

Uganda sustainable land management public expenditure review

Towards managing productive Ugandan landscapes sustainably

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1. Purpose of the review

This section of the report is adapted from the concept note prepared for this assignment. It provides the context for the assignment as well as its objectives and the proposed scope and methodology of the research.

1.1. Background to the report

Throughout rural Uganda, poverty is prevalent and is associated with unsustainable land uses leading to land degradation. For example, soil nutrient depletion, soil erosion, soil compaction, surface crusting water logging and other forms of land degradation are reported to be increasing in some parts of the countryside. The resultant land degradation contributes to various cases of low and declining agricultural productivity. The loss of productivity in turn exacerbates the poverty situation in rural areas. The increasing poverty can in turn exacerbate the problem of land degradation leading to a vicious downward cycle.

To break out of this cycle, it appears that public and private investment in sustainable land management (SLM) in Uganda is needed. The urgency of SLM investments is indicated by the various plans of the Government of Uganda such as the Poverty Eradication Action Plan and the Plan for Modernization of Agriculture. The Government has also expressed a strong interest in moving toward a countrywide programmatic approach for SLM in order to scale-up SLM investments in a more coordinated and effective manner.

In support of the Government's commitments, a Country SLM Investment Framework (CSIF) is being designed to respond to the

country's development priorities, align donors, and set Uganda on a path toward formulating a comprehensive and integrated SLM Country Programme. This CSIF includes diagnostic studies and reviews to identify entry points for scaling-up SLM interventions and also sector and donor alignment around priority investments. The studies and tools include the SLM public expenditure review (PER) presented in this report.

This SLM PER further responds to the requests from various Ministries – including the Ministry of Agriculture, Animal Industry and Fisheries (MAIIF), the Ministry of Water, Lands and Environment (MWLE), and Ministry of Local Government (MOLG) – and major SLM-related implementing agencies – both government and non-government organisations – to conduct analytical work which would help to prioritise and harmonise SLM expenditures. Though most stakeholders are interested in “making the case” for SLM as a priority investment, they face the serious challenge of conceptualising and formulating multi-ministry, multi-sectoral, multi-disciplinary SLM budgets. It is hoped that this report will provide some useful guidance in this respect.

Finally, partners in the development assistance community are considering mobilising significant resources for up-scaling SLM in Uganda. However, commitments to increase support are increasingly focused on ensuring efficiency and effectiveness. This report is intended to also assist with this concern.

1.2. Objective of the report

The overall objective of this analytical work is to provide a review of public expenditures for SLM in Uganda and thereby contribute to the development of a common national strategy for the efficient and effective scale-up of SLM investments. This SLM PER is an important input into the design and preparation of the planned ENR SWAp, the SLM country programme, and the SLM investment framework for Uganda. Specifically, the report:

- Provides a clear-cut overview of SLM-related expenditures, covering the relevant programs, projects, and activities across Ministries and implementing agencies;
- Identifies constraints of the SLM budget planning and allocation processes and make recommendations on how to make these processes more efficient and results-oriented; and
- Provides an expenditure review for the major SLM-related institutions and programs and identify possible adjustments

to improve allocations based on an analysis of the functional and economic composition of expenditures.

1.3. Proposed Scope and Methodology

The report builds on previous relevant work in Uganda, such as the 2003 public expenditure review and the draft 2006 Ugandan review of public expenditures for SLM. Reports on the status of Uganda's land management from the International Food Policy Research Institute (IFPRI), the World Bank and others also provide important background information. SLM-related project and finance information comes from hard copies of the annual budget reports of Uganda Ministry of Finance, Planning and Economic Development.

It is important to note that a SLM PER is significantly more difficult to carry out than a conventional single-sector PER. This is due in part to the need to develop a clear and commonly accepted definition of SLM which can be used to identify and evaluate SLM-related expenditures. Also, in the case of Uganda, allocations to SLM-related activities are not at all clear-cut in the Government's financial management system. Rather they need to be deduced through an analysis of various expenditures in numerous sectors. In addition, consistent time series of financial data are not readily available, due to changes over time in the national financial management system.

This study draws specifically upon primary data collection from the Government of Uganda, the utilisation of other national reports and documentation relevant to SLM, consultations with Government and NGO official, and relevant work from the World Bank and other national and international organizations.

This review encompasses the following steps which are developed in subsequent sections of this report:

- Reviewing the extent, causes and impacts of land degradation in Uganda;
- Defining sustainable land management for the public expenditure review;
- Reviewing the sustainable land management budget planning and allocation process;
- Conducting expenditure analysis for the major sustainable land management-related institutions and programmes; and
- Reviewing outcomes and impacts of public sustainable land management spending.

2. Overview of land degradation in Uganda

The section of the report is intended to highlight the major forms, extent, causes, and impacts of land degradation in Uganda. In so doing, it helps to provide a relevant and Uganda-specific understanding of land degradation and SLM which in turns sets out an operational framework for the PER.

There have been several major studies regarding SLM, land degradation, soil erosion and related issues in Uganda over the last decade. Generally they describe a situation that is serious and declining. For example, a 2004 report by IPFRI explains that:

“Land degradation in Uganda is directly attributed to biophysical factors and unsustainable land management.”

Regarding biophysical factors, the report states:

“The important biophysical factors that affect land degradation include topography, land cover, climate, soil erodibility, pests, and diseases.”

Regarding unsustainable land management, the report states:

“Traditionally, soils in Uganda were cultivated until crop yields deteriorated to unacceptable levels and the “tired” pieces of land were then fallowed to restore fertility. ... However, fallowing is becoming less common as population pressure increases. Due to extreme land scarcity in the densely populated areas of the country, such as the southwest highlands region, fallowing for one year or more is no longer commonly practiced.”

These proximate causes of land degradation are key elements of a broader understanding of what is driving sustainability or degradation in the management of Uganda’s productive landscapes. Most importantly, it is also clear that this message arising from various studies by IPFRI and others is now being heard by the Government of Uganda.

The most recent State of the Environment Report (2004/5) – which is produced by Uganda’s National Environmental Management Authority (NEMA) – describes clearly and succinctly the current status and the challenges related to managing Uganda’s landscapes sustainably. This Report provides a sound basis within Government for identifying the key issues and opportunities of a new SLM Country Programme for Uganda.

Selected extracts from this Report relevant to land degradation and SLM follow. These are grouped within the Report into the following categories:

- Terrestrial resources
- Aquatic resources
- Cross-sectoral resources
- Atmospheric resources
- The socioeconomic and cultural environment
- Management systems and tools

“Terrestrial resources

Land resources and agriculture

...Access to land is increasingly becoming difficult, especially for the poorer segments of society. Land degradation, especially through soil erosion, is the single largest contributor to the annual cost of environmental degradation. Loss of soil nutrients is the reason the country's adjusted net savings are negative...

Forestry resources

Except for some recent policy failures, the loss of forest cover in the gazetted areas has been reducing and total cover is stabilising. Unfortunately, forests in protected areas make up only 30% of the national forest cover. The remaining 70% are on private and customary lands where deforestation rates are high as a result of conversion of forest areas and bushland into agricultural and pastoral land.

Rangeland resources and livestock production

...In some places, the conditions of the rangelands are deplorable - overgrazed, and through wind and soil erosion, bare. The rangelands are also located in arid and semi-arid areas, themselves fragile ecosystems. In the extreme, pasture and water scarcities are contributing to frequent conflicts between cultivators and pastoralists in the first place, and among pastoralists themselves.

...There is anecdotal evidence that in some locales the carrying capacities of the rangelands are being exceeded. Unfortunately, nobody knows for sure.

Wildlife resources

Conservation or resistance to it, are the driving forces influencing Uganda's wildlife resources. Wildlife constitutes an important resource base for the country... By 2004, the populations of wildlife in protected areas had stabilised, and some even increased, although marginally so. Outside protected areas, the decline in wildlife populations continues almost unabated as a result of increased off-take, the blocking of migratory routes and habitat conversions, among others.

Mineral resources

Reading from geological formations, there is a significant mineral potential in the country. ...Of the ones that are known, on a base case scenario, the value of mineral production is expected to rise from the 2003 figure of \$12 million to over \$100 million/year...

When increased mineral production is realised, it will bring with it higher levels of pollution which will have to be mitigated...

Aquatic resources

Wetlands

Wetlands cover about 13% of the area of Uganda and provide a number of direct and nondirect values to the people of the country...

By 2001, wetlands came to be regarded as 'granaries of water'. From being a project in 1994, wetlands had by 2005 obtained an institutional home within government structures...

Furthermore, despite a wide array of achievements, wetlands degradation is still evident – some for basic survival needs of the poor, others as a saving measure where land purchase prices are high, and yet others are the result of ignorance about ownership and legal boundaries of wetlands. Perhaps the most important reason for continued wetland degradation is weak enforcement of the applicable environmental laws and fairly low levels of awareness among policy makers and rural communities.

Water

Water is life, and Uganda has significant quantities of the resource. From both hydrological and social water scarcity considerations, at the moment Uganda is not water stressed.

However, by 2025, indications are that there will be reason to worry as a result of increasing demands for human, livestock, wildlife, irrigation and industrial water. Uganda ... must plan and secure more than twice the amount of water they used as of 1998 in order to meet reasonable future requirements.

The quality of the water from available sources is another area of concern principally as a result of pollution – residential, industrial and agricultural land discharges into the open water bodies.

Fisheries

The fisheries resource of Uganda has been an important source of high quality solid animal protein. On average Ugandans were consuming about 13kg/person/year by 1994. As of 2005, this consumption was estimated to have declined to about 10kg/person/year, mainly as a result of increasing scarcity and cost. Exports of fish and fish products are also on the increase. The twin effect of increases in domestic consumption as a result of population growth and higher levels of export demand has pushed capture fisheries close to its long-run sustainable supply and is threatening to exceed it.

Cross-sectoral resources

Energy

The dominant source of energy in Uganda is biomass and this is expected to remain so in the foreseeable future in spite of plans to increase hydropower energy production...

Biomass energy will continue to be an important source of energy, especially for the rural poor, who constitute the majority of Ugandans. In some districts, the scarcity of biomass is already beginning to have impacts on the quality of food prepared. Households are opting for easy to cook but often less nutritious foods.

Biodiversity

Uganda is endowed with a very rich and varied biodiversity due to its bio-geographical setting, varied altitudinal range and extensive drainage systems. This biodiversity is a national asset supporting rural livelihoods and contributing to commercial economic activities. The contribution of Uganda 's biodiversity resources, organisms or parts thereof, populations or other biotic component of ecosystems with actual or potential value for humanity has been estimated at \$1000 million per year, balanced against economic costs of \$ 202 million plus losses to other economic activities of about \$49 million per year.

...The loss of biodiversity in protected areas has to a great extent been stopped and the trend reversed between 1990 and 2005. Outside protected areas biodiversity loss was still continuing as of 2005. The loss of biodiversity is largely the result of habitat conversion and introduction of alien species.

Tourism

The rich biodiversity is one of the reasons tourists come to Uganda. ...Still more tourist revenues are needed if protected areas are to move towards higher levels of financial self-sufficiency instead of depending on government subventions and development-partner assistance.

Increased levels of tourist arrivals have several implications for the environment. First, there are potential adverse impacts as a result of the interaction of different cultures. Second, continued growth in tourist numbers may move towards and gradually beyond the carrying capacity of tourist attractions. Third, the development of infrastructure such as roads and lodges also come with potential adverse impacts which have to be mitigated.

While the growth in tourist numbers and earnings in the aggregate is welcome, it also raises equity issues. For example, rural communities are currently receiving minimal benefits from tourism; and their participation in tourism ventures is limited.

Atmospheric resources

Climate is an important resource. ...The country is a net sink for greenhouse gases. But atmospheric gases know no national boundaries, hence Uganda is also impacted adversely by increases and fluctuations in the earth's temperature. ...The erratic onset and cessation of rains as a result of climate variability makes it difficult

for farmers to plan when to plant crops. There have been instances of frequent crop failures of late.

The socioeconomic and cultural environment

Poverty

Headcount poverty has declined from 56% of the national population in 1992 to 38% by 2004. On the other hand, the gap between the rich and the poor is widening. For the poor, natural resources constitute important 'gifts of nature' and social safety nets on which their livelihoods depend all the time or at certain critical periods such as droughts.

The poor are agents of environmental degradation because they have limited livelihood alternatives. They are also at the same time victims of environmental degradation because their coping abilities are limited.

Environmental health

Over 80% of all diseases in Uganda can be ascribed to poor environmental conditions.

Malaria is the number one killer disease because mosquitoes have fertile breeding grounds. Waterborne diseases are a result of poor sanitation. Respiratory diseases are encouraged by poorly ventilated houses and dusty environments as well as congestion in such dwellings.

The sick cannot be counted on to invest in environmental management, such as proper soil and water conservation measures. The sick are also unable to be productive and look for opportunities elsewhere, hence resulting in a heavy dependency on the available natural resources in the immediate vicinity.

Management systems and tools

Policies, laws and institutions

The broad policy, legal and institutional framework for environmental management is in place... Institutionally, the structure at local government level is still evolving.

There is a new structure for environment and natural resources at the district level. One key area that needs addressing is the need for better and de-personalised institutional coordination.

Environmental standards, assessments and audits

...There is in place EIA Guidelines, EIA Regulations, and EIA Practitioners Code of Conduct.

In addition, some sector-specific EIA guidelines have been developed, and others in the process of developing. Guidelines for environmental audits are in place together with a Practitioners' Code of Conduct. Hence the tools for ensuring the mitigation of adverse environmental impacts and the enhancement of positive ones exist.

Environmental planning

Several tools and techniques of environmental planning have been developed since 1994.

These include: district environment action plans, right up to the sub-county and parish levels; mechanisms for mainstreaming of the environment into development plans; adoption of the sector wide approach to planning; and integrated assessment and planning.

Ecosystems approach to management

An ecosystem approach to the management of fragile ecosystems (wetlands, riverbanks, lakeshores, and mountainous and hilly areas) is being implemented in selected districts. If proved successful, opportunities for scaling up to cover other districts would have been created.

Environmental enforcement

While the existence of a wide range of polices and laws should in theory simplify and make environmental management easier, the evidence on the ground is one of continued violations.

The main reason being the low level of enforcement which in part is due to weak institutional structures.

Environmental education and public awareness

A new focus now is on education for sustainable development.

Environmental research

Environmental research is scattered among various institutions. In general, the institutions all invariably suffer from insufficient human resources and inadequate equipment and other facilities.

Environment information

By 1991, environmental information was scattered and sectoral in nature. After the formulation and adoption of the National Environment Management Policy, some improvements have been registered.

Environmental monitoring

While in general monitoring is an expensive undertaking, there is some attempt at low-cost monitoring. Within NEMA, there is inter-departmental co-ordination team to facilitate environmental monitoring. Attempts have also been made to define appropriate environmental indicators for purposes of monitoring. However, results in this last regard are not yet conclusive and additional work is required.

Environmental reporting

The sources of information on the environment in Uganda are now more diversified than was the case in 1994. They include, among others: the state of environment reports at national and district levels; the district environment action plans; environment profiles; the participatory poverty assessment process; country environment profiles of the development partners; the poverty eradication action plan; sectoral annual reports; country reports on the Millennium Development Goals; the state of Uganda's biodiversity; various civil society publications on the environment; environmental impact statements of various development projects; and the national human development reports.

Innovating towards financial sustainability

In recognition of the fact that financial resources for environmental management are limiting and largely come from support by development partners hence having doubtful sustainability,

different domestic sources are being assessed. One option is to make ecotourism pay an increasingly larger share of protected area management costs. The second option is to encourage payment for professional services. The third option involves the popularisation of payment for ecosystem services (carbon, watershed, etc.). Fourth, where funds can be accessed, a surer way to financial sustainability is through the establishment of an endowment fund through, among others, the operationalisation of the National Environment Fund provided for in the National Environment Act. Finally, environment agencies may look at generating revenues through property transactions.”

It is clear that development of an SLM programme could provide an integrated and synergistic platform at the national and at local levels to address the many SLM-related issues highlighted in the 2004/5 State of the Environment Report. Perhaps even more importantly this Report also highlights some of key policy responses which are needed. These provide a solid basis within the Government to develop a set of SLM-relevant activities. Of particular significance to the issue of land degradation and to the development of an SLM Country Programme are the following proposed policy responses:

- “1. Increase levels of enforcement, especially at the local government levels...
3. Create awareness among policymakers that environmental management can complement national economic development in fulfillment of the objectives of sustainable development.
4. Prepare a manual to guide local governments on how to mainstream environment into district development plans so that the practice becomes routine.
5. Create appropriate incentives and disincentives to encourage the more active participation of local communities and the private sector in environmental management, and discourage wrong doers.
6. Encourage the Plan for Modernisation of Agriculture and the National Agricultural Advisory Delivery Services secretariats to increase interventions addressing soil erosion as a matter of priority since it is the main cause of soil nutrient loss and the largest share of the annual cost of environmental degradation which has led to negative adjusted net savings.

7. Complete the formulation and the subsequent adoption of the Land Policy and the Landuse Policy so as to facilitate the preparation of land use plans.

8. Seek international assistance in the compilation of more current inventory data (forests, wildlife, fisheries, land use changes, rangeland conditions, etc.) to allow for more informed decision-making in environmental and natural resources management....

11. Encourage Government ministries and agencies, civil society organisations and the private sector to identify innovative financing mechanisms for environmental management including creating markets for Uganda 's ecosystem services.”

It is clear not only from the literature, but also from the reports of the Government such as the one emphasised in this section, that the serious issue of land degradation and the possibility of developing an SLM approach are ready to be addressed by the country of Uganda.

3. Defining sustainable land management in Uganda

The concept of “sustainable land management” (SLM) is very much like the concept of sustainable development; it clearly sounds like a good idea but what does it actually mean? If the World Bank is going to work with Government of Uganda, its partners within the development assistance community and with other relevant stakeholders, such as NGOs and community-based organisations, it will need to articulate a practical and operational definition of SLM. This definition will need to make sense within an Ugandan context.

A clear understanding of what is meant by SLM is equally important for the topic of this paper a SLM PER for Uganda. What expenditures to include or not to include in such a review will very much depend on one’s understanding of SLM.

This section of the report attempts to provide a conceptual framework for understanding the concept of SLM that is both comprehensive and flexible. It is comprehensive in that it provides a holistic framework for identifying and assessing programmes, projects and activities which promote sustainability in productive landscapes. At the same time, it is flexible in that it allows for more direct focus on expenditures which address specific aspects of SLM such as land degradation.

3.1. Sustainable land management objectives

Though various institutions have developed or adopted somewhat different definitions of SLM, for the purposes of a SLM PER for Uganda, the definition used by TerrAfrica – the World Bank-led SLM initiative for Africa – seems to be particularly appropriate. TerrAfrica used the following definition:

“Sustainable Land Management combines technologies, policies, and activities aimed at integrating socioeconomic principles with environmental concerns so as to simultaneously maintain or enhance natural resource based production systems, protect the natural resource base, be economically viable and socially acceptable.”

Importantly, this definition of SLM has some standing both in terms of longevity and institutional support. It was drafted by the International Framework for Evaluating Sustainable Land Management (FESLM) Working Party in one of their meetings which took place in Nairobi in 1991. The full FESLM definition of SLM and their detailed discussion of this definition follow [*italics added*]:

"Sustainable land management combines technologies, policies and activities aimed at integrating socio-economic principles with environmental concerns so as to simultaneously:

- maintain or enhance production/services (**Productivity**),
- reduce the level of production risk (**Security**),
- protect the potential of natural resources and prevent degradation of soil and water quality (**Protection**),
- be economically viable (**Viability**),
- and socially acceptable (**Acceptability**)."

“These five objectives of Productivity; Security; Protection; Viability and Acceptability are seen to be the basic 'pillars' on which the SLM edifice must be constructed and against which its findings must be tested and monitored. Each objective is complex, and requires further brief examination:

- **Productivity**: the return from SLM may extend beyond material yields from agricultural and non-agricultural uses to include benefits from protective and aesthetic aims of land use.
- **Security**: management methods that promote balance between a land use and prevailing environmental conditions reduce the

risks of production; conversely, methods that destabilize local relationships increase that risk.

- **Protection:** the quantity and quality of soil and water resources must be safeguarded, in equity for future generations. Locally, there may be additional conservation priorities such as the need to maintain genetic diversity or preserve individual plant or animal species.
- **Viability:** if the land uses being considered are locally not viable, the use will not survive.
- **Acceptability:** land use methods can be expected to fail, in time, if their social impact is unacceptable. The populations most directly affected by social and economic impact are not necessarily the same.”

This definition provides us with a set of five SLM objectives which can be used within an SLM PER to assess whether or not a particular expenditure is SLM-relevant.

The Government of Uganda, the World Bank and their partners, however, might want to consider updating the descriptions of some of these SLM objectives to take into account the substantive advancements in sustainable development policy since the FESLM definition was drafted in 1991. These advancements could include consideration of the MEAs launched at the 1992 UN Conference on Environment and Development and the plan of implementation from the 2002 World Summit on Sustainable Development.

For example, the first objective of Productivity should take into consideration the key biodiversity issues of the provision of ecosystem services and the sustainable use of biological resources. The second objective of Security could include natural risk reduction strategies as developed by the UN International Strategy for Disaster Risk Reduction and the World Bank Global Facility for Disaster Reduction and Recovery. The third objective of Protection clearly should include the broad international commitment to biodiversity conservation under the UN Convention on Biological Diversity. The fourth objective of Viability should perhaps have a stronger focus on the business case for SLM. Finally, the finally objective of Acceptability could include concepts such as fair trade and social equity.

This set of five SLM objectives could also be restructured as required, for example to provide a stronger emphasis on the ecological and natural resource aspects of SLM. Such a restructuring of the SLM objectives was undertaken by the Danish consultancy firm, COWI, in their pilot SLM PER for Uganda. The final draft of the report was released in September 2006.

Working under the premise that “soil erosion is the most significant environmental degradation factor in the Uganda,” COWI decided to adapt the SLM definition so that it placed a stronger emphasis on the environmental objectives. The following table shows how the original FESLM objectives compare to the “COWI” objectives:

SLM objectives for Uganda		
FESLM objectives	COWI objectives	Short name
maintain or enhance production/services (Productivity),	6. The project maintains or enhances production	Productivity
reduce the level of production risk (Security),	7. The project reduces the level of production risk	Security
protect the potential of natural resources and	8. The project protects natural resources	Protection
prevent degradation of soil and water quality (Protection),	9. The project reduces soil and water degradation	Conservation
be economically viable (Viability), and socially acceptable (Acceptability).	10. The project is economically viable and socially acceptable	Viability

To maintain a set of 5 objectives but with a greater weight on environmental issues, COWI split the third objective on Protection into two. They also combined the fourth and the fifth objectives on Viability and Acceptability into one. (Please note, that as required later in this report, the short names for these objectives listed in the right hand column are used.)

Also, note the COWI numbers for these objectives are 6 through 10. These follow on from COWI’s 5 descriptive objectives for SLM-related projects which are:

1. Name of ministry

2. Name of project
3. Project objective
4. Project outputs
5. Project indicators

As this report basically accepts COWI's premise that soil erosion is a key factor behind land degradation and the unsustainable management of Uganda's productive landscapes, it has used COWI's revised set of 5 SLM objectives. (The report also uses the numbers 6 through 10 used by COWI.) In so doing, it was also possible to use SLM assessments of the projects which COWI looked at as an input to deciding the SLM relevance of a long list of SLM-related projects.

3.2. Sustainable land management categories

In addition to having a working set of SLM objectives, it is also useful to categorise SLM activities according to various natural resources sectors. These sectors – such as forestry and agriculture – are often the responsibilities of different government departments and managed under different financial budgets and regulatory structures. A practical challenge for SLM, of course, is to develop modalities for coordinating and synergising activities undertaken for various resource sectors.

One approach to understanding the SLM-related natural resource sectors can be found in the in the definition of biodiversity given by the Convention on Biological Diversity (CBD). It states that:

“biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the *ecological complexes* of which they are part; this includes diversity within species, between species and of ecosystems” (*italics added*).

SLM addresses the challenge of managing “ecological complexes” sustainably. A simpler expression for ecological complexes is landscapes. Under the CBD, landscapes are made up of ecological systems or natural resource sectors. As will become clearer below, in this report we label these systems or sectors “SLM categories.”

A practical approach to SLM categories is presented in the May 2007 programme brief on a proposed US \$137 million grant from the Global Environment Facility (GEF) for a strategic investment program for sustainable land management in Sub-Saharan Africa. The brief proposed a set of five SLM categories as follows:

- ***“Category 1 Sustainable Agricultural Management Activities***
 - 1.1 Rehabilitation/re-vegetation of degraded agricultural lands (including C sequestration)
 - 1.2 Improve tillage methods (zero, conservation, use of green manures / improved fallows)
 - 1.3 Adopt erosion control measures (terraces, buffer strips)
 - 1.4 Improve complexity (genetic, species, etc.) of agro-ecosystems
 - 1.5 Promotion of diversified rotations, cover crops etc.
 - 1.6 Use of integrated crop-livestock systems (including zero grazing) and other diversified practices (incl. those associated with traditional systems)
 - 1.7 Improved water management through water harvesting, small-scale irrigation, etc

- ***Category 2 Sustainable Forest/Woodland Management Activities***
 - 2.1 Protection/conservation of indigenous species
 - 2.2 Agro-forestry initiatives
 - 2.3 Regeneration of forests and woodlands
 - 2.4 Promotion of non-timber forest products (including medicinal plants and wild food)

- ***Category 3 Sustainable Range/Pasture Management Activities***
 - 3.1 Rehabilitation/re-vegetation of degraded range/grasslands (including soil improvement)
 - 3.2 Fire control measures
 - 3.3 Reseeding using suitable indigenous perennial grasses
 - 3.4 Improve management of ruminant animals
 - 3.5 Mixed wildlife/pastoral systems

- ***Category 4 Integrated Watershed Management***
 - 4.1 Soil and water conservation, including upstream investments target both on-site and downstream benefits, and applying practices and technologies that combines both structural and lower cost vegetative measures, with emphasis on the latter, whenever possible
 - 4.2 Measures to improve livelihoods through sustainable intensification of natural resource use (in rainfed agriculture, livestock production and forestry), diversification and integration of crop and livestock production, improved water management
 - 4.3 Target productivity improvements in agriculture through intensification, diversification, integration of crop and livestock

production, improved rangeland management, and improved water management

4.4 Maintenance of stream flow and reduction of flow variability

4.5 Conservation and sustainable management of wetlands, lakes and river valleys, including investments in forestry to protect and improve forest cover whilst creating associated revenue stream for local people

- **Category 5 Energy-Related Activities**

5.1 Improvements to reduce consumption of wood fuel (sustainable forest harvesting, efficient wood-burning stoves, fuel substitution)

5.2 Disseminate alternative technologies to reduce dependence on wood fuel (solar, wind, geothermal, small hydro)”

Importantly for Uganda these SLM categories present an ecological complex or landscape-level understanding of SLM that is much broader than the desertification/land degradation focus of the UN Convention to Combat Desertification (UNCCD). Nevertheless, even these five categories are probably not be sufficient to capture all of the key natural resources sectors or issues relevant to SLM in a country such as Uganda.

Referring back to the Uganda State of the Environment Report presented in Section 2 above, it is clear that the Government of Uganda is considering other categories as well which are of relevance to SLM. In this respect, in preparing a SLM public expenditure review for Uganda, we may want to add an additional three SLM categories which could look like the following:

- **Category 6 Fisheries Activities**

6.1 Rehabilitation/re-vegetation of degraded wetlands and river basins

6.2 Improve complexity (genetic, species, etc.) of aqua-ecosystems

6.3 Improved practices for fish ponds and other aquaculture systems

6.4 Use of integrated fish-crop-livestock systems

- **Category 7 Protected Areas Activities**

7.1 Protection/conservation of high biodiversity areas

7.2 Protection/conservation of indigenous species

7.3 Mixed conservation/sustainable use systems

7.4 Management of ecosystem services

- **Category 8 Cross-Sectoral Activities**
 - 8.1. Integrated SLM planning and regulations at national and district levels
 - 8.2 Landscape-level monitoring and evaluation
 - 8.3 SLM enterprise development and finance
 - 8.4 SLM research and analysis
 - 8.5 SLM education and awareness raising

Regarding Category 6, fishing is clearly a key landscape and livelihood activity throughout much of rural Uganda. In districts such as Kasese, for example, there is a critical landscape dynamic regarding the interplay between local and immigrant ranching communities, the fishing communities and the crop farming communities in the lowlands areas in and around Queen Elizabeth National Park. In this district, there is also a complex array of farming, fishing and livestock issues in the highlands in and around the Ruwenzori National Park.

Regarding Category 7, protected areas provide rural livelihood opportunities based on sustainable non-consumptive use, notably tourism. Under the Uganda Wildlife Authority there are also several innovative SLM schemes involving management use of protected areas by local communities. A particularly good example is the case of Lake Mburo National Park which has well developed programmes for allowing local communities access to the park for watering their cattle and for fishing. There are also discussions currently about allowing local communities to harvest the acacias which have seriously threatened the open grasslands of the park and are impacting on the disbursement of wildlife in and around the park. The harvesting of these trees would restore an endangered ecosystem and provide much needed fuel wood.

Regarding Category 8, if productive landscapes are to be managed sustainably there is a critical need for landscape-level capacities and programmes to monitor and evaluate the ecological integrity and diversity of landscape ecologies over time. There is also a need to integrate and harmonise sectoral programmes and regulations. Perhaps most importantly from the perspective of rural poverty alleviation, there is a need to develop and invest in SLM-based enterprise and employment opportunities in throughout rural Uganda.

With these 8 SLM categories we can identify a comprehensive landscape context for SLM expenditures in Uganda. Furthermore, these categories are quite compatible with the categories used by NEMA in its State of the Environment Report.

3.3. A sustainable land management framework for Uganda

By combing the five SLM objectives with the eight SLM categories, we have a SLM matrix or framework within which SLM-related expenditures in Uganda can be identified and evaluated. This is shown in the following table:

A comprehensive SLM framework for Uganda					
Objectives → Categories ↓	6 Productivity	7 Security	8 Protection	9 Conservation	10 Viability
1 Agricultural Activities					
2 Forestry Activities					
3 Rangeland Activities					
4 Watershed Activities					
5 Energy-related Activities					
6 Fisheries Activities					
7 Protected Areas					
8 Cross-Sectoral Activities					

Using such a matrix or framework to undertake an SLM public expenditure review in Uganda allows the analysis to be both inclusive and adaptive. It is inclusive in that it will capture a broad portfolio of activities relevant to managing productive landscapes sustainability. It is adaptive as it will also allow more focused analyses of particular objectives – such as the two natural resource objectives of Protection and Conservation – or of particular categories – such as the two more traditional landscape categories of Agricultural Activities and Forestry Activities.

4. The portfolio of sustainable land management expenditures

[Forthcoming, following further work on the project data and info.]

5. Overview of budget planning and allocation processes

The draft final report (25 May 2007) of a recent agriculture sector public expenditure review for Uganda explains that the budget planning process lasts for approximately nine months, starting with a national consultative meeting in October and ending with the reading of the Budget the following June. The report further explains that the main steps in this process include the following:

- October: drafting budget ceilings
- November to December: preparing sector working group reports
- January: making preliminary estimates
- March: submitting the national budget framework to Cabinet and the Parliament
- April to May: debate in Parliament and public expenditure review
- June: Finalising and reading of the Budget

Unfortunately, such a process does not exist for sustainable land management as SLM is not an operational concept within the budget planning and allocation process of the Government of Uganda.

Furthermore, the concept does not feature explicitly within the various development projects of the Government or even within NEMA's State of the Environment Reports. See Section 2 above. SLM-related projects and expenditures have to be deduced using a framework such as the one developed in Section 3 above.

At the level of the Parliament, the concept of SLM is also not in use. The one reference to SLM on the website of the Parliament of Uganda happened in 2005 in a debate over a proposed loan from the African Development Bank. This loan was to support tsetse fly eradication and then to promote SLM in tsetse-free landscapes. One Member of Parliament adamantly stated:

“So, I want most of this money to be put where action is, which is really tsetse suppression. I do not think you can eradicate them and capacity building, coordination and management; forget this

business of sustainable land management because it is simply impossible.”

Given the complexity of trying to establish an SLM budget planning and allocation process on top of those that already exist for SLM-relevant sectors such as agriculture, it may well be wise to consider different approaches to developing an SLM Country Programme. To approaches – which are not incompatible – are suggested in this section of the report.

5.1. Developing a district-level SLM programme

[Forthcoming, based on insights from Kasese]

5.2. Developing an SLM enterprise development and investment facility

[Forthcoming, based on insights from biodiversity business facilities]

6. Analysis of sustainable land management expenditures

[forthcoming, following completion of section 3.]