, regulating and supporting)

A countrywide biomass study completed in 1996 indicated that the tropical high forest had decreased by 1.1% from 3.8% of land cover through degradation and encroachment. The forests play an important role in carbon sequestration and reduction of carbon emissions hence deforestation and land degradation affects the carbon banks and hence the global climate.
The major causes of deforestation are provision of wood fuel and clearing of land for agricultural and pastoral activities. Ninety percent of the total population who live in rural areas directly depends on firewood for their energy needs, and a big fraction of the urban dwellers depend on charcoal. Available information shows that 92% of Uganda's source of energy is wood fuel, while only 7% is supplied by petroleum and 1 percent by electricity. The 1986 World Bank Report estimates production of wood fuel at 15.6 million cubic meters per annum while consumption is about 18.3 million cubic meters which puts demand in excess of the supply by 2.7 million cubic meters

Figure 5:
Land cover degradation in Nakasongola

c. Overgrazing
Livestock numbers are on the increase in Uganda and this has exerted intense grazing pressure on the land. Therefore for sustainable management there is a need to pay attention to the carrying capacities of Uganda's rangelands. Rangelands occupy 107,000 km^2 (44%) of the country's land area; support over 6 million people and hold 80% of the national cattle herd. Due to overstocking and limited use of land management practices, the condition of the rangelands is terribly over-grazed. In addition to over-grazing, the rangelands are located in arid and semi-arid areas, which are fragile ecosystems. Overgrazing amidst fragile ecosystems is a serious problem, which has led to soil compaction, gully erosion, and the emergence of low-value invasive vegetation with subsequent declines in carrying capacity and thus productivity of the land. There is no coherent rangelands policy that addresses the broad range of environmental issues such as land tenure, immigration of people from densely populated areas, and transhumance of pastoralists.

d. Poor farming practices

The frequency and duration of land rest periods (fallows), which can arrest the decline of soil fertility, has decreased because of smaller farm sizes due to increasing population pressure. The situation is further exacerbated by low external input use and limited use of land management practices. Very few farmers apply fertilizers. Chemical fertilizer use declined ten fold between 1962 and 1980 to almost zero except in large estates. Between 1990 and 1995, only 6,000 tons of fertilizers were imported into the country (none are produced locally) and most of that (95%) was used on the estates (Nkonya et al., 2004), implying that the majority of smallholder farmers do not use fertilizers. Even in projects providing micro-finance for agriculture, small-scale farmers have not used the credit to purchase fertilizer. Today fertilizer usage in Uganda is said to be one of the lowest in the world; though it is one of the most likely technologies to improve soil fertility (Pender et al., 2001). The average inorganic fertilizer application is 1 kg fertilizer nutrients ha^{-1} $year^{-1}$, which compares unfavorably with 46 kg ha^{-1} $year^{-1}$ for Kenya and 578 kg ha^{-1} $year^{-1}$ for the Netherlands (FAOSTAT, 2002).

Non-use of fertilizers adds to different forms of land degradation (removal of natural vegetation, soil physical degradation, soil fertility depletion, wind and water erosion), but also negatively affects biodiversity and actual and potential carbon sequestration (Smaling et al., 2006). Low external input use and continuous cultivation has lead to a situation of severe nutrient mining. According Henao and Baanante (2006), nutrient mining is a major problem in the African agricultural lands.

e. Drought

Drought is the consequence of a reduction in the amount of rainfall over an extended period of time often associated with other climatic factors, such as high temperatures, high winds and low relative humidity, that can aggravate the severity of the event (Sivakumar and Stefanski, 1997).

In Uganda, drought is a serious production constraint in rangelands. In these areas semi arid and dry sub humid conditions prevail. They also experience erratic rainfall patterns, receive rainfall ranging between 500-800 mm/ annum where drought is a common recurrent phenomenon. Drought contributes to desertification. Widespread reliance on rain-fed agriculture, subsistence farming and pastoralism, poor crop and animal husbandry practices, water scarcity and population pressure contributes to vulnerability to drought. Ultimately, areas characterized by low rainfall and high temperatures, heavy land use and lack of conservation measures succumb to desertification. According to the UNCCD, desertification is defined as land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors including climatic variation and human activities; Uganda's dry lands occupy what is referred to as the "cattle corridor", an area stretching from the North–East through Central to the South–West of the country (Figure 3).

f. Land tenure

Land tenure refers to the terms and conditions under which access to land rights are acquired, retained, used, disposed of, or transmitted. Land tenure security can influence land management, because it may affect farmers' incentive or ability to invest in land improvements (Nkonya et al., 2004; Kisamba-Mugerwa, 2001). Farmers holding land under insecure tenure are not likely to invest in costly and long-term land management investments (Nkoya et al., 2004). Four major land tenure systems, namely customary, freehold, leasehold, and mailo, are recognized by the Land Act of 1998 (Republic of Uganda, 1998).

Holders of land under some of these tenure systems do not have tenure security. For example, about 60% of holdings in the mailo tenure system are under the kibanja form of tenure, for which the holder operates land on a freehold basis without ownership title and without paying rent. The customary type of ownership (18% of holding area) is one in which individual ownership is not recognized, but rather the right of using the land is allocated by the traditional authorities. Uncertainty about land tenure systems has prevented a large number of farmers from investing in their land.

In a recent study for Northern Uganda (World Bank, 2008) the following recommendations on how to address the issues pertaining to tenure insecurity were made:(a) customary tenure be codified so that it can be used for legal precedent in case of litigation; (b) customary tenure has its own capacity to evolve and eventually move onto registration and therefore certification and registration should not be forced on the local populace; (c)the legal processes and procedures for registration and certification need urgent reform as they are at risk of being used by individuals for land grabbing; and (d) the first point of jurisdiction for dispute resolution and land administration over customary tenure should rest with traditional institutions (clans) and to the extent possible these

institutions need to be integrated into the statutory land administration.

g. Land holdings/ ownership/ gender

Most cropland in Uganda is cultivated by small-scale farmers, with farm sizes averaging 2 ha of land (Kisamba-Mugerwa, 2001). Approximately 85 percent of the country's population lives in rural areas and depends on agro-pastoralism for its food and income (NEMA 2001). The farms and often the individual fields are commonly divided amongst the sons as land is inherited, leading to increasing fragmentation of land holdings. Sub divisions eventually lead to individual pieces of land becoming sub-economic (Kisamba-Mugerwa, 2001). The farmers are mostly poor, with few resources and numerous production constraints leading to low yields. Women and children provide most of the agricultural and use simple hand tools.

In 1911, per capita land holding in Uganda was about 8 hectares but currently it is estimated to be less than 1 ha, a decrease of about 90% in period of 9 decades. This is a clear manifestation of population growth. Population growth and small farm sizes have an implication on land use. Continuous cultivation, intensification and changing the cropping systems are some of the outcomes of this development. Apparently, soil erosion is greater on smaller farms and some of the intensive practices used on the smaller farms tend to increase soil erosion. Land fragmentations has serious implications on land ownership, especially regarding women, and level of investment in land management practices

h. Policy

Lack of coordination of government actions on land has been one of the underlying causes of land degradation. A major constraint to restoring soil fertility and land in general has been the common belief that Uganda is endowed with some of the best soils and lands in Africa. This has resulted in low priority being given to addressing the issue at policy, research and extension levels, as well as by donors. Consequently, one important constraint is, besides the insufficiency of funds, the absence of a framework to integrate and coordinate soil fertility and land management related activities, including policy formulation and public investment in land across the country.

i. Climate variability and change and Land Degradation

Highly degraded areas are more prone to the effects of climate variability and change because those areas have lost/reduced resilience. Climate variability and change is expected to have adverse impacts on the existing and potential development activities in Africa (Ottichilo et al., 1991). It affects the bio-productive system on which most economic investments in Africa are based. The impacts of increased temperature and decreased rainfall have been projected to cause shifts in vegetation zones which is likely to be felt in the various sectors of the economy such as agriculture, tourism and industry. According to the World Bank (2000) people living in poverty are more susceptible to climate variability and change. As a consequence, Uganda, with at least 38% of its population still living below the poverty line and deriving their livelihood largely from agriculture, climate variability and change poses serious concerns. Uganda, like most African countries, remains vulnerable to the effects of climate change since agriculture depends primarily on climate. Under the current situation of climate change which has a big influence on economic and ecological issues, the condition of vulnerable social groups like women and children in Uganda and most African countries is likely to worsen.

j. Trade and Land degradation

The competitiveness of developing countries has also been undermined by unsustainable farming practices which are often associated to the production of export commodities. Indeed, in view of the limited opportunities for value-addition and diversification, increased revenues are likely to be triggered by quantity rather than quality. The focus on raising agricultural production for exports can lead to i) inefficient and wasteful use of land and water resources, ii) inappropriate crop intensification, iii) use of farm machinery and agronomic practices that are not suitable for local soil and water conditions, and iv) expansion of agriculture on to marginal lands which are not capable to sustain food production and where small farmers are forced to adopt unsustainable farming practices[1].

1 "Promoting Sustainable Land Management through Trade: Examining the Linkages between Trade, Livelihoods and Sustainable Land Management in Degraded Areas", the Global Mechanism and ICTSD 2007"

Annex IV

Institutional mapping – Stakeholder Matrix Showing Ministries, Institutions and Departments Relevant to SLM (Partly adapted from NCSA-NEMA/UNEP 2007) UGANDA

Ministry or Institution	Mandate	Roles and interests
1.Ministry of Finance Planning and Economic Development	Formulate macro-economic policies and mobilize and allocate financial resources for management of natural resources	• Formulate relevant macro-economic policies • Allocate funds, general mobilization of funding and coordination of donor inputs into management of NRs • Provide economic and financial incentives and disincentives for MEAs implementation
1.1 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	• 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
2. 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	• Provide technical assistance to districts on sustainable agricultural management • Formulate and review relevant agricultural policies, standards and guidelines • Houses 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 utilization 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 • Has overall responsibility for NAADS and NARO – semi autonomous bodies
2.1 National agriculture Research Organization (NARO)	Undertake, promote and coordinate research and technology transfer in all aspects of crop, livestock, fisheries and forestry.	• Develop agricultural, livestock, and fodder technologies • Disseminate the above technologies to agricultural and pastoral communities • Develop and disseminate appropriate post-harvest technologies
2.2 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	• 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

Ministry or Institution	Mandate	Roles and interests
2.3 PMA Secretariat	Eradicate poverty by transforming subsistence agriculture to commercial agriculture	• 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 • Develop infrastructure
2.4 Planning Department		
2.5 Directorate of Crop Resources	Initiate and formulate policy on crop production, farm development, and crop protection and regulation. Develop and modernize the sector through improved use and conservation of land resources as well as development of appropriate technologies and techniques.	• Crop production and protection management • Guide farm development • Guide regulation of the crop resources
2.6 Department of Farm Development	Guide, support and promote the activities related to farm development in the sector	• Watershed management including soil and water conservation; irrigation and drainage • Farm planning and systems development • Agricultural engineering • Water for agricultural production • Farm structures • Farm energy
2.7 Department of Animal Production and Marketing	Promote, support and guide animal production and marketing	• Ensure production and marketing of dairy and meat • Ensure animal nutrition • Ensure public health and marketing
2.8 Department of Animal Health & Entomology	Support, promote and guide all livestock health and entomology	• Ensure national livestock disease control • Ensure national veterinary inspection and regulation • Ensure livestock vector control
2.9 Dept. of Crop Protection	Guide, support and promote the activities related to crop protection in the sector	• Crop regulations and certification • Crop diagnosis and epidemiology
2.10 Dept of Crop Production	Promote, support and guide crop production on the sector	• Initiate and formulate policies • Render services for increased productivity of farm and farm labor • Advise and guide on improved and appropriate production and marketing technologies to farmers, producers and buyers
2.11 Uganda National Farmers Federation (UNAFFE)	Coordination of farmers' activities in Uganda	• Promotion of sustainable farming practices • Due to their strategic office set up at the districts, coupled with partnerships and affiliation with other institutions (e.g. MAAIF), UNAFFE and ACU provide an important plat form for SLM initiatives to reach the grassroots population
2.12 Agriculture Council of Uganda (ACU)	ACU is set up by the private sector to promote constructive dialogue with government, parliament, and local authorities	
2.13 National Coordinating Body (NCB)/ the National Steering Committee (NSC) for UNCCD/ NAP Task forces	Ensure the tasks are accomplished in order to support SLM and prevention of land degradation	• Mainstreaming NAP into planning frameworks • Developing a rangelands policy • Capacity building
2.14 Key CSOs/ NGOs	Conduct advocacy campaign to government so that there is effective accountability	• Advocacy research • Advocacy campaign • Enforcement to ensure compliance of agreed mandates.

Ministry or Institution	Mandate	Roles and interests
3. Ministry of Water and Environment (MWE)		• Responsible for sustainable forest and woodland management activities and for integrated watershed management • Responsible for development of water resources for production • Overseas NFA and NEMA
3.1 National Environment Management Authority (NEMA)	Coordinate, monitor and supervise all matters of environment in the country	• 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
3.2 National Forestry Authority	Manage and coordinate sustainable management and utilization of all forestry resources	• Coordinate sustainable management and utilization of all forestry resources • Ensure compliancy with the national development strategy on poverty eradication • Advise on afforestation and reforestation • Provide policy guidelines for collaborative management • Provide guidelines for sustainable energy use and production from biomass
3.3 Directorate of Water Resources Management (DWRM)	To manage and conserve water resources for the present and future generations	• 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
3.4 Directorate of Environmental Affairs	Promote and ensure effective coordination, and collaboration of Environment, Meteorology (Weather and Climate) and Climate Change; Forestry and Wetlands sub-sectors for sustainable development. Monitoring of the autonomous and semi-autonomous bodies under MWE to ensure effective operations.	• Formulate national policies, standards and legislation for environmental management • Coordinate and supervise national projects of environmental management • Monitor the performance of the divested Authorities under the Ministry • Coordinate environmental issues of the various government ministries • Inspect, monitor and coordinate the activities of Local Governments • Provide technical advice, support supervision, and training to Local Governments personnel as required • Mobilize support and resources for environmental management • Liaise with regional and international environmental agencies and processes • Provide technical advice to top management of the Ministry on matters concerning NEMA and NFA and Natural resources management.

Ministry or Institution	Mandate	Roles and interests
3.5 Department of Meteorology	Monitor weather and climate, exchange data / information and products and issue advisories	• 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
3.6 Department of Rural Water and Sanitation	Provision and maintenance of adequate supply of water for human consumption and other uses in rural areas, by local governments in liaison with the Directorate of Water Development.	• Support to LGs, private sector and NGOs in the provision of water and sanitation services and implementation of water resources management activities is carried out in integrated way. • Carry out DWD mandate of quality assurance, regulation, monitoring and evaluation, policy review, enforcement of standards etc. • Ensure policies and guidelines set by Central governments are responding to the needs of the water users. • Provide a spring board for future for effective decentralization of water resources management to appropriate levels. Sensitization, mobilization and training will be key. • Comprehensive data base / information system is put in place and available to users at different level depending on the need and sensitivity of the information. Information is accurately collected to feed the databases
3.7 Department of Forestry Support Services	Manage all Central Forest Reserves on a sustainable basis. Supply high quality forestry-related products and services to Government and the private sector on a contractual basis(The National Forestry and Tree Planting Act 2003)	• Conduct research , formulate national policy , strategies and plans for the management of forests • Coordinate and supervise national projects on forestry management. • Monitor the performance of National Forestry Authority and other agencies for effectiveness in implementation of the national polices, plans and standards for forestry management. • Inspect and monitor activities of the Local Governments in forestry management. • Provide technical support, advise and training to local governments. • Mobilize support and resources for forestry management including the National Forestry Plan. • Liaise with international environment agencies • Coordinate environment issues of various Government institutions and other agencies.
3.8 Department of Environment Support Services	Management of the environment and shall coordinate, monitor and supervise all the field of the environment (The National Environment Act 1995)	• Conduct research ; formulate national policy , strategies and plans for Environment management. • Coordinate and supervise national projects on environment management • Monitor the performance of National Environment Management Authority and other Agencies for effectiveness in implementing the national policies , plans and standards for Environment Management. • Inspect and monitor the activities of Local Government in environment management • Provide technical advice and support to Local Governments • Mobilize support and resources for environment management • Liaise with international environment agencies. • Coordinate environmental issues of the various Government institutions and other agencies.

Ministry or Institution	Mandate	Roles and interests
3.9 Wetlands Services Department	Ensure conservation, wise use and protection of wetlands in Uganda through increased appreciation and effective management, as a means to achieving sustainable development throughout the country.	• Conduct research; formulate national policy, legislation, standards, strategies and plans for management of wetlands. • Coordinate and supervise national projects on wetlands • Inspect and monitor the activities of local governments in wetlands management • Provide technical advice, support and training to local governments. • Mobilize resources for wetlands management including NWS strategic plan. • Liaise with international wetlands agencies • Coordinate and build the capacity of various Government institutions and other agencies to deal with wetlands issues within their jurisdictions. • Undertake monitoring and inspections of wetlands.
Environment and Natural Resources Sector Working Group	Ensure sustainable use and management of the environment and natural resources	• 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	• Develop infrastructure relevant to MEAs • Invest in technologies relevant to MEAs • Create alternative employment opportunities
4. Ministry of Lands Housing and Urban Development (MLHUD)	Ensuring security of land tenure and productive use of land resources	• In-charge of land administration, which includes land registration and the development of a Land Information System • Has been in-charge of developing a National Land Policy
4.1 Department of Planning & Quality Assurance	To harmonize and coordinate strategic sector plans, sector budgeting, resource mobilization, Monitoring & Evaluation, Quality Assurance, Development of statistical information of the sector Ministry	• Rational and sustainable utilization, development, effective management of land resources for social welfare and economic development
4.2 Department of Surveys & Mapping	To provide policy and legal framework for conducting national surveys, mapping	• Establishment of survey controls, survey of international boundaries, production and printing of topographic and thematic maps
4.3 Department of Land Registration	To process land related documents, register land dealings and issue land titles	• More equitable distribution of land access and ownership, and greater tenure security for vulnerable groups • Availability, accessibility, affordability, and use of land information for development
4.4. Department of Land Administration	To inspect and provide guidance to land administration institutions and provide timely and reliable valuation services to support various Government programmes	• Transparent, accountable and easily accessible institutions and systems for decentralized delivery of land services • Democratic and decentralized land administration with structures that are transparent and accountable that will ensure that land services are readily available and accessible to the majority of people so that the desired impact on poverty reduction and protection of the vulnerable can be attained.
4.5 Department of Physical Planning	Ensure a harmonized National, regional and urban physical planning	• National land use policy and National Land Use Plan in place
4.6 Department of Land Use, Regulation and Compliance	To ensure compliance with the recommended Land Uses	• National land use policy and National Land Use Plan implemented and complied with • Sustainable and productive use of land and based resources

Ministry or Institution	Mandate	Roles and interests
4.7 Department of Urban Development	To promote orderly and organized urban development	• A safer urban environment and sustainable urban livelihoods
5. 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	• 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
5.1 Department of Finance and Administration	To ensure effective and efficient Financial and Administrate support services to all Ministry Departments and staff.	• Financial management and accounting • Administration, personnel services and human resources development. • Supplies and facilities management • Planning and Budgeting. • Resource Centre.
5.2 Department of Energy Resources	To promote and co-ordinate the development of energy resources, ensure adequate supply of energy and promote efficient utilization of energy for social and economic development. Roles and functions	• Formulation and review of national policies on energy • Preparation of national plans for development, supplies and utilization of energy resources. • Identification of suitable new energy sources to be developed for use in Uganda. • Mobilization of finances and technical assistance for the development of the energy resources. • Co–ordination and supervision of government energy development projects. • Co-ordination of plans and activities of Local Governments in relation to energy. • Promotion of energy sources development and co-ordination of effort of various institutions involved in this function • Provision of technical assistance to Local Governments in energy-related activities. • Provision of technical assistance as may be required by various institutions involved in energy resource development • Monitoring and advising on energy supplies to ensure sufficiency and availability. • Making forecasts of petroleum products requirements in the country, and working out strategies for satisfying the requirements • Monitoring and guiding utilization of energy in the country to promote and ensure efficiency and compliance with policies ,standard and plans, and also to minimize wastage as well as the degradation of the environment; • Inspection, monitoring and co-ordination of the activities of Local Governments in the area of energy development, utilization and conservation, and where necessary providing technical assistance and support supervision or training ,to ensure implementation of national policies and adherence to performance standards relating to energy ; • Initiation of policy on atomic energy. • Maintaining an up-to-date information base on energy resource ;and • Controlling and managing disasters caused by or related to energy resources.

Ministry or Institution	Mandate	Roles and interests
5.3 Department of Geological Surveys & Mines	To promote and ensure rational development and utilization, in a safe and sustainable environment of the mineral resources for the socioeconomic enhancement of the people of Uganda.	• The geosciences Data Division preserves and disseminates the geosciences data of the department. Through documentation, cartography and computer sections • Laboratory Division collects/receives raw data and samples. It analyses and processes the same for interpretation. • Maintains a body of expertise that can use this data to advise the government, the private sector and the general public. • To carry out investigations and promotional activities to attract investment in exploration and development of mineral resources. • To carry out engineering geology investigations and monitor earthquakes and other related natural disasters such as landslides and volcanoes and advise on remedies. • To provide active and effective and reliable laboratory services in the mineral sector for institutional and public use; • And to administer the Mining Act and Regulations, and provide advisory services to miners and mining methods and environmental protection.
5.4 Department of Petroleum Exploration & Production	To promote petroleum exploration n the country by attracting companies to invest in the sector	• To promote investment in petroleum exploration and production by packaging and disseminating preliminary exploration data • Monitor and regulate petroleum exploration operations undertaken by oil companies in the upstream sub sector. • Participate in the geophysical, geological and geochemical data acquisition, processing and interpretation n order to asses the petroleum potential of the Country. • Initiate policy and legislation on petroleum exploration and development ; and • Build national I institutional capacity in the field of petroleum exploration and development.
5.5 Department of Petroleum Supplies		
5.6 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	• 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
6. Ministry of Tourism Trade and Industry (MTTI)	To formulate and support strategies, plans and programs that promote and ensure expansion and diversification of tourism, trade, cooperatives, environmentally sustainable industrialization, appropriate technology, conservation and preservation of national natural and cultural heritage, to generate wealth for poverty eradication and benefit the country socially and economically	• Formulate appropriate trade, tourism and industry policies • Development of a National Trade Sector Development Plan • 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
6.1 Uganda Wildlife Authority	Manage wildlife and wildlife protected areas of Uganda	• 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

Ministry or Institution	Mandate	Roles and interests
6.2 Department of Trade		Internal Trade • Formulate and implement specific sectoral policies necessary for prudent management of a liberal economy, such as competition and consumer protection policies • Encourage and foster collective action through, inter alia, the development and strengthening as well as diversification of cooperatives • Strengthen the district commercial offices, through provision of sufficient technical, human and financial resources. • Design and implement appropriate strategies to promote value addition, production of high-value-low volume products, and niche marketing • Encourage the use of local materials in the production process with a view to stimulating growth in local production sectors • Encourage the consumption of locally produced goods and services • Harmonize local taxation and licensing policies and practices with national trade development priorities, with a view of eliminating double/ multiple taxation External Trade • Enhance the capacity of the country to engage in trade negotiations • Develop and implement measures and strategies to enhance participation of Uganda's service industry in international (services) trade • Pursue regional economic integration with a view to increasing effective market access opportunities for Uganda's goods and services • Work within the multilateral trading system to ensure that Uganda's economic and commercial interests are an integral part of its work program and outcomes
6.3 Department of Industry and Technology		• Establish, revive, and strengthen leading policy implementing institutions, to ensure effective coordination of all policy implementation initiatives • N collaboration with the private sector, develop and upgrade infrastructure to facilitate industrial transformation • Create national capacity for innovation, science and technology to ensure sustainable industrial transformation • Promote quality and application of standards in manufacturing industry to ensure sustainable industrial output for both local and export markets

Ministry or Institution	Mandate	Roles and interests
6.4 Department of Tourism, Wild Life and antiquities		• Promote and market Uganda as a competitive and favorite tourist destination on the global and domestic tour and travel market • Identify, protect and develop the natural, artificial, cultural and heritage attractions into tourism products that attract tourist visitors • Develop and enhance the human resource capacity in the tourism sector into a dynamic and competitive resource able to attract and serve the growing tourist demand • Regulate and plan for the growth of the tourism sector by providing an enabling legal framework, sector regulations, and cultivating public private sector collaboration • Promote tourism investment through the provision of information, incentives, and development of the investment opportunities in Uganda • Assure, harmonize and enhance the quality of tourism services to internationally acceptable standards in the country • Mainstream tourism development in all social and economic sectors thereby equitably spreading the benefits of tourism, promoting employment and growth.
6.5 Department of Co-operative Development		
7. Ministry of Local Government	Guide, harmonize, mentor and advocate for all Local Governments	• 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
8. 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	• 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
9. Ministry of Education and Sports	Provide for, support, guide, coordinate, regulate and promote quality education and sports to all persons in Uganda for national integration, individual and national development	• Formulate national policies on education and sports • 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
10. Ministry of Gender and Social Development	Coordinate, monitor and review the formulation of gender responsive policies and their implementation within sectors	• 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

Ministry or Institution	Mandate	Roles and interests
11. Prime Minister's Office 11.1 Department of Pacification and Development	Ensure peace, reconciliation, conflict resolution, rehabilitation and development in Karamoja, northern Uganda and Luwero Triangle	• 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
11.2 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 standards, while safeguarding the local and national interests	• 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 • 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
12. Academic Institutions	Provide quality teaching, research and offer professional services to meet the changing needs of society	• 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	• 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	• Develop infrastructure relevant to MEAs • Invest in technologies relevant to MEAs • Create alternative employment opportunities
NGOs	Effective participation in activities addressing land degradation, desertification, environmental conservation and mitigating effects of Drought in Uganda	• Community mobilization • Create awareness on ENR issues in Uganda • Awareness and training of CBOs and local people on MEAs issues • Lobby and advocate for MEAs issues
District level	Mandate	Potential role
Department of Production and Environment	Ensure sustainable management of the environment and natural resources	• Prepare the District Environment Action Plan • Coordinate and monitor ENR management in districts • Sensitize 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	• 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	• Training pastoralists in livestock management • Promoting pasture management and conservation • Address livestock overstocking • Promote livestock improvement

Ministry or Institution	Mandate	Roles and interests
Department of fisheries	Contribute to sustainable alleviation of poverty and food insecurity in the districts	• 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	• 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	• Formulate the district development plan • Monitor implementation of sectoral policies and plans in the districts
NEPAD		
CAADP	A strategic framework which guides country development efforts and partnerships in the agricultural sector.	• Designating agriculture-led growth as a main strategy to achieve the MDG of halving the proportion of people living on less than a dollar a day (MDG 1) • Pursuing a 6 percent average annual growth rate at the national level • Allocating 10 percent average annual sector growth rate at national level • Exploiting regional complementarities and cooperation to boost growth • Adopting the principles of policy efficiency , dialogue, review, and accountability, shared by all NEPAD programs • Strengthening and expanding partnerships and alliances to include farmers, agribusiness, and civil-society communities • Assigning program implementation to individual countries, coordination by designated Regional Economic Communities (RECs), and facilitation by the NEPAD Secretariat
TerrAfrica	Partnership between African countries, regional organizations and international actors	• Directly supports implementation of CAADP and UNCCD agendas • Provides a common platform for aligning investments and knowledge by supporting program based approaches to scale up SLM
IGAD Secretariat	Facilitate and coordinate implementation of the IGAD Sub-Regional Action Plan to combat desertification	• 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 mobilization to support NAP and SRAP implementation processes • Mobilize resources for implementation of the IGAD SRAP

Ministry or Institution	Mandate	Roles and interests
IGAD Climate Prediction and Application Centre	Monitor drought in a timely manner with respect to its intensity, geographical extent, duration and impact upon agricultural production and to give early warning for the formulation of appropriate strategies to combat its adverse effects	• Develop regional and national controlled climate data banks • Data processing including development of basic climatological statistics • Timely acquisition of near real time climate data • 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 • Organization of climate outlook for the Greater Horn of Africa countries
The Global Mechanism	To promote actions leading to the mobilization 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	• 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	• 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

Annex V

Schedule of activities, Key Inputs, Responsible Institution and Indicative Costs

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
Theme 1: Supporting on-the-ground activities for scaling – up SLM (Investment)				
1.1Watershed Management Practices promoted and degraded sites/ micro-catchments rehabilitated	1.1.1 Develop capacity/ Empower communities to rehabilitate selected degraded Catchments / sites	1.1.1 Assess capacity for multi-stakeholder management of watersheds; Build capacity and systems for multi-stakeholder management of micro-watersheds;	MWE	4,850
	1.1.2 Develop and implement participatory micro-watershed management plans	1.1.2 Develop and implement at least 15 Participatory micro-watershed management plans in 10 years; Train communities in the restoration of degraded sites; Undertake restoration or rehabilitation of at least 10 degraded sites/ micro-watersheds; Prepare information for dissemination	MWE	7,750
	1.1.3 Strengthen community based investment in afforestation and reforestation	1.1.3 Establish 60 tree growing community groups in pilot areas; group dynamics training; Establish 60 tree nurseries in targeted zones; Pilot tree growing and engagement in the carbon trade as incentives	MWE	7,375
	1.1.4 Promote transition to catchment based water resources management	1.1.4 Develop capacity at the grassroots in catchment based water resources management; Support catchment based initiatives	MWE	3,500
1.2 Conventional Soil and Water Conservation practices promoted	1.2.1 Scale out soil and water conservation practices in target areas	1.2.1 Procure field equipment for S&WC; train local artisans in the fabrication of simple S&WC field equipment; Conduct Training of Trainers sessions in target areas; Scale out Conservation agriculture; contour bunds; grass bunds; runoff harvesting, etc in target zones (See Table 2 for targets)	MAAIF	40,500
	1.2.2 Undertake Community driven micro-projects in S&WC	1.2. 2 Develop guidelines for identifying micro-projects in S&WC; Identify 60 fundable micro-projects; Sensitize communities on available opportunities for community projects; Implement the identified micro-projects in SLM	MAAIF	8, 850

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
1.3 Incentive Mechanisms for scaling up SLM / for SLM adoption promoted	1.3. Establish and operetionalize links with Carbon Markets	1.3.1 Establish links with private and public payments for environmental services (PES)	MWE & NGOs Eco-agriculture; Katoomba Group	1,500
		1.3.2. Promote participation in Clean Development Mechanism (CDM) for applicable SLM activities; Link communities to Carbon , REDD incentives / markets/ mechanisms [– Clean Development Mechanism (CDM) and Voluntary Carbon Markets (VCM)]	MWE & NGOs Eco-agriculture; Katoomba Group	650
		1.3.3 Advocate for government involvement in carbon negotiations/ carbon incentives (to reduce operational costs and negotiate for better prices)	MWE & NGOs Eco-agriculture; Katoomba Group	550
1.4 Biomass energy / charcoal saving technologies promoted	1.4.1Promote efficient kilns in charcoal production	1.4.1 Procure materials; Train 150 local artisans in the construction of efficient kilns; disseminate info.	1.1 MEMD & Private Sector	2,500
	1.4. 2 Promote energy saving stoves in homesteads and institutions.	1.4.2 Procure materials; Train 200 local artisans in the construction of efficient stoves; disseminate info.	MEMD & Private Sector	2,300
	1.4.3 Promote gasification	1.4.3 Procure materials; Train 200 local artisans in the construction of gasification structures disseminate info.	MEMD & Private Sector	1.700
	1.4.4 Promote establishment of woodlots at individual and community levels	1.4.4 Train communities; establish quick maturing tree species suitable for firewood; strengthen capacity of 60 groups / community nurseries	MEMD & Private Sector	2,250
1.5 Water supply (for production and domestic uses) to pastoral communities improved	1.5.1 Promote water harvesting technologies/ practices (water for domestic, livestock, irrigation etc)	1.5.1 Procure materials and construct; household and institutional rainwater harvesting/ ferro-cement tanks demos; Train 200 local artisans in the construction of household and institutional ferro-cement tanks; Provide incentives for private sector participation	MAAIF & MWE	5,600
	1.5.2 Construct valley tanks to harvest run-off	1.5.2 Procure materials for valley tanks; Construct valley tanks / large surface run-off harvesting resovoirs (300M^3) lined with HDPE dam liners; train local artisans in the construction of valley tanks and harvesting runoff from roads, roofs; huge rocks etc; conduct training of trainers. Provide incentives for private sector participation	MAAIF & MWE	10,000

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
1.6 Small scale irrigation practices promoted	1.6.1 Establish small scale irrigation demonstrations (utilizing run-off /harvested water)	1.6.1 Procure small scale irrigation equipment for pilot areas; Conduct training in irrigation and water management (farming communities; herdsmen and extension agents)	MAAIF	7,800
	1.6.2 Promote harnessing of water from permanent and semi-permanent sources	1.6.2 Organize 90 farming communities around permanent /semi-permanent water bodies; Encourage and provide incentives to private sector to invest in provision of water services; train communities in water harnessing techniques	MAAIF	5,800
	1.6.3 Establish water utilization infrastructure (watering points, water delivery piping) from water sources	1.6.3 Procure materials for simple water delivery from 90 water sources (piping materials; drinking troughs etc); establish demos; train farmers; herdsmen in installation etc	MAAIF	7,500
	1.6.4 Promote diversification	1.6.4 Support -. value chains which do not increase pressure on land (e.g. pineapples, vanilla, NWFPs); value chains which may contribute to increase food security (e.g. maize, beans, cassava - staple food); non-traditional sectors (e.g. livestock and related products); services: e.g. eco-tourism	MTTI	3,500
Theme 1 Sub total				124,475
Theme 2 : Strengthening the enabling institutional and policy environment for SLM				
2.1 Capacity of UNCCD / NAP Focal Point strengthened to coordinate, monitor and supervise SLM activities	2.1.1 Establish SLM Secretariat	2.1.1. Hire assistants / staff ; office rental; recurrent costs	2.1 MAAIF – UNCCD Focal Point	4,800
	2.1.2 Strengthen Capacity of UNCCD National Focal Point Office	2.1.2 Assess capacity needs for project coordination; Strengthen the infrastructure and equipment capacity of the national focal point office; Strengthen human capacity; procure vehicles; Vehicle O&M etc; Office Recurrent expenses	2.1 MAAIF – UNCCD Focal Point	3,500
	2.1.3 Establish the project coordination framework	2.1.3 Develop and implement project annual work plans and budgets; Develop and implement project management systems and procedures; Establish the network of project stakeholder institutions (governments institutions, NGOs, LGs; CBOs, etc);Carry out a capacity assessment of stakeholder institutions; Implement capacity building plan for approved stakeholder institutions	2.1 MAAIF – UNCCD Focal Point	1,350
	2.1.4 Support Inter-Ministerial Technical Working Committee	2.1.4 Facilitate meetings; local and international travel; recurrent expenses; Advocacy expenses	2.1 MAAIF – UNCCD Focal Point	850
	2.1.5 Support SLM Platform	2.1.5 Facilitate meetings; local and international travel; recurrent expenses; Advocacy expenses	2.1 MAAIF – UNCCD Focal Point	2,250
	2.1.6 Support National Steering Committee	2.1.6 Facilitate meetings; local and international travel; recurrent expenses; Advocacy expenses	2.1 MAAIF – UNCCD Focal Point	1,500
	2.1.7 Strengthen the institutional implementation framework	2.1.7 Assess capacity needs for institutions/ nodes coordination; Develop and implement project management systems and procedures; Equip implementation units/ nodes at national and district levels;	2.1 MAAIF – UNCCD Focal Point	3,500

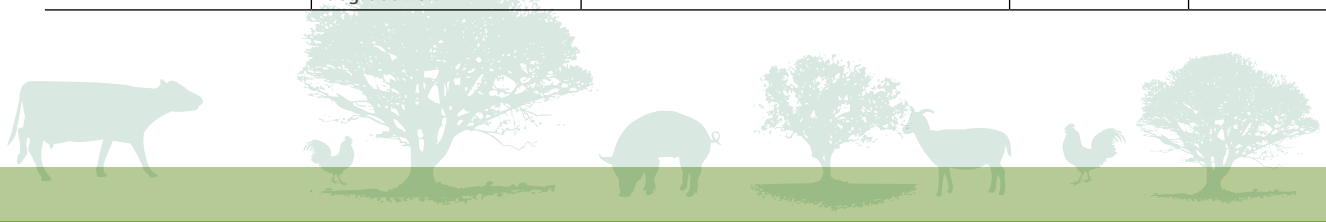
Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
2.2 Capacity of institutions; LGs, CSOs etc to plan, implement and monitor SLM improved	2.2 Strengthen capacity of institutions at all levels (LGs; CSOs; etc) to plan, implement, monitor SLM interventions	2.2 Human and infrastructure development – staff training (short and long term); computers; network expansion etc; recurrent expenses	2.2 MAAIF – UNCCD Focal Point	3,500
2.3 Priority SLM issues mainstreamed into development frameworks and action plans	2.3.1 Mainstream SLM into sector and national development frameworks (DSIPs and NDP)	2.3. 1 Prepare guidelines for mainstreaming SLM issues into DSIPs, and NDP; Train stakeholders on skills for mainstreaming; Mainstream during the 5 year planning cycle.	2.3.1 MWE, MAAIF, MEMD, MTTI, MLHUD	500
	2.3.2 Strengthen SLM mainstreaming, development and implementation of DEAPs & SEAPs with integrated SLM issues	2.3.2 Prepare guidelines for mainstreaming SLM issues into DSIPs, SEAPs, DDPs; Train stakeholders on skills for mainstreaming; Lobby district councils and department to mainstream SLM into DDPs and DEAPS; Promote partnerships with NGOs and other actors to operationalize the DEAPs	2.3.2 Local government & NEMA	1,800
2.4 Climate/ climate variability and Change monitoring system improved	2.4. Strengthen capacity for climate monitoring	2.4 Human and infrastructure development – staff training (short and long term); procure vehicles; computers; network expansion etc; Rehabilitation of old climatic stations; Collection, analysis and archiving / digitizing historical climatic data scattered at various climatic stations	2.4 MWE – Met Dept.	6,500

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
2.5 Vulnerability to climate change / variability reduced	2.5.1 Strengthen capacity in early warning systems (Short term and medium term weather and climate forecasts - drought, floods etc)	2.5.1 Capacity development (short term and long term training); procure computers and soft wares; Develop low cost early warning systems, contingency and decision support systems; Info. Dissemination mechanisms including sensitization of end-users of weather and climate information.	2.5.1 MWE – Met. Dept.	2,550
	2.5.2 Develop capacity in early warning systems (food security / forecasts etc)	1.1.2 Human capacity development for the Early Warning Unit /Centre(short and long-term training); Infrastructure development for the Early Warning unit /Centre (computers; software etc); Collection, archiving and analysis of data; Build knowledge base (IK) of adaptive capacity/ strategies by communities; Info. dissemination mechanisms	2.5.2 MAAIF – Early Warning Unit	1,200
	2.5.3. (a) Support implementation of the National Climate Adaptation Program of Action (NAPA)	2.5.3 (a) Coordinate implementation of NAPA projects within line ministries and Institutions; Monitor gaps and strengths in NAPA implementation; Pilot NAPA subprojects in pilot villages known as the millennium development villages (NAPA villages)	2.5.3 (a) MWE – Climate Change Unit/ UNFCCC Focal Point	500
	2.5.3 (b) Upgrade the NAPA to cover medium to long-term national climate change adaptation	2.5.3 b) Review the NAPA, and update with a view to putting n place a revised NAPA. Roll out NAPA implementation to the rest of districts in the later years.	2.5.3 (b) MWE – Climate Change Unit / UNFCCC Focal Point	250
	2..5.3 (c) Support implementation of the National Action Plan on Desertification (NAP)	2.5.3 Support UNCCD Focal point Office to coordinate NAP and SLM activities	2.5.3 (c) MAAIF – UNCCD Focal Point	300
	2.5.4 Develop stakeholder capacities to address climate change at all levels	2.5.4 Train end users on various adaptation methodologies as well as mitigation options; develop capacity in Mitigation projects' implementation including CDM projects and adaptation options. Pilot demonstration projects on Climate change adaptation and mitigation increasing overall awareness.	2.5.4 MWE – Climate Change Unit/ UNFCCC	1,300
	2.5.5. Promote information dissemination / awareness on Climate & climate change	2.5.5 Involve the media in promoting climate change and variability awareness including mitigation and awareness. Support communities to apply weather and climate information for adaptation and early warning. Disseminate weather and climate information through the media.	2.5.5 MWE – Met Dept./ Climate Change Unit	500
	2.5.6 Develop emergency response plans	2.5.6 Strengthen contingency planning and funding; Formulate response strategies; Mainstream SLM into disaster management and emergency response strategies and operations;	2.5.6 PM Office	570
2.6 Policies and regulatory frameworks relevant to SLM harmonized	2.6 Harmonize and update sector policies, legal and regulatory frameworks	2.6 Identify/ Review SLM policies, laws and regulations and propose areas for updating (with emphasis on bye-laws and or grass root regulations); Train LC to make bye-laws from existing policies ; Carry out stakeholder sensitization/ consultations at all levels; Awareness at the grassroots; Undertake task force meetings for updating policies;	2.6 MAAIF, MWE, MLHD, MTTI and MEMD	3,500

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
2.7 SLM interventions linked to trade	2.7 Enhance coordination of SLM interventions and trade	2.7 Promote coordination on the development and implementation of agriculture and trade sector development policies and plans (e.g. ENR SWAp, Agriculture Investment Plan, Trade Development Policies; Develop integrated and multisectoral sub-sector strategies for each relevant sub-sector/value chain (which may lower the pressure on land or increase food security; Set up a monitoring system on market trends, demand and supply of relevant staple crops which could be traded at regional level (e.g. maize, beans, cassava) and carry out marketing studies in the region	2.7 MTTI and MAAIF	700
2.7 Capacity of local institutions to enforce bye laws and regulations in SLM developed	2.7 Develop capacity of local institutions to enforce bye laws and regulations in SLM	2.7 Sensitize LCs and local communities on laws and ordinances on SLM; Sensitize LCs to put in place mechanisms to enforce bye laws and ordinances in SLM; Advocate for a consistent and effective mechanisms for participatory enforcement of laws on SLM; Rationalize mandates of relevant institutions in enforcing laws and policies; Increase paralegal training in ENR/SLM management laws; Train and involve legal aid agencies in awareness raising on SLM laws and policies; Translate laws into local languages	2.7 MWE – NEMA or delegated agency	2,850
2.8 Gender issues mainstreamed in SLM programs/ interventions	2.8 Mainstream gender issues in SLM interventions	2.8 Advocate for equity and recognition of different gender roles in SLM; Integrate gender issues in SLM policies; Train SLM actors in gender perspective e.g. gender analysis, and monitoring and evaluation; Sensitize community leaders on gender issues in SLM; Advocate for integration of gender analysis in SLM R&D programmes	2.8 All sectors	350
2.9 Land use plans developed	2.9 Develop land use plans from land suitability maps	2.9 Procure hard wares and soft wares; develop capacity in land use planning (short courses only) ; Archive and digitize the different layers of info. (topography, soils; climate; vegetation; land suitability maps etc); Develop detailed land use plans for the four zones at a scale of 1:50,000 ; hold consultation meetings at all levels ; disseminate products.	2.9 MLHUD	7,450

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
2.10 Promote avenues/ practices to reduce conflicts on NR use (land tenure)	2.10.1 Strengthen / Develop capacity to peacefully resolve/ handle conflicts in NR use	2.10.1 Train manpower in NR conflict resolution skills; Integrate peace building mechanisms into extension messages for SLM; Strengthen local institutions in planning, monitoring, evaluation and implementation of SLM; Formulation and enforcement of bye-laws and ordinances on NR use; Formulation of pastoral code ; Advocate for alternative livelihoods systems to minimize conflicts; Disseminate info. On innovative / successful resolution mechanisms	2.10.1 MLHUD; MAAIF & MWE	2,500
	2.10.2 Pilot Land demarcation. in selected areas	2.10.2 Land demarcation.	2.10.2 MLHUD	5,500
	2.10.3 Promote delivery of services to mobile pastoralists	2.10.3 Sensitize policy makers and district technical staff on importance of mobile facilities/ services for pastoral systems; Advocate for policy focusing on improvement of livelihoods in pastoral systems; Advocate for provision of mobile infrastructure for pastoralists by the relevant sectors	2.10.3 MAAIF	2,500
Theme 2 Sub-total				62,570
Theme 3 : Strengthening commercial and advisory services for SLM and alternative livelihood options				
3.1 Investments in alternative livelihoods supported	3.1.1 Promote production and marketing of SLM friendly by-products from drylands	3.1.1 Establish and strengthen 150 groups/ cooperatives in the Cattle Corridor; promote the development of SLM friendly value chains such as non wood forest products (e.g. gum Arabic, aloes, shea butter) through skills development and value adding technology support	3.1 MTTI & MAAIF	1,500
	3.1.2 Promote incentive mechanisms for the private sector to invest in drylands	3.1.2 (a) Provide incentives to the private sector to invest in storage, processing and marketing of agro-products; Train dryland farmers in post-harvest handling of agro-products processing; Develop standards on storage of agro-products	MTTI & MAAIF	1,300
		3.1.2 (b) Advocate for development of basic infrastructure; Advocate for policy targeting incentives for private sector investments in drylands; Advocate for micro-finance outreach institutions in target districts	MTTI & MAAIF	350
	3.1.3 Promote alternative livelihood opportunities (aquaculture, fruit growing, bee keeping, agro-forestry etc)	3.1.3 Advocate for micro-finance services to drylands or link communities to micro-finance institutions; Setup 150 pilot initiatives for alternative incomes (bee keeping, aquaculture, agro forestry); train communities on enterprise development; Support pilot initiatives in processing and value addition to increase marketing opportunities; Disseminate information on available and new alternative livelihoods	MTTI & MAAIF	4,500
	3.1.4 Promote production and trade in crops that reduce pressure on land	3.1.4 Build capacity & facilitate standardization, packaging, labeling and certification of crops which do not increase pressure on land (e.g. pineapples, vanilla, gum Arabic, aloe, shea nuts, etc.) and; Link value chains to climate change and variability financing mechanisms	MTTI	500

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
	3.1.5 Develop capacity in business development skills	3.1.5 Train 150 groups/ cooperatives in entrepreneurial/ business development skills	MTTI	1,450
3.2 Market information flow and infrastructure; and business skills enhanced	3.2.1 Identify markets and create business to business linkages for enterprises in national, regional and international markets	3.2.1 Identify potential markets and prepare entry strategy; Develop and operetionalize a market information dissemination system (SMSs; community radios; spot messages; newspaper briefs etc); create B2B linkages for selected value chains; disseminate information of standards and guidelines for export of non commodities to national, regional and international markets	MTTI	2,500
	3.2.2 Provide incentives to the private sector to develop market infrastructure (cold storage facilities; rural based processing, etc)	3.2.2 Sensitize private sector on opportunities for investment in drylands; provide incentives and support the development of centralized market infrastructure facilities based on a public/private sector partnerships.	MTTI	1,600
Theme 3 Sub-total				13,700
Theme 4 : Support SLM Research and dissemination of best				
4.1 Fertilizer recommendations updated in the target zones	4.1 Develop site specific fertilizer recommendations	4.1 Establish fertilizer response trials for 5 key crops at 10 sites; analysis and dissemination of info.	4.1 MAAIF - NARO	7,800
4.2 Land suitability maps developed for the target areas	4.2.1 Assess and update land resources information in the target zones	4.2.1 Strengthen human capacity in land use planning at all levels (long-term and short term training); procure hard wares and software for field and laboratory/ main hub database; procure vehicles; procure satellite images; aerial photos; maps etc; carry out land resources assessments for the four zones; ground truth field data etc	4.2 MAAIF - NARO	12,080
	4.2.2 Develop land suitability maps for the target areas (aprrox. ¾ of the country)	4.2.2 Assemble, digitize, analyze, archive the different layers of land resources, climatic etc information for the four zones; develop detailed land suitability maps at a scale of 1:50,000; carry out consultations with stakeholders; disseminate info.		5,500
4.3 Climate change adaptation information generated	4.3. 1 Establish costs / implications of climate change impacts (current estimates and cost of no-action, etc)	4.3.1 Assess the vulnerability of sectoral policies and plans to the impacts of climate change; Cost current sectoral climate change impacts; Project potential cost of sectoral impacts of future climate change.	4.3.1 MWE – Climate Change Unit / UNFCCC	550
	4.3.2 Develop climate change scenarios (to guide climate change adaptation advisory services)	4.3.2 Assemble all data necessary to input into appropriate models; Attachment for 2 scientists to two different centers of excellence in climate change modeling. Run models to generate scenarios for future climate change; Develop robust adaptation advisory services	4.3.2 MWE - Climate Change Unit / UNFCCC	1,500
	4.3.3 Establish/ assess magnitude, effects and monetary value of land degradation	4.3.3 Studies on land degradation	4.3.3. MWE – Climate Change Unit	1,550



Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
	4.3.4. Support studies on value chains	4.3.4.Studies on improving value chains resilience to climate change; Studies providing evidence of the higher economic returns of value chains embedding SLM production practices (taking into consideration the opportunity costs	4.3.4 MTTI	900
Theme 4 Sub-total				29,880
Theme 5 : Improving and strengthening SLM knowledge management				
5.1. MIS for M&E established	5.1 Develop and operationalize an integrated GIS supported Management Information System (MIS)	5.1 Assess the institutional capacity for SLM data management (Consultancy); Establish a network of stakeholders for SLM data sharing; Design a MIS to include -a) raw data capture and processing system for field operators; b) processing, analysis and storage in the data bank ; Develop a GIS Supported MIS System (Consultancy); Strengthen the infrastructure and equipment base for SLM data management (GIS and MIS hardware and software procurement and installment)- Central Hub; Institutional nodes; Operationilize the MIS; Update and harmonize data management protocols including systems and procedures; Train key data management stakeholders in processing and analyzing remote sensed information; Package information from the geo-referenced database for dissemination	5.1 MAAIF - UNCCD Focal Point or Designated Lead Institution	3,750
5.2. Results – Based M&E Framework established	5.2. Develop and operationalize a Results-Based M&E Framework	5.2 Establish M&E Framework (Consultancy); Develop and test participatory M&E tools (Consultancy); Establish baselines for all activities; Develop M&E training materials; Conduct M&E training; Evaluate different SLM project interventions; Conduct regular M&E; Package information for dissemination	5.2 MAAIF - UNCCD Focal Point or Designated Lead Institution	3,350
	5.2.2 Develop and operationalize an M&E that links to the trade M&E system	5.2.2Develop a M&E system to assess the impact of trade activities on SLM (e.g. building on the trade M&E system); Identify successful cases and promote the sharing of knowledge to showcase SLM embedded in value chains; Collect statistical data and develop information systems which would help market development for non-commodity value chains which are good for SLM	MTTI	600
5.3 An effective information management and communication system developed	5.3 Develop and operationalize an information management and communication system	5.3 Carry out an information needs and capacity assessment of the information stakeholders; Recruit and train information specialists in SLM information management ; Re-package key information into simplified formats; Translate key basic information into at least 5 local languages (Swahili, Luganda, Luo, Runyakitara and Ateso); Develop and implement information management and sharing frameworks for all key stakeholders	5.3 MAAIF - - UNCCD Focal Point	4,530

Outputs	Main Activity and key sub-activities	Indicative Key Inputs (See detailed targets in Table 2)	Responsible Sector/ Lead Institution	Total Indicative Costs ('000 $)
5.4 Increased public awareness of SLM interventions	5.4 Develop and implement a robust Communication Strategy	5.4 Develop and implement the communications strategy by, among others: Supporting the implementation of SLM related curricula in schools (poems, songs, drama); Media campaigns including TV, Radio, print, etc; Developing and disseminating SLM materials, posters, brochures for all Stakeholders; Developing and delivering training and awareness programmes to all Stakeholders; Establishing and or strengthening community based drama groups; Publishing quality SLM information in journals and internet/project website; Presentation of findings at conferences, exhibitions at national and international level; Carry out periodic evaluation and update of the awareness campaign	5.4 MAAIF - - UNCCD Focal Point	2,450
Theme 5 – Sub-total				14,680
GRAND TOTAL				**245,305**

Annex VI

Detailed project-by-project listing of on-going and planned initiatives in SLM

USIF Theme	USIF Results area	Delivery Mechanism (intervention area)	Existing Programs/ Projects/ Initiatives					Proposed / New or Expended Programs/ Projects/ Initiatives1		
			On-going projects	Location	Imp. Agency	Financing (000 US$)	Time frame	Proposed activities	Location	Imp. Agency
Theme 1: Supporting on-the – ground activities for scaling up SLM	1.1 Improved watershed management and rehabilitated degraded sites/ micro catchments	Develop a plan for improved management of L. Kyoga basin	Mitigation of Lake Kyoga floods	L. Kyoga Basin	MWE	350 [GOU]	2000 - 2010	Develop capacity/ Empower communities to rehabilitate selected degraded Catchments/ sites	All four target zones 2	MWE
		National Wetlands Management Programme	Enhanced knowledge & understanding of ecological processes and social economic values of wetlands	Country-wide	MWE	5,980 [RGB]	2001 - 2010	Develop and implement participatory micro-watershed management plans	All four target zones	
		Promote approaches to community participation in forest mgt	Forest mgmt and conservation	Country-wide	MWE	[EU]		Strengthen community based investment in afforestation and reforestation	All four target zones	
		Management of water resources of Uganda	Support to Water Resources Mg't	Country-wide	MWE	6,000 [DAN IDA]	2003 - 2012	Promote transition to catchment based water resources management	All four target zones	
	1.2 Increased adoption of integrated nutrient management(INM) practices	Promotion of soil and water conservation technologies within communities in targeted hotspots	Farm Income Enhancement Project [Improve rural welfare through sustainable resource mgt & agric. development]	Bushenyi & Lira,	MWE/ MAAIF	5,115 [ADF & Nordic]	2005-2010	Scale out INM including soil and water conservation practices, agro-forestry, improved fallows, conservation agriculture, etc.	All four target zones	MAAIF and MWE w/ LGAs, NAADS, others?
		Address the serious decline in soil fertility & crop productivity	INMASP	Country-wide	MAAIF	EU	2002 -			
								Undertake community-driven micro-projects in S&WC	All four target zones	
		Improvement of community based SLM initiatives	Sustainable Land Management	Kabale & Kisoro	MAAIF	1,572 [UNEP]	2007-2012			
		Soil fertility mgt and support to tea planting	Soil Conservation & Agro forestry	Country-wide	MAAIF	SIDA	-			
		Access to improved seed varieties, fertilizers & pesticides	Africa Development Foundation Programme	Kampala	MFPED	1,000 [USA/ GOU]	2006 - 2011			
		Enhance household incomes through wealth creation	Poverty Alleviation Project	Country-wide	MFPED	1,000 [GOU]	2007 - 2012			
	1.3 Promotion of Incentive mechanisms for scaling up SLM/ SLM adoption	Support communities to access carbon finance for conservation	Trees for Global Benefits	Bushenyi, Hoima, Masindi	ECOTRUST	DFID, USA				
		Capacity Building, CFM Agreements	Participatory Forest Mgt of Central & Private/Communal forests	Hoima, Masindi	NFA	US ID				
		Establish & operationalize links with Carbon Markets						Establish links with Carbon markets		MWE & NGOs [Eco-agriculture, Katoomba Group]
								Link communities to Carbon, REDD incentives/ markets	All four target zones	MWE & NGOs [Eco-agriculture, Katoomba Group]
								Advocacy for carbon incentives		MWE & NGOs [Eco-agriculture, Katoomba Group]

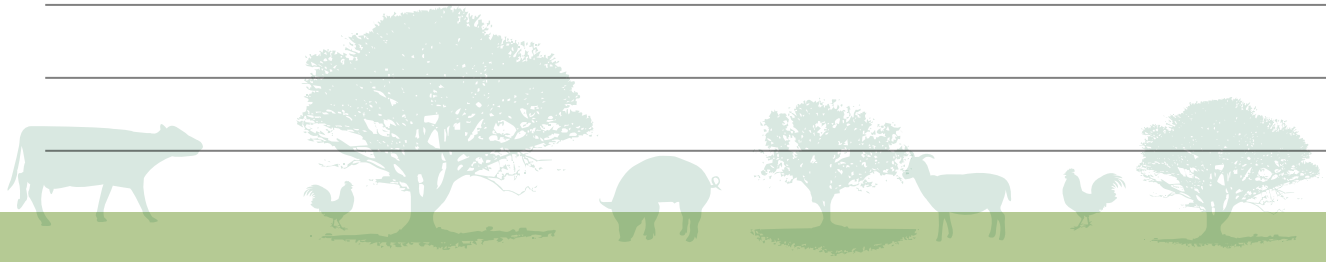
USIF Theme	USIF Results area	Delivery Mechanism (intervention area)	Existing Programs/ Projects/ Initiatives					Proposed / New or Expended Programs/ Projects/ Initiatives1		
			On-going projects	Location	Imp. Agency	Financing (000 US$)	Time frame	Proposed activities	Location	Imp. Agency
	1.4 Increased adoption of alternative sources of energy by target communities and institutions	Develop Uganda's rural energy and information/technology sector	Energy for Rural Transformation Country wide		MEMD/ GTZ	67,600 [GEF/ IDA]	2002 -	Promote gasification	All four target zones	MEMD
		Promotion of alternative energy technologies for communities in targeted areas (biomass, gasification)	Promotion of sustainable charcoal production in Luwero & Nakasongola [Promote sustainable charcoal production]	Cattle corridor, Northern & eastern Uganda, L. Victoria Basin	MEMD	GEF/ UNDP	2006 - 2010	Promote efficient kilns in charcoa l production	Cattle corridor,	MEMD
		Training on energy saving technologies & provision of tree seedlings	Agric. Interventions & livelihood support for IDPs	Lira, Amuria	LGs/ NGOs	FAO	2006 -	Promote energy saving stoves in homesteads & institutions	All four target zones	MEMD, NGOs
		Supply, promote & conserve suitable tree seeds for tree planting	Tree Seed Centre	Various	MWE	EU/ GOU	Ongoing	Promote establishment of woodlots	All four target zones	MEMD, NFA NGOs
		Improve mgt of Uganda's forest resources to meet domestic needs Improve mgt of Uganda's forest resources to meet domestic needs	Forestry rehabilitation	Central Reserve Forest	MWE	Norway				
		Green Uganda by establishing new forest resources	Forest sector policy and strategy	Country wide	MWE	DFID				
	1.5 Improved water supply [for production & domestic use] to pastoral communities	Development of water infrastructure	Water for production [Promote development of water supply to modernise agriculture]	Country wide	MWE	27,630 (DANIDA)	1999 - 2015	Promote water harvesting technologies/ practices (water for domestic, livestock, irrigation, etc.]	Cattle corridor	MWE MAAIF
		[Management of water resources of Uganda]	Support to Water Resources Mg't	Country wide	MWE	60,000 (DANIDA & SIDA)	2003 -2012	Establish/ construct valley tanks	Cattle corridor	MWE MAAIF
	1.6 Promotion of small scale irrigation practices	Research on specific crops for production & productivity	Farm power & Small irrigation system research	Various	NARO/ MAAIF	ARTP II & IDA	Ongoing	Establish small scale irrigation demonstrations (utilizing run-off /harvested water)	Cattle corridor	MWE MAAIF
		Increase food production & achieve self-sufficiency in rice	Small scale irrigation development I & II	Country wide	MAAIF	FAO		Promote harnessing of water from permanent and semi-permanent sources	Lave Victoria basin, eastern and northern, highlands	MWE MAAIF
								Establish water utilization infrastructure [utilizing water form permanent and semi-permanent sources]	Lave Victoria basin, eastern and northern, highlands	MWE MAAIF

USIF Theme	USIF Results area	Delivery Mechanism (intervention area)	Existing Programs/ Projects/ Initiatives					Proposed / New or Expended Programs/ Projects/ Initiatives1		
			On-going projects	Location	Imp. Agency	Financing (000 US$)	Time frame	Proposed activities	Location	Imp. Agency
Theme 2: Strengthening enabling environment for SLM	2.1 Strengthened capacity of UNCCD-Focal point Office to coordinate and advocate for U-SIF SLM	Support for coordination structures and offices at national level	Support to MTCS Secretariat	Kampala	MFPED	900 [EU/ Austria]	2005 - 2010	Establish SLM Secretariat		
								Strengthen capacity of UNCCD National Focal Point Office		
								Establish the project coordination framework		
								Support Inter-Ministerial Technical Working Committee		
								Support SLM Platform		
								Support National Steering Committee		
								Strengthen the institutional implementation framework		
	2.2 Strengthened capacity of institutions; LGs, CSOs, etc to plan, implement, monitor SLM interventions	Improve collaboration among various stakeholders	Strengthening the Role of CSOs in Uganda	Kampala	ULA	[ILC]		Strengthen capacity of institutions at all levels (LGs, CSOs, etc.) to plan, implement, monitor SLM interventions	All four target zones	UNCCD focal point office, MWE, MAAIF, MMED, MTTI, MLHUD
		Capacity building for CBOs to address environmental issues Capacity building for CBOs to address environmental issues	Support to Priority Environmental Aspects of DEPs	Kibale/ Mbale3	ECOTRUST	[WB]				
	2.3 Increased mainstreaming of SLM into national and local development frameworks	Provision of targeted SLM technical – assistance to sector planning						Mainstream SLM into sector and national development frameworks (DSIPs & NDP)	National	UNCCD focal point office, MWE, MAAIF, MMED, MTTI, MLHUD
								Strengthen SLM mainstreaming, development and implementation of DEAPs & SEAPs with integrated SLM issues		
	2.4 Improved climate/ climate variability and change monitoring systems	Provide strategic interventions & develop capacity to deliver services	Meteorological Support for PMA	Country-wide		540 [GOU]	2001 - 2010	Strengthen capacity for climate monitoring		MWE – Met Dept, MWE – Climate Change Unit
	2.5 Reduced vulnerability to climate change	Provide relevant information to stakeholders for appropriate action.	Development of National Early Warning System.	Country-wide	MAAIF	220	2005 - 2008	Strengthen capacity in early warning systems (Short term and medium term weather and climate forecasts - drought, floods etc)		MWE, MAAIF, MWE – Climate Change Unit
								Develop capacity in early warning systems (food security / forecasts etc)		MWE, MAAIF, MWE – Climate Change Unit
								Support implementation of the National Climate Adaptation Program of Action (NAPA)		MWE, MAAIF, MWE – Climate Change Unit
								Upgrade the NAPA to cover medium to long-term national climate change adaptation		
								Support implementation of the National Action Plan on Desertification (NAP)		
								Develop stakeholder capacities to address climate change at all levels		
								Promote information dissemination/ awareness on climate & climate change – at all levels		
								Develop emergency response plans		
	2.6 Harmonized policies and regulatory frameworks relevant to SLM	Address irrigation policy & implement sustainable irrigation	Smallholder Irrigation Dev't & Water Harvesting Project	Country-wide	MAAIF					
		Increase policy attention to key aspects in promoting SLM	Natural Resource Management Project	Country-wide	MAAIF	GOU		Harmonize and update sector policies, legal and regulatory frameworks		

USIF Theme	USIF Results area	Delivery Mechanism (intervention area)	Existing Programs/ Projects/ Initiatives					Proposed / New or Expended Programs/ Projects/ Initiatives1		
			On-going projects	Location	Imp. Agency	Financing (000 US$)	Time frame	Proposed activities	Location	Imp. Agency
		Support COMESA's agric. Policy & regional integration agenda	Agric. Production, Marketing and Regional Integration	Headquarters	MAAIF	429 [WFP]	2007 - 2012			
		Formulate appropriate policies for the private sector	Coordination of MSE & Microfinance Outreach Plan	Country-wide	MFPED	18,430 [Norway]	2004 - 2011			
	2.7 Developed capacity of local institutions to enforce bye laws and regulations in SLM	Capacity of local institutions to enforce bye laws and regulations in SLM developed						Develop capacity of local institutions to enforce bye laws and regulations in SLM		
	2.8 SLM gender issues mainstreamed in national and local development f1ameworks							Mainstream gender issues in SLM		
	2.9 Development of land use plans							Develop land use plans from land suitability maps		
	2.10 promotion of avenues/ practices to reduce conflicts on NR use [land tenure]	Land tenure	Systematic demarcation		MLHUD			Pilot land demarcation --in selected areas	Eastern & Northern Uganda	MLHUD
		Reforming the land sub-sector	Land Tenure Reform Project	Country-wide	MLHUD	23,050	2001 - 2011	Strengthen/ develop capacity to peaceful resolve/ handle conflicts in NR use	Eastern & Northern Uganda	MLHUD
		Reforming the land sub-sector by providing a framework	Land Tenure Reform II		MLHUD	DFID/ GOU	2001 - 2011	-Promote delivery of services to mobile pastoralists	Cattle corridor	

USIF Theme	USIF Results area	Delivery Mechanism (intervention area)	Existing Programs/ Projects/ Initiatives					Proposed / New or Expended Programs/ Projects/ Initiatives1		
			On-going projects	Location	Imp. Agency	Financing (000 US$)	Time frame	Proposed activities	Location	Imp. Agency
Theme 3: Strengthening Commercial and advisory services for SLM friendly products and practices	3.1 Increased investments in alternative livelihoods	Agro business development for selected value chains – maize, coffee, legumes, oil seeds Developing the beef value chain	U-Growth (pipeline project) Nortura Beef Project	Cattle Corridor Districts	MAAIF MAAIF	DANIDA/EC Norway USD 25m		Promote production and marketing of SLM friendly by-products from drylands	Cattle corridor	MTTI
								Promote incentive mechanisms for the private sector to invest in drylands	Cattle corridor	MTTI
		Excavation & stocking of fish ponds, training beneficiaries	Improved livelihoods and income diversification among conflict-affected households in northern and north-eastern Uganda	Various districts				Promote alternative livelihood opportunities (aquaculture, fruit growing, bee keeping, agroforestry, etc)	All four target zones	MAAIF, MWE
		Strengthen the national capacity for aquaculture development	Aquaculture development project	Various districts	MAAIF	FAO/ GOU				
	3.3 Standards and standardization for non commodity value chains	Standards and quality policy, regulatory framework, coordination, quality infrastructure and awareness	Quality Infrastructure and Standards Programme (QUISP)	Country-wide				Build capacity & facilitate standardization for crops which do not increase pressure on land (e.g. pineapples, vanilla, gum Arabic, aloe, shea nuts, etc.)	All four target zones	MTTI
	3.3. Enhanced market information flow and infrastructure; and business skills	Trade promotion and marketing Increasing productivity and income share of marketed production	Trade Links Agric. Sector Programme Support Phase II	Headquarters	Embassy of Ireland MAAIF	 1.096 [DANIDA]	2004 - 2010	Marketing and feasibility studies for non commodity value chains Identify markets and link enterprises to national, regional and international markets	All four target zones All four target zones	MTTI MTTI
		Training of staff and provision logistics at district and Headquarter level	Support for institutional development	Country-wide	MAAIF	355 [GOU]	2004 - 2010	Provide incentive to the private sector to develop market infrastructure (cold storage facilities; rural based processing, etc)	All four target zones	MTTI, MAAIF
		Enabling the poor farmers increase their incomes and food security	Agric. Marketing and Support Project-WFP	North	MAIF	4,770 [WFP]	2002 - 2010	Develop capacity in business development skills	Cattle corridor (Karamoja)	
		Create options for financing & the delivery of appropriate advisory and technical services	Government Purchases			62,500 [GOU]	2004 -	Establish effective avenues for market information dissemination		

Notes:



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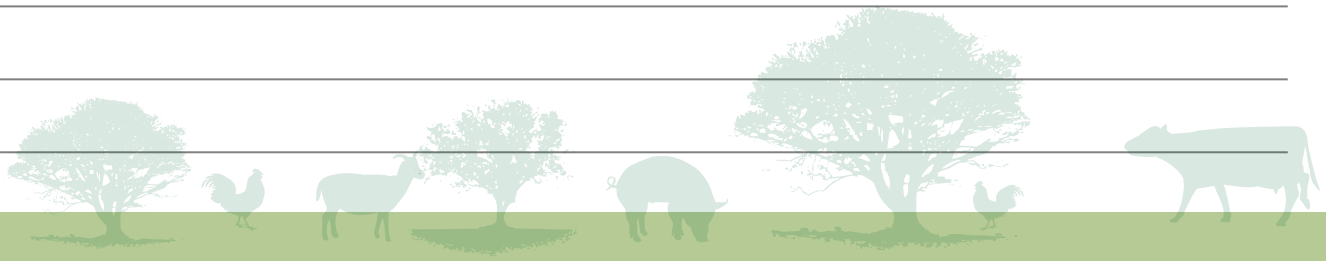

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