THE REDD OPPORTUNITIES SCOPING EXERCISE (ROSE), UGANDA

the katoomba Incubator

FOREST TRENDS

the katoomba group

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Forest Trends' and the Katoomba Group's work on the REDD Opportunities Scoping Exercise in Uganda was made possible by:

EXECUTIVE SUMMARY

This scoping study of the potential for Reduced Emissions from Deforestation and Degradation (REDD) in Uganda was undertaken to generate information on prospective projects for support by the Katoomba Ecosystem Services incubator. Beyond the identification of high potential project types for the Incubator, the study analysed policy, legal and institutional gaps and opportunities and generated recommendations, for creating a conducive environment for the development of REDD projects in Uganda.

The methodology used in identifying prospective projects involved two major stages adapted from a similar study that was carried out in Tanzania. The first stage was an inception workshop in which an inter-disciplinary team, including an environmental lawyer, identified the relative viability or attractiveness of different REDD project types by scoring them against selected criteria, and brainstormed the potential policy, legal and institutional constraints and opportunities for these projects to deliver marketable carbon credits. The second stage involved in-depth document review and consultations with lead agencies, projects and other field operators, central and local government, forest owners and communities on policy, legal and institutional gaps and opportunities for potential REDD projects.

The REDD Opportunities Scoping Assessment (ROSE) approach classifies forest abatement opportunities into "project types" based on ecosystem, tenure and other variables. The study identified the following REDD project types in order of priority:

Low-stocked Tropical High Forest under Collaborative Forest Management (CFM): Low-stocked (or degraded) THF under CFM with the National Forestry Authority (NFA) was considered to have the highest potential for REDD project development because of its potential for achieving high emission reductions per hectare, and in view of the established institutional systems involving communities in direct forest management and the benefit sharing provisions. The main driver of deforestation and degradation for this project type is illegal timber harvesting. Possible sites include South Busoga, Sango Bay and Mabira Central Forest Reserves (CFRs) in the lake-shore region, and Budongo and Kasyoha-Kitomi CFRs in the Albertine Rift.

Low-stocked Tropical High Forest on private land: Low stocked THF under private ownership was ranked second in potential for REDD projects because of their potentially high additionality resulting from addressing the constant agricultural land pressure from surrounding communities. Possible sites include private forests in the northern, central and western regions.

Low-stocked Tropical High Forest under Community Resource Management (CRM): Low stocked THF under CRM with the Uganda Wildlife Authority (UWA) was ranked third, as a potential for REDD projects. However, not primarily for avoided deforestation, but for the potential enhancement of carbon stocks as forests recover (possibly as REDD+), The UWA has well established community involvement and revenue sharing mechanisms. This forest type scored lower than CFM because of concerns about revenue sharing arrangements, and because of its focus on wildlife as opposed to tree management. The main deforestation/degradation driver is illegal timber harvesting. Possible sites include Pakanyi sub-county near Murchison Falls National Park in Masindi District, and CRM sites around Mt.Elgon, Semliki and Queen Elizabeth National Parks.

Woodlands under NFA, private ownership and UWA: The woodland project types were, in general, considered to be less attractive for REDD, mainly because of their lower carbon stocking potential. All woodlands are threatened, mainly by charcoal production and over-grazing, although those under the UWA are less vulnerable than those under NFA and private management. The opportunity costs of overcoming these two major threats are potentially high. Nevertheless, REDD can be tried in the less pressured sites under NFA or private management in Kibale, Hoima and Kyenjojo Districts and in the northern, north-western and eastern regions. Community Wildlife Areas (CWAs) under the UWA tend to be better protected, but could also qualify for REDD. Potential sites include CWAs around Lake Mburo National Park and Kaiso-Tonya, and CRM in Karuma, Toro-Semliki and Kabwoya wildlife reserves.

Together these areas comprise 68% of Uganda's forest cover (NFA 2005 Biomass data) and approximately 70% of stocks or emissions reductions potential.

In general, the study identified that a significant share of potential REDD projects in Uganda occurs in state-managed forests – mainly under the UWA and NFA - with some mechanism of community participation. UWA and NFA managed forests comprise together 35% of Uganda's remaining forests. These areas are being expanded to cover a bigger forest portion as more agreements and MoUs are signed with communities. So far, there are twenty-three Collaborative Forest Management agreements signed, covering over 45,000 ha countrywide, but there is significant potential for expansion if community benefits could be strengthened (e.g. through carbon finance). For forests on private land or potentially communal forests, in which communities have more secure land and tree tenure, REDD implementation will need to address challenges mainly stemming from rudimentary institutional structures and poor or non-existent deliberate forest management.

In order for the higher potential REDD project types to be successful, progress is needed in these critical areas to overcome the key policy, legal and institutional constraints:

(a) Reviewing the existing policy and institutional framework in order to create a conducive environment for implementing REDD.
(b) Developing policy provisions that clearly state the level of forest benefits and the mechanisms through which they will be shared among participating stakeholders.
(c) Clarifying land rights and tree tenure, especially where there are overlaps and ambiguities.
(d) Developing a REDD Readiness Plan including an institutional framework for incentives and fund transfers to communities and forest managers.
(e) Developing aggregator systems for private forests, CFM and CRM.
(f) Formalising the registration of community forests.
(g) Building governance and administrative capacity of local and community institutions.
(h) Streamlining institutions responsible for policy enforcement and ensuring institutional accountability.
(i) Reviewing existing channelling mechanisms to ensure that natural resource funds reach the local stakeholders.

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LIST OF ACRONYMS AND ABBREVIATIONS

CBOs	Community-Based Organisations
CFs	Community Forests
CFM	Collaborative Forest Management
CFR(s)	Central Forest Reserve(s)
CLAs	Community Land Associations
COFSDA	Conserve for Future Sustainable Development Association
CPIs	Community Protected area Institutions
CRM	Collaborative Resource Management
CSR	Corporate Social Responsibility
CWA	Community Wildlife Areas
DD drivers	Deforestation and Forest Degradation drivers
DEC/LEC	District Environment Committee/Local Environment Committee
DFO	District Forest Officer
DFS	District Forestry Services
DLB	District Land Board
ECOTRUST	The Environment Conservation Trust of Uganda
FIEFOC	Farm Income Enhancement and Forest Conservation
FSSD	Forestry Sector Support Department
IUCN	The World Conservation Union
JMRs	Joint Management Reserves
LFRs	Local Forest Reserves
LGs	Local Governments
LLGs	Lower Local Governments
MFNP	Murchison Falls National Park
MoU	Memorandum of Understanding
MWE	Ministry of Water and Environment
MWLE	Ministry of Water, Lands and Environment
NAADS	National Agricultural Advisory Services
NACOBA	Nagojje Community Based Association
NAPA	National Adaptation Programme of Action
NBU	National Biomass Unit
NEMA	National Environment Management Authority
NEMP	National Environment Management Policy
NFA	National Forest Authority
NFTP Act	National Forestry and Tree Planting Act
NGOs	Non-Governmental Organisations
NOB-Net	North Budongo Network for collaborative forest management
NP	National Park
PAM	Policy And Measures
PAs	Protected Areas
PEMA	Participatory Environment Management
PES	Payment for Ecosystem Services
PFE	Permanent Forest Estate
PFM	Participatory Forest Management
PFs	Private Forests
PPA	Priority Programme Areas
QENP	Queen Elizabeth National Park
REDD	Reduced Emissions from Deforestation and forest Degradation

SNR	Strict Nature Reserves
SSSI	Sites of Special Scientific Interests
t C/ha/y	Tons of carbon per hectare per year
THF	Tropical High Forest
TPAs	Timber Production Areas
UNETCOFA	Uganda Network for Collaborative Forestry Associations
UWA	Uganda Wildlife Authority
UWASP	Uganda Wildlife Authority Strategic Plan
WCAs	Wildlife Conservation Areas
WMAs	Wildlife Management Areas
WPAs	Wildlife Protected Areas
WRs	Wildlife Reserves

Glossary

"*Forest and Forest Ecosystem"* The National Forestry and Tree Planting Act (2003) defines forest as an area of land containing a vegetation association that is predominantly composed of trees of any size, and includes a forest ecosystem of moist, multi-layer forests, woodlands or plantations, and the forest produce. A forest ecosystem is defined as any natural or semi-natural formation of vegetation whose dominant element is trees, with closed or partially closed canopy together with biotic and abiotic environments.

"Reducing Emissions from Deforestation and Degradation (REDD)": REDD is a generic term used for a range of options and financing mechanisms that can be used to reduce deforestation and degradation with the goal of mitigating climate change. It can be thought of as an approach to conserving carbon stocks in standing forests through a system of incentives. It is based on the simple idea that funds are provided to developing countries for reducing emissions from deforestation or forest degradation through the implementation of various Policies and Measures (PAM). Payments are made for emission reductions achieved by reducing deforestation or forest degradation.

"*Project type"* represents the combination of an ecosystem type, physical region or area, one or two main deforestation or degradation (DD) drivers, and the tenure/institutional system.

"Viability" in the context of the study means the potential of a project (or project type) to deliver real, measurable emissions reductions, whether for current and emerging carbon markets or public and multilateral funding mechanisms.

AUTHORS

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1.0 Introduction

Background

The principle of providing financial incentives for developing countries to reduce emissions from deforestation has gained ground in the international debate on climate change. Global and national policy arenas have identified deforestation and degradation as critical sources of greenhouse gas emissions and as such intense negotiations are underway to establish an international system of positive incentives for forest conservation and management. Reduced Emissions from Deforestation and Degradation (REDD) has emerged as a likely component of the global climate protection regime to succeed the Kyoto Protocol after 2012. Support for REDD financing mechanisms has garnered attention primarily because emissions associated with forest loss account for roughly a fifth of current global CO_2 emissions, and in many cases forests' value as carbon stores may be greater than that of converting to other uses. In addition, REDD finance could reinforce and augment existing biodiversity financing instruments and provide important development and poverty alleviation benefits.

REDD provides a unique opportunity for Uganda to sustainably conserve forest biodiversity and generate real benefits for the country and its population. Uganda has been an innovator and early mover in forest carbon markets, with several pioneering and internationally recognized projects (ECOTRUST, FACE and World Bank supported afforestation and municipal waste management). Based on a simple model, Butler (2006) calculated that at a deforestation rate of 86,400 ha/year, Uganda was in position to earn $10-137 million with a potential increase in per capita income of 0.13-2.18% from avoided deforestation.

REDD may provide economic incentives and has the potential to support and deepen participatory forest management approaches that have been adopted by the country in recent years. However, successful implementation of REDD requires clear identification and nurturing of viable projects, as well as appropriate policy, legal and institutional frameworks. Implementation of REDD could be undermined by the lack of a favourable policy and legal regime, one that provides clarity over forest tenure and carbon rights, the absence of a conducive institutional set-up for decision making and information flows, the want of clear and transparent benefit sharing mechanisms including a financial management system that allows funds to flow to the beneficiaries. Consequently the identification of such gaps is essential for developing a conducive environment for successful implementation of REDD projects.

This report describes the outcomes of a scoping exercise and study led by the Katoomba Ecosystem Services Incubator. The aims of this exercise were to (a) identify a portfolio of promising REDD projects that can assist communities to access PES markets/funds, (b) provide input into government REDD "readiness" and priority-setting processes, and (c) generate recommendations in terms of the legal, policy and institutional actions or reforms necessary to stimulate forest carbon finance in Uganda. Reforms necessary for equitable sharing of carbon credits with participating local stakeholders are also critically explored. Similar REDD scoping exercises are being or have been undertaken in Tanzania and Ghana.
(http://katoombagroup.org/documents/events/AGENDA_Tanzania_Workshop.pdf)

Fig. 1. Map of Uganda showing districts (United Nations Maps 1999-2007)

1.2 Forest and Deforestation Context: Uganda

Uganda's forest area was 4,900,000 ha in 1990, but by 2005 it had declined to 3,627,000 ha, covering approximately 15% of total land area (Butler 2006). Over 1,900,000 ha of this constitute the Permanent Forest Estate (PFE), defined in the Forestry Policy, 2001 as *"land that is set aside for forestry activities in perpetuity."* It is held in trust for the people of Uganda by Government in the form of central forest reserves managed by the central government under the National Forestry Authority (1,270,797 ha), local forest reserves under decentralized district governments (4,995 ha) and forested areas in national parks under Uganda Wildlife Authority (731,000 ha). These are mainly for conserving biodiversity and protecting steep slopes, water catchments, riverbanks, lakeshores and wetlands. The rest of the forest estate is under private ownership (State of the Environment Report 2004/5) where deforestation and degradation mainly occur (Plumptre 2002).

Wood fuel is the major source of energy for domestic cooking. Annual timber consumption in the country estimated at 100,000 m^3 in 2005/06, is projected to rise mainly driven by the booming construction industry.

1.3 Forest/tree tenure systems in Uganda

The National Forestry and Tree Planting Act 2003, classifies forests according to tenure as (a) Central Forest Reserves under National Forest Authority (NFA) or Uganda Wildlife Authority (UWA); (b) Local Forest Reserves under local government; (c) Community Forests under community ownership once declared by the minister; (d) Private Forests under private individuals, cultural and traditional institutions; (e) Joint Managed Forests usually forming part of a wildlife conservation area under both the UWA and NFA.

According to current legal provisions, there are ten specific arrangements for forest management, with implications on ownership of carbon rights (Table 1). Tree tenure and therefore carbon tenure is clear in central forest reserves under a single government institution, and on private forests where title deeds and boundaries are well laid out. However, it is less certain in Joint Managed Forests, forests under collaborative management, contested forests between cultural institutions and government, and between absentee landlords and tenants/occupants.

Since the enactment of the National Forestry Policy 2001 and the National Forestry and Tree planting Act, 2003, Uganda has adopted Participatory Forest Management to supplement policing and control approaches. New regulatory and institutional frameworks were put in place to support community and private sector involvement in the management and sharing of benefits from forest conservation. With the support of the World Bank's Forest Carbon Partnership Facility (FCPF), Uganda is in the initial stages of formulating the REDD Readiness Preparation Proposal (R-PP) that is intended to provide a common framework for effective coordination and implementation of REDD activities. The evolution of new institutions for better management of natural resources and in response to climate change provides opportunities for implementation of REDD. These include the Community Forest Management Unit under National Forestry Authority, the Community Conservation Division under Uganda Wildlife Authority, the Climate Change Unit and the Forest Sector Support Department under the Ministry of Water and Environment.

Table 1. Tenure/institutional system for forest management and implications for REDD/Carbon finance

Tenure	*Institution*	*Management arrangement*	*Main Characteristics*	*Implications for carbon finance*
Government-managed forests or protected areas	National Forestry Authority (NFA)	Strict Nature Reserves (SNRs) and Sites of Special Scientific Interest	326,600 ha Large forest blocks Normally located inside forest reserves. Tree felling is prohibited.	Additionality: low Land and Tree Tenure: NFA Carbon and biodiversity values: high Environmental values: high Social/livelihood benefits: low
	NFA with other stakeholders	Buffer zones	485,588 ha Large forest blocks At least 500-1000 m belts around SNRs Low-impact use	Additionality: low; Carbon, biodiversity and environmental values: high; Land and Tree Tenure: NFA Social/livelihood benefits: moderate
	NFA with private sector/ communities	Aforestation/ reforestation of CFR production areas	353,475 ha of which 282,784 ha is ear-marked for aforestation/reforestation with the private sector under license 21,863 ha of small patches (< 500 ha) are licensed to individuals or local communities. Licensees have tenure rights for trees they have planted. Mostly large forest blocks for supply of timber & firewood.	Additionality: moderate-low. Better suited for AR Carbon values: high-moderate Land and Tree Tenure: Clearly NFA or licensee Biodiversity and environmental benefits: low Social/livelihood benefits: moderate Key beneficiaries - large scale concessionaires.
	NFA with communities	Collaborative Forest Management in CFR Production Areas	Approx. 26,965 ha Small patches in degraded forest sections adjacent to local communities. Local communities have user rights	Additionality: moderate-high Carbon: moderate-low

		negotiated via a Collaborative Forest Management Agreement.	Land/tree tenure: NFA Biodiversity and environmental values: moderate
District or sub-county local governments	Local Forest Reserves	4,997 ha[1] Small < 500 ha highly degraded forests	Too small. May need to be aggregated with Private forests
Uganda Wildlife Authority	Wildlife Protected Areas - National Parks (NP) and Wildlife Reserves (WRs)	731,000 ha Adjacent local communities may have user rights negotiated via a MoU for Collaborative Resource Management (CRM) in zones not exceeding 20% of the PA.	Additionality: low because PAs have maximum protection Tenure rights including carbon rights: UWA
Local community committees under local governments with technical assistance from UWA	Wildlife Management Area e.g. Community Wildlife Areas (CWAs)	478,300 ha Can be large forest blocks e.g., Amudat (202,500 ha)	Additionality: high Fragmented small local community organizations need aggregation Community institutional support needed Community property rights are legally defensible
UWA and NFA	Joint Management Forest Reserves	451,200 ha Large forest blocks e.g., Bwindi National Park (119,200 ha).	Additionality: low Tenure /carbon rights: unclear. High potential for conflict.

[1] *Second Schedule of the National Tree Planting and Forests Act 2003*

Tenure	*Institution*	*Management Arrangement*	*Main characteristics*	*Implications for carbon finance*
Private Forests	Individuals or institutions outside government	Variable	2,304,000 ha Mostly small fragmented patches. None has been registered with any District Land Board yet as provided for in the law.	Additionality: high Opportunity cost: high near urban centres Land and tree tenure: clear except for reserved tree species, which are directly under government. Tenure could be strengthened through registration.
Community Forests (can be declared by the Minister upon approval by the District Council).	Potentially CBO, NGO, co-operative society, communal land association (CLA), company, farmers' group, or traditional / cultural institution	Forests on formerly public or government land that are completely under community control	No community forests yet.	Additionality: potentially high Tenure/Carbon rights: would belong to the local communities. Opportunity costs: may be low (potential forest patches are in remote areas) Fragmented and small forest blocks need aggregation.

1.4 The Katoomba Ecosystem Services Incubator

The Katoomba Ecosystem Services incubator was established by Forest Trends to support community-based initiatives to access carbon and other ecosystem service markets. The Incubator focuses on community and biodiversity-centred projects with potential for long term financial viability and poverty reduction benefits. It supports project design and development phases by providing targeted technical, financial and business management support to enable projects to effectively engage private investors or buyers. It was established, firstly in Latin America, where a portfolio of six projects has been built up and is now being extended to East and West Africa.

At the core of the Incubator's vision is the fact that projects can be drivers of broader change – in markets, in policies and in local capacities. In developing a portfolio of REDD demonstration activities it is desirable that project selection be undertaken in a systematic as opposed to *ad hoc* way, resulting in a strategically selected portfolio of projects that embody key opportunities (or constraints). By investing in technical and business support to these demonstration activities the Incubator seeks to unlock REDD potential, build capacity and contribute to national policy formation and objectives. This REDD Opportunities Scoping Exercise (ROSE) provides a useful structured analytic framework to establish priorities and assess project viability. Similar exercises were conducted or are underway in Tanzania and Ghana.

1.5 Objectives

The main aims of the ROSE study were to explore and prioritise REDD project opportunities, and identify key constraints to cost-effective project development.

The specific objectives are threefold: firstly, to identify REDD and other forest carbon project types with high potential to deliver cost-effective measurable emissions reductions and local benefits; secondly, to identify the main legal, policy and institutional gaps for the more promising project types, including recommendations of actions or reforms necessary to stimulate forest carbon finance in Uganda; and thirdly, to facilitate the government of Uganda to develop a balanced portfolio of REDD projects that responds to national priorities.

2.0 STUDY METHODS AND PROCESSES

The study followed two major stages adapted from the Tanzania ROSE study:

1. **An inception workshop involving an interdisciplinary team including an environmental lawyer, which carried out:**
   - Characterisation and ranking of REDD project types according to deforestation/degradation (DD) drivers, opportunity cost, community participation and other relevant criteria
   - Analysis of legal and institutional constraints /opportunities for the REDD project types demonstrating high potential to deliver verifiable and marketable carbon credits

2. **In-depth document review, and consultations with lead agencies and implementers in the field** around the main legal and institutional arrangements for community participation in forest management.

The inception workshop, which took place over May 13th to 15th, 2009, started off with a half-day introductory session involving technical experts, donors and leaders of key government agencies. The session was intended to introduce the work of the Incubator and explore how the findings and subsequent activities would contribute to the relevant national processes and donor priorities for Uganda forest management. The list of participants is in Annex 3. The subsequent workshop sessions worked through the following steps.

(a) Selecting criteria for determining viable REDD projects
(b) Identifying and characterizing forest types
(c) Classifying REDD project types
(d) Scoring project types against the criteria
(e) Selecting high potential project types through a "screening" process
(f) Analysing policy, legal and institutional constraints or gaps for high potential project types

(a) Review of criteria for viable REDD projects
The list of criteria for ranking the viability of REDD projects was slightly modified from the Tanzania exercise:

- Opportunity cost associated with alternative (to REDD) land use
- Clarity of land tenure
- Clarity of tree tenure (and therefore potentially associated carbon property rights)
- Size of forest blocks and/or aggregation potential
- Biomass or carbon levels of the ecosystem
- Likely local institutional or governance capacity
- Probable leakage risk for deforestation actors and drivers
- Replicability (i.e., potential for scaling up to other similar areas)
- Level of community benefits (as a proxy for poverty reduction)
- Potential for bundling or combining carbon with other ecosystem services
- The deforestation threat level (often associated with population density)
- Likely level of government interest (e.g., could be higher for state managed areas)
- Applicability of existing carbon methodology
- *Poverty status in area where forest is located*
- *Contribution to Uganda's carbon emissions reduction profile*[2]

***(b) Identification and* characterization of forest types**
Forest ecosystem types defined by the Uganda National Biomass Unit (NBU) were used for ease of cross comparison and understanding. Forest ecosystem types were

[2] New criteria added to the original list developed in Tanzania. 'Poverty' was added based on discussions between the Incubator and the World Resources Institute on how poverty influences forest dynamics. 'Capacity of stakeholders' was removed as it was seen to be more relevant at project site selection level.

characterised according to the main deforestation/degradation drivers, tenurial and institutional system.

(c) Classification of REDD project types

Forest types were classified into REDD project types by focusing on the key forms of community participation. These included Collaborative Forest Management (CFM) under NFA, Community Resource Management (CRM) under UWA, Community Wildlife Areas (CWA) and private forests, with a special category of customary forests. Community forests, although provided for in the policy, were left out because they have not been established yet. Licensing was also left out because it has so far been used only for aforestation-reforestation (AR) activities as opposed to REDD.

(d) Scoring the project types

The potential project types were scored against the criteria above. Scores of 1 (least desirable) to 3 (most desirable) were given to each criterion, supplemented with more qualitative discussion. For example, large forests located in poorer parts of the country or those with high likelihood of community benefits were ranked high, whereas forest areas with high opportunity cost and high leakage risks were ranked lower. The size of forest blocks was roughly categorized as: large >25,000 ha (most desirable); medium 10-25,000 ha; small <10,000 ha (least desirable). Because district forest reserves exist in small patches covering a total of only 5000 ha countrywide, they were removed.

Aggregation potential was scored according to the existence of institutional arrangements or opportunities for bringing together many players to increase project size or scale. Project types were scored 1 if such institutions were in their early stages and 3 if well developed. The criterion 'remoteness' was scored in terms of cost: the more remote, the less desirable (Although we noted that the reverse could be true in terms of reaching where others have not and contributing to social equity). Governance was judged according to existence of working systems within the institution in charge, i.e., clear law, working structures, and resilience to political manipulation.

(e) Selection of high potential project types through a "screening" process

Project types were "screened" further by adding weight to the most critical criteria – especially the potential carbon additionality based on prevailing deforestation threat level, land use opportunity cost and clarity of carbon property rights. This resulted in selection of six project types.

(f) Brainstorm analysis of constraints or gaps for high potential project types

For each of the selected viable project types, the legal, policy and institutional constraints to equitable implementation of REDD were discussed.

2.3 Stakeholder consultations and review of documents

Consultations were held with lead government agencies in forest management supplemented with field sessions with officers in Masindi and Bushenyi Districts. Discussions mainly focused on issues associated with the climate change policy, community involvement in forest management for climate change, fund channelling and benefit sharing mechanisms.

3.0 CLASSIFICATION AND RANKING OF REDD POTENTIAL PROJECTS

3.1 Identification and characterization of forest types

Uganda's natural forest vegetation is categorized into three broad types (Table 2): Tropical High Forest well stocked, Tropical High Forest low stocked, and woodlands. Although standing biomass (living/above-ground biomass) stocking in woodlands is almost five times lower than that in THF well stocked and over 3 times lower than that in THF low stocked, the widespread loss of woodlands between 1990 and 2005 was equivalent to over five times the biomass loss from THF well stocked. This is equivalent to a loss of about 200,000 ha of THF well stocked compared to the 50,158 ha recorded or about one third of the remaining THF well stocked area in 2005.

Different tenure/institutional frameworks for forest management offer differing levels of protection. Between 1990 and 2005, forest loss within protected areas was 17% (0.20 million ha) compared to 34% loss (1.2 million ha) outside protected areas (Table 3).

Bush lands, grasslands and wetlands, are not considered to be part of the forest cover, although it is important to note that expansive loss of grassland also results in significant loss of biomass. The expanding bush lands (1990-2005) resulted in very little gain in standing biomass.

Wetland vegetation is dominated by papyrus, which contains very low living biomass (0.31 tons/ha), but follows a C4 photosynthetic pathway, predicted to sequester about 16 t C/ha/y (Jones and Humphries 2002). Its peat-like sediment contains about 2.5 t C/ha (Mitsch and Bernal, 2008). Wetland vegetation has a neutral to positive overall carbon sequestration effect, balancing its carbon sequestration capacity against its release of methane (op cit). REDD incentives should be explored for protection of wetlands against destruction, which exposes accumulated rhizomes to aerobic conditions resulting in a potential net release of 10 t C/ha/y (Jones and Humphries 2002). The major wetland threats are large-scale agriculture e.g., the Kibimba rice scheme, drainage for cattle grazing especially in western Uganda, pollution and overharvesting of wetland products (Mafabi and Taylor 1993).

In general, in order to contribute to Uganda's carbon emissions reduction profile, most emphasis should be on the protection of forests outside protected areas and with a greater focus on THF, while developing programs to halt the widespread loss of woodlands. Wetlands should also be taken into consideration since their destruction results in high emissions.

The key forest ecosystem types are described in Table 4 according to location, scale and main deforestation/degradation (DD) drivers.

3.2 Identification and classification of project types

The potential forest ecosystem types were scored based on the seventeen criteria above. The initial outcome of the total scores is as shown in Table 5.

Table 2. Land–use/ forest cover type in Uganda

Forest type	*Biomass in standing stock, 2005 (000, tons)*	*Area 2005 (ha)*	*Biomass in standing stock 2005 (tons/ha)*	*Difference in area coverage since 1990 (ha)*	*Difference in standing Biomass since 1990 (000, tons)**
THF well stocked	136,491	600,952	227.13	-50,158	-11.39
THF low stocked	27,596	191,694	143.96	-81,367	-11.71
Woodland	126,014	2,777,997	45.36	-1,196,510	-54.28
Bush	14,008	2,968,675	4.72	1,546,482	7.3
Grassland	46,852	4,063,581	11.53	-1,051,844	-12.13
Wetlands	236	753,041	0.31	269,011	0.08
Area of the Country		24,155,347			

Adapted from: National Biomass Study, NFA (2005 draft)
Tons = metric tons
** Assuming no change in stocking over time*

Table 3. Deforestation under different tenure/institutional frameworks in Uganda

Responsible Institution	*Forest Area 2005 (ha)*	*Difference in Forest Area since 1990 (ha)*	*% difference*
Uganda Wildlife Authority	643,149	36,344	5.3
National Forestry Authority	627,951	124,192	16.5
Dual/ Joint Management (UWA & NFA)	30,748	6,812	18.1
District Forest Services	1,211	418	25.6
Private owners	2,301,117	1,161,876	33.6
Total area of forest in the country	3,604,176	1,329,570	26.9

Source: NFA (2005)

3.3 Selection of higher potential project types

Consultations with different stakeholders after the inception workshop, resulted in identification of project types with a potential for REDD in Uganda as outlined below.

3.3.1 Project Types in Tropical High Forests – well stocked

Well stocked tropical high forests are secondary colonisers occurring at medium altitudes with good rainfall and short and mild dry seasons e.g., the montane and lake shore areas. They are complex including large trees with buttresses (e.g., mahogany species such as *Entandrophragma* and *Khaya*), epiphytes and lianas. Their canopies are multi-layered, rising to over 30 m height and allowing little light to the forest floor and therefore sparse undergrowth of shade-tolerant species. Tropical high-forests well stocked often occur either in remote parts of protected areas surrounded by buffers or on private land isolated by natural barriers.

Although Tropical High Forests well stocked scored highly, they were left out as potential project types because of low potential for additionality and community participation.
While overall deforestation rates in this forest type at the national level are relatively low

as compared to other biomes, deforestation threats and dynamics will clearly vary from site to site. Given the high carbon stocks, individual sites may be important candidates for REDD project development.

Table 4. Forest vegetation types in Uganda: Location, threats and characteristics

Forest type	***Extent/location***	***Main DD drivers/threats***	***Other considerations***
Tropical high forests, well stocked	600,956.81 ha Mainly in the Albertine Rift in western Uganda: Masindi, Hoima, Kibale, Kyenjojo, Kabarole, Bundibugyo, Kamwenge, Kasese, Bushenyi and Kanungu districts. Also Lake shore region in Mukono, Rakai and Kalangala districts, and Montane forests of Mt. Elgon	Medium-Low level pressure from unregulated pit-sawing and encroachment for subsistence agriculture	Valuable timber species High carbon and biodiversity levels Mostly large blocks
Tropical high forests, Low stocked	191,694.36 ha Budongo Ecosystems range mostly outside the protected forest area. Degraded protected forest areas under NFA, Wildlife conservation areas (WRs and CWAs)	High pressure from harvesting of timber (mostly unregulated), removal of firewood and poles, grazing and agriculture	High to moderate carbon and biodiversity levels Mostly small forest patches.
Woodland	2,777,997.89 ha Mountain or hill ranges mostly in the northern and eastern regions and along the cattle corridor crossing through Karamoja (e.g., Mt. Moroto, Napak, Zoka, Mt.Kei, Otzi Era, Labwor Hills, Nyangea-napore, Agoro-Agu, Timu, Kadam, Rom), Soroti, Kumi, Nakasongola (Kasagala), Luwero, Mubende, Mityana, Mbarara, and Bushenyi districts	Medium-high pressure for charcoal, grazing, subsistence agriculture, commercial firewood, forest plantation establishment, and human settlement	Medium carbon levels Expansive wildlife habitats Important livestock grazing areas Water catchment

3.3.2 Project Types in Tropical High Forests (THF)- low stocked

Low-stocked Tropical High Forests result from selective removal of trees for timber or charcoal, or a history of human occupancy such as agriculture, fire or grazing. The canopy is broken and irregular with characteristic dominant trees (usually tall at maturity with straight trunks) and thick and complex undergrowth especially below canopy gaps. Some are interspersed by grasslands and thickets. Dominant species include *Celtis mildebraedii, C. zenkeri, Hoptelea grandis, Maesopsis eminii* and *Abizia* spp. Low-stocked forests often exist as small forest patches or the more accessible parts of larger protected areas. The forests occur in the 50-80 km wide stretch around Lake Victoria, the strip alongside the shoulders of the Rift valley in western Uganda and the scattered forests on mountains in all parts of the country. The carbon content for these forests is higher than woodland, but lower than THF well stocked.

Table 5. Project type characteristics and score

Forest/project type	*Tenure/institutional framework*	*Main DD driver(s)*	*Total score*
THF well stocked	NFA - Strict Nature Reserve or Buffer zones	Unregulated pit sawing	37
	UWA – National parks (strict protection)	Unregulated pit sawing Agriculture (Mt. Elgon NP)	38
	Private	Small holder agriculture	31
THF low stocked	NFA – Production zones under CFM	Agriculture Legal & Unregulated harvesting	37
	UWA- Wildlife Reserves under CRM	Unregulated pit sawing Agriculture Livestock grazing	40
	Private	Agriculture Removal of firewood & poles	33
	Customary/communal	Agriculture Unregulated harvesting	25
Woodland	NFA- CFM	Charcoal Agriculture Plantation forests establishment	34
	UWA – Community Wildlife Areas	Charcoal Over grazing Agriculture	
	Private	Charcoal Overgrazing Agriculture	30
	Customary/Communal*	Charcoal Agriculture	27

*Note: * Forests being used by communities including forests governed by kingdoms, and forests on customary land or on previously public land. Although licensing is another avenue for community participation in forest management, it was left out of the REDD analysis because licenses are issued only for purposes of afforestation or reforestation.*

[1] CFM in THF low stocked forests

Collaborative Forest Management is an agreement between a Responsible Body and the adjacent community to co-manage a defined forest or forest section. Although the National Forest and Tree Planting Act provides for CFM agreements with different types of Responsible Bodies, i.e., central government, district government, private or customary owner, CFM has only happened on Central Forest Reserves where land/tree tenure clearly belongs to NFA. In the majority of the signed CFM agreements being implemented, communities have realized no tangible economic benefits. CFM sections are threatened by unregulated timber harvesting especially near urban centres. For REDD to work, forests far from urban centres and which are less accessible should be selected. Under CFM, communities manage small portions scattered around a given central forest reserve. These could be aggregated through NFA itself.

[2] Private THF low stocked

Tropical High Forests – low stocked - on private land are owned by individuals, cultural/traditional institutions, families, or communal forests on formerly public land. These forests form a considerable proportion of the forest estate and have the highest

level of threat mainly from extractive utilization by surrounding communities. Private land occupied by natural forests is often viewed by surrounding communities as idle (pending development) and its products are extracted through open access. The forests lack effective organized management systems, and often have no institutionalised mechanisms of sharing benefits with the wider community.

The forests are small and scattered, but aggregation may be possible through the Forest Sector Support Department, which is already developing a sustainable management program bringing these together via the District Forest Services. A REDD project could add carbon incentives to these initiatives. However, it will need to address land and tree tenure issues ranging from facilitating formal registration of land to more complex processes in case of dual or multiple ownership claims. Efforts to involve collaborative arrangement in these forests should be initiated.

[3] CRM in THF low stocked

Community Resource Management (CRM) occurs in forests in National Parks or Wildlife Reserves (WRs) where land/tree tenure is vested in UWA. Potential for community benefits exists since UWA is already implementing the sharing of 20% of revenue generated from gate collection fees with adjacent local communities with adjacent parishes through the sub-county Community Protected Area Institutions (CPIs). UWA forests under CRM are threatened by agriculture expansion (e.g., Mt. Elgon) and unregulated pit-sawing, which could be offset by REDD incentives. Where the pressure is from overgrazing from pastoralists as is the case in Wildlife Conservation Areas (WCAs), REDD implementation may not be possible. This is because pastoral communities tend to be aggressive due to a limited choice of alternatives.

3.3.3 Project types in woodland habitats

Woodlands are dominated by *Combretum* spp. in the wetter regions or *Butyrospermum* spp. or *Acacia* spp. in the drier areas. In these forests the woody species form a single layer with a relatively short, closed/open canopy that is underlain by a more or less continuous grass layer. Woodlands protect fragile watersheds. Woodland project types include CRM in woodlands under UWA, CFM in woodlands under NFA and woodlands under private management. Woodlands under NFA include Napak, Zoka, Mt.Kei, Otzi, Era, Labwor Hills, Nyangea-Napore, Agoro-Agu, Morongole, Timu, Kadam, Rom, Kasagala, Kijanabolola, Lwala, Zulia, Ogili, Taala, Wabisi-Wajala, Kyambongo and Kitechura.

[4] CRM or CWA in Woodland

Community Resource Management in woodlands occurs mainly in Wildlife Reserves (WRs) where the management is less strict than in National Parks (NP). Land and tree tenure belongs to UWA. Local communities benefit only through the 20% gate collection fee. Woodlands under Community Wildlife Areas (CWA) on the other hand are fully owned by private land-owners (e.g., Kaiso-Tonya) and managed under LG structures with technical guidance from UWA. CWAs are small on average, but aggregation is possible under UWA. The opportunity cost of using REDD payments to address the key DD drivers of charcoal burning and overgrazing may be high under these project types.

[5] CFM in Woodland

Collaborative forest management enhances protection of woodlands against the main deforestation/degradation drivers – charcoal and agriculture. It is not widespread mainly because of its poor provision for community incentives and unclear benefit sharing

mechanisms. REDD incentives may work to address agriculture expansion pressures, but not charcoal especially in areas near major highways and urban development.

Another threat is the NFA plan to replace a portion of woodlands with exotic tree plantations, which have a higher biomass stocking in order to address the fuelwood deficit. NFA was implementing this mainly by licensing out forest areas to private investors, until a recent presidential ban. The potential profits from exotic timber plantations are very high compared to potential REDD incentives. However CFM with REDD payments may result in better protection of woodlands and possibly less need to have them converted to exotic forest plantations.

[6] Private Woodlands

Private woodlands are often collectively owned by many households in the areas where poverty levels are high. Currently, their rightful owners do not benefit much from them due to their low capacity to protect them against charcoal burning, overgrazing and conversion to small-scale agriculture. There is little incentive for land owners to manage private forests partly because they face a number of bureaucratic hurdles (including demands for bribes) when obtaining permits to harvest their own produce. This is contrary to the law, which requires such procedures for only a specified list of registered species.

Table 7 summarizes the priority projects types outlining the institutional tenure and key selection considerations – the main DD drivers, opportunity cost, threat level (additionality) and proposed sites.

4.0 CURRENT LEGAL & INSTITUTIONAL FRAMEWORK FOR REDD

4.1 Introduction

A functioning and conducive policy, legal and institutional framework that is consistent with the emerging international REDD principles is essential for successful implementation of REDD projects in Uganda. This section examines gaps and opportunities in the relevant policy, legal and institutional frameworks for the Incubator and other players to develop REDD plans that are realistic and cost-effective.

4.1.1 Land and Tree tenure

Land tenure in Uganda is governed by the Constitution of Uganda 1995, the Land Act 1998, the Registration of Titles Act and Customary Land law. The Constitution lays down the fundamental principles with regard to land ownership; the Land Act governs land ownership, land administration and resolution of land disputes while the Registration of Titles Act deals with the registration and transfer of titles to land. Land is defined as land and all that grows on it. Therefore a landowner is the tree owner except in situations where additional arrangements such as leases and licenses have been made. All land in Uganda is owned as either government or private land. Land is vested in the citizens of Uganda and can be divided between the following land tenure systems[3]—(a) Customary; (b) Freehold; (c) *Mailo*; and (d) Leasehold

[3] Article 237 of the Constitution and s. 2 of the Land Act, 1998.

Customary tenure is a form of land tenure applicable to a specific area of land and a specific description or class of persons; governed by rules generally accepted as binding by the class of persons to which it applies. It is applicable to any persons acquiring land in that area in accordance with those rules. Most forests on customary land in Uganda are communally owned by traditional institutions on behalf of the communities. Communities can convert these forests to Community Forests by complying with the provisions of section 17 of the Forest and Tree Planting Act, 2003.

Freehold tenure is a form of tenure deriving its legality from the Constitution and its incidents from the written law. It involves the holding of registered land in perpetuity or for a period less than perpetuity which may be fixed by a condition; that enables the holder to exercise, subject to the law, full powers of ownership of that land, including but not necessarily limited to using and developing the land for any lawful purpose and taking and using any and all produce from the land; plus entering into any transaction in connection with the land, including, but not limited to selling, leasing, mortgaging or pledging, subdividing, creating rights and interests for other people in the land and creating trusts of the land. Most private forests owned by individuals and companies fall on freehold lands. The land and tree tenure are clear.

Mailo tenure is a form of tenure deriving its legality from the Constitution and its incidents from the written law, which involves the holding of registered land in perpetuity; permits the separation of ownership of land from the ownership of developments on land made by a lawful or *bona fide* occupant (lived on land for 12 years or more); and enables the holder, subject to the customary and statutory rights of those persons lawful or *bona fide* in occupation of the land at the time that the tenure was created and their successors in title, to exercise all the powers of ownership of the owner of land held under a freehold title. *Mailo* tenure has no negative implications for REDD except in areas where there are *bona fide* occupants or squatters settled whose claims to land overlap with those of the landlord.

Leasehold tenure is a form of tenure created either by contract or by operation of law; the terms and conditions of which may be regulated by law to the exclusion of any contractual agreement reached between the parties; under which one person, namely the landlord or lessor, grants or is deemed to have granted another person, namely the tenant or lessee, exclusive possession of land usually but not necessarily for a period defined, directly or indirectly, by reference to a specific date of commencement and a specific date of ending; usually but not necessarily in return for a rent which may be for a capital sum known as a premium or for both a rent and a premium but may be in return for services or may be free of any required return. This form of land tenure is clear and determination of carbon rights will depend on the conditions of the lease. It is also important to take care of the length of the lease since on expiry of the lease land tenure reverts to the lessor/landlord.

Table 7. Summary of priority project types for REDD/PES in Uganda

Forest/ project type	*Institution / tenure*	*Management framework*	*Main Deforestation Degradation drivers*	*Opportunity costs*	*Threat level/ Additionality*	*Possible REDD sites/region*
THF Low stocked	UWA	CRM/ CWAs	Unregulated Pit-sawing Livestock grazing	Low	Moderate	CRM sites around national parks of Mt.Elgon, Semliki and Queen Elizabeth. Also Kitengule and Nyakalongo local communities around Murchison Falls National Park
THF low stocked	NFA	CFM and licensing	Agriculture Legal & Unregulated harvesting	Low	High	Lake shore region: South Busoga, Sango Bay and Mabira CFRs Albertine Rift: Budongo and Kasyoha-Kitomi CFRs
THF low stocked	Private[4]	Private	Agriculture Firewood & poles	Moderate	High	Northern, central and western regions
Woodland	NFA	CFM and licensing	Charcoal Agriculture Plantation forests establishment	Moderate	High	The CFM process has been initiated, but not implemented yet in wooded savannah forests.
Woodland	Private	Private	Charcoal Overgrazing Agriculture	High	High	Mostly in northern and eastern Uganda. Also western regions of Kibale, Hoima, Kyenjojo districts.
Woodland	UWA	CRM/ CWAs	Charcoal Over grazing Agriculture	Low	Moderate	CRM around Lake Mburo National Park CRM and CWA around Karuma Wildlife Reserve, Toro-Semliki Wildlife Reserve and Kabwoya Wildlife Reserve. Kaiso-Tonya CWA

[4] - Includes forests owned by individuals, companies, cultural and traditional institutions; family formerly hunting grounds; communities under customary arrangement

4.1.2 Policy and legal framework

The government Vision 2025 (now under review) provides the long-term perspective for sustainable management of forests in Uganda. The working draft document "Vision 2035" is explicit on carbon trading as a means of conserving forests for climate change mitigation. It provides that Uganda will promote carbon trading that will increase forest cover as well as incomes of the rural communities. It further provides for promotion of conservation programmes that will not only restore but also sustain an optimum level of forest cover in the country.

The National Environment Management Policy (NEMP) provides for sustainable management of forest resources in protected areas, private and public land (National Environment Management Policy 1992). It adopts the strategy of using incentives including sharing of benefits from conservation as a means of encouraging private sector and community participation in forest conservation.

The 2001 National Forestry Policy promotes public participation and partnership between governments and private companies in forest management. It provides for pursuance of new financing opportunities to enhance forest management including carbon credits. It also emphasises storage of carbon through forestry in compliance with the Framework Convention on Climate Change (National Forest Policy 2001).

The Uganda National Adaptation Program of Action (NAPA) is a recent development that is supportive to climate change mitigation. Under the Development Planning section, it aims to integrate climate change in issues of development planning and implementation, and recommends new legislation or a review of the existing policies and laws in relation to climate change (National Adaptation Program of Action 2007).

The constitution empowers government to hold in trust and sustainably manage publicly owned natural resources including forests. The trust relationship bars government from alienating or leasing out forests or forest land for other purposes, and this ensures permanence of REDD projects. The National Forest and Tree Planting Act promotes sustainable management and development of forests in Uganda. It provides for mandatory Environmental Impact Assessment for any development activity in order to protect forests and other natural resources – this also contributes to permanence.

In terms of the legal and regulatory framework, the Constitution of Uganda (1995), the National Forestry and Tree planting Act (2003), the Wildlife Act (1996), the Local Government Act (1997), the Land Act (1998), the National Environment Act, the Private Forest Registration Guidelines, and the Collaborative Forest Management Guidelines are generally supportive of PES/REDD.

4.1.3 Institutional framework

The Ministry of Water and Environment (MWE) is responsible for formulating policies, standards and legislation for environment management. It also oversees the National Environment Management Authority (NEMA), which coordinates the National Forestry Authority (NFA), Wetland Inspection Division and Uganda Wildlife Authority (UWA). NEMA also links directly with LGs. The Ministry's Forest Sector Support Department (FSSD) is responsible for ensuring the functioning of the District Forestry Services

(DFS), which are essential for the management of Local Forest Reserves and wildlife on private land.

The NFA and UWA are responsible for sustainable management of CFRs. The NFA has four Divisions: Plantations, Corporate Affairs, Finance and Administration, and Natural Forestry. The Natural Forestry Division is responsible for CFRs and Collaborative Forest Management (CFM) initiatives. The division hosts the CFM desk run by a Community Partnership Specialist tasked with coordinating the national CFM programme.

NFA and UWA share responsibilities in Joint Management Reserves (JMRs), which are forested areas between CFRs and either National Parks or Wildlife Reserves. In practice, the leadership goes to UWA if JMR is near a national park and to NFA if JMR is next to a wildlife reserve.

However, the institutional framework to facilitate and coordinate REDD implementation is yet to be established. NFA is currently coordinating the initial REDD activities such as developing the World Bank Forest Carbon Partnership Facility Readiness Project Information Note (R-Pin). Structures at the ministry and national level are yet to be worked out for administering REDD in forests outside NFA reserves.

Forest management at the local level

At the local level, community involvement varies with the category of forest. For CFRs under NFA, a CFM agreement is signed with a forest adjacent community group registered as Community-based Organisations (CBOs) to share responsibility for the protection and restoration of a defined and often degraded section of a forest. The recently concluded CARE program EMPAFORM facilitated the coalition of these CFM groups into networks at both the forest and national levels. The national level network is called the Uganda Network for Collaborative Forestry Associations (UNETCOFA).

For CFRs under UWA, communities participate in protected area management via Memoranda of Understanding. CRM groups are linked to rangers under the Wildlife Conservation Unit. The UWA has a Community Conservation policy, which provides for Community Protected Area Institutions to provide oversight for the revenue sharing process and to represent the interests of CRM groups. The institutional set up of CPIs includes LG representatives (i.e., Sectoral Committees of Production and Environment Committees from LC1-LC5[5]).

The District Council is the highest level of governance at sub-national level. One of its roles is to ensure integration of environment issues in the development planning process. Local Forest Reserves (LFRs) are under District Forestry Services, which are also responsible for providing advisory services for management of private, and community Forests. However, no registration of community or private forests has occurred so far. Some cultural kingdoms (Buganda and Bunyoro) own forests and have functional systems of governance.

Although the institutional set-up at the local level is elaborate, the capacity to manage forest resources is low. CFR linkages with local communities, for example, are well

[5] LC refers to local council. The Ugandan decentralized government structure is divided into LC levels from LC1, the smallest government unit, which is a village, through to LC5, which is a district and also the highest level of local government.

defined, but are generally weak on issues of benefit sharing, and are therefore not widespread. Local forests reserves and private forests on the other hand are under the district forest services. This institution needs to be better facilitated.

4.2 Policy, legal and institutional gaps and opportunities for selected priority **projects**

This section presents an assessment of the gaps and opportunities in Uganda's legal policy and institutional framework as regards the selected priority project types.

4.2.1 THF low stocked and woodland forests under CFM

The 2001 National Forestry Policy provides for CFM as an alternative to the protectionist approach and the destructive processes associated with open access to forest resources. This policy statement has been operationalised by Section 15 of the 2003 National Forest and Tree Planting Act. Under CFM with NFA, the policy and the law are clear that the land and tree tenure of the central forest reserves rests with NFA.

The 2001 Forestry Policy, the 2003 National Forestry and Tree Planting Act, and the 2002 Guidelines for Collaborative Forest Management provide for development of ten-year co-management agreements between a Responsible Body (a government entity like NFA or other private forest owner) and an organized community Group.

Within NFA, a CFM support fund is provided. This is usually channelled to communities only in the form of bee farming kits and tree seedlings. Part of the fund is used to facilitate community cross visits and training programs. NFA also gives the opportunity to CFM communities to acquire a license for 10% of the plantable area within forest reserves. Under the license arrangement, communities own the trees and therefore (presumably) the carbon rights during the licensing period (25 years).

Since the legal documents do not provide a schedule of benefits or a revenue sharing arrangement, community benefits via CFM depend heavily on negotiation. Agreements tend to be skewed in favour of NFA especially if the negotiation process is facilitated by its field officials. Communities in general are in a weaker negotiating position. Agreements are reviewed by the NFA Legal Counsel, which drafts a 'final version' for communities to sign. Communities do not have legal support to review this first.

Often benefits end up as simply rights to access and extract non-timber forest products or poles for domestic use, which are no different from those available for community members outside the CFM groups. The better-negotiated agreements, e.g., that of the Conserve for Future Sustainable Development Association (COFSDA), at least reflect the right to exclude/regulate access of non-members. Emerging benefits such as carbon payments, which are not specified in the agreements, will need to be renegotiated.

Negotiations often take a long time (up to four years), facilitated either directly by NFA field officials or by NGOs, e.g., *Nature*Uganda PEMA project and (former) PRIME West in Kasyoha Kitomi FR, and EMPAFORM and ECOTRUST in Budongo FR. Until recently, agreements could only be signed at the headquarters in Kampala, but as of 2008, NFA Range Managers in charge of forests in defined geographical zones were given the authority to sign CFM agreements. This may help reduce the time communities have to wait between applying for CFM and signing agreements.

Where CFM agreements cover a full compartment as in the case of COFSDA (325 ha) and NACOBA[6] (614 ha) in Mabira Forest Reserve, units are clearly marked and their sizes known. However, in most instances, agreements do not specify the area under CFM where boundaries can be clearly demarcated. This is sometimes because agreements are based on access to particular products.

CFM agreements tend to be poorly implemented as only a few community leaders have access to them and can read and understand them. The CFM committee is required to make monthly reports to NFA Supervisors so that CFM approaches are integrated in overall forest management. NFA still retains the greater power and control over CFM sections e.g., the granting of permits and license for product extraction. The communities are entitled to being consulted and given first priority at the going market price.

Although CFM agreements are co-signed by district leaders, LGs play no role in their implementation. CFM communities develop byelaws, which should be passed and enforced by the LGs, but no mechanism has been developed to link the two systems. The annexed management plan and the constitution of the CBO are the only instruments for implementation of the agreements.

Regardless of the challenges, the CFM approach has significantly reduced unregulated activities mainly via community local social pressure. It has great potential in improving forest status in areas where deforestation/degradation threats are moderate. In high-pressure cases such as settlement and agricultural encroachment by landless immigrants e.g., under-paid sugar plantation workers in Masindi and Rakai, alternative management approaches would be more effective.

At the moment CFM agreements cover about 26,000 ha of total forest area in the country. It could potentially cover and restore a substantial area in both tropical high forests and woodlands under pressure from moderate unregulated forest activities. With REDD payments, CFM 'ring-fences' around forest reserves would also reduce unregulated activities in the more restricted zones of the forest and improve livelihoods of forest-adjacent communities.

However, REDD projects under CFM will have to address key gaps. The capacity of community institutions needs strengthening in governance, accountability formulation and enforcement of bylaws. Communities need skills in REDD monitoring. Most critical is the need for a benefit sharing mechanism that clearly defines the forest area covered by CFM with clear stipulation of community entitlement to carbon finance and the mechanism of channelling this. Guidelines and regulation for community benefits should be developed. The existing channelling mechanism of CFM funds needs to be reviewed to become more transparent and better aligned with community concerns. A cash transfer mechanism to a local account would give the groups more flexibility to select their own priorities.

4.2.2 THF low stocked and woodland forests under CRM

Community Resource Management in wildlife protected areas is governed by the 2003 Uganda Wildlife Policy (1999), the 2004 Uganda Community Conservation Policy, the 2000 Uganda Wildlife Authority Community Protected Areas Institutional policy, the

[6] Nagojje Community Based Association

2007-2012 Uganda Wildlife Authority Strategic Plan (UWASP) and the Uganda Wildlife Act (Cap 200). The policy and the law emphasize involvement of communities in wildlife management and benefit sharing arising from sustainable wildlife conservation. The Uganda Wildlife Authority Community Protected Areas Institutional policy establishes institutional structure of CRM groups and how they link with the LGs and community conservation department under UWA. The land and tree tenure are vested in UWA. The communities under CRM access limited benefits through negotiated MoUs.

The CRM arrangement is the same for both THF low stocked and woodlands. It is not clear how much is under community management and what sort of tree/carbon tenure rights this entitles them to.

The Wildlife Act (2000) section 69(44) stipulates that 20% of total gate fees (not total revenue) be shared with adjacent communities. This is implemented in all parks that generate revenue. A supplementary fund levied from the gorilla permits is used to boost revenue from the less lucrative protected areas.

The fund is first credited to the Revenue Sharing account of a specific protected area. Adjacent parishes apply for this fund through proposals submitted to UWA via district LGs. After a secondary vetting by UWA, the fund is transferred to the district account as a conditional grant. The district awards contracts for implementing the proposed activities through a tendering process. The district then transfers the balance (less the tendering costs) to the sub-county account to pay the contractors on successful implementation. CPIs play a key role in vetting proposals and overseeing the implementation of proposed activities.

While this has increased the flow of revenue into local development, it still falls far short of the costs incurred from wildlife damages as well as reduced access to forest resources. UWA is not very consistent in depositing this revenue in LG accounts (Blomley 2001).

In vetting community proposals the district governments and UWA should develop criteria that genuinely responds to community costs and avoid using it to implement government responsibilities, e.g., maintaining boundaries of protected areas and constructing schools and hospitals. In channelling the fund through LG tendering systems a system of accountability to the affected communities is necessary to ensure transparency. Giving the affected community more control over the implementation of their proposed activities will enhance the quality of services delivered. Once these changes are made, the same mechanism can potentially be used in channelling of REDD funds in order to reach communities equitably and meaningfully.

4.2.3 Private THF low stocked and woodlands

Private Forests (PFs) are all forests outside government-protected areas. The 2001 National Forestry Policy and 2003 National Forestry and Tree Planting Act vest the tree tenure in PFs in the land owner and gives him/her the right to enter into a contractual relationship or any other arrangement with any person to purchase, harvest or manage any forest produce. Although Section 24 of the 2003 National Forestry and Tree Planting Act provides for registration of PFs with the LG District Forestry Services and the District Land Board, none has been registered yet.

Private forests in Uganda exist on land under freehold, leasehold, *mailo* and customary tenure systems. In all these cases a certificate of title constitutes a *prima-facie* evidence of ownership.[7] Where land is held under these forms of tenure, the land and tree tenure are relatively clear except in cases of land where squatters or *bona fide* occupants are settled or in case of land fraud raising conflicts over such land.[8]

Mailo tenure presents unique issues for REDD. The colonial government allocated land on which people were settled to some traditional institutions hence creating landlord/tenant relationship. These institutions also allocated some large blocks of land to the chiefs and elders in distant areas where they exercised jurisdiction, and these people became absentee landlords. In the late 1960s, the central government abolished cultural institutions and seized their estates including forested land. In the early 1990s, cultural institutions were reinstated, but the return of their land, including forested land, has not yet been effected. These cultural institutions and absentee landlords still assert claims over these lands and forests. These overlapping rights and tenure are problematic (increased risk) for REDD projects.

Private forests can also be owned by Communal Land Associations (CLAs) constituting local community members that have registered a claim to the land and to manage it as "common property". This is provided for in the Land Act, 1998. Two community groups have applied for CLA on forest patches in western Uganda, but have not yet been approved. Successful registration of forests under CLA would provide an opportunity for effective management and provide a basis for REDD projects.

Except for the central region, land in many parts of the country is rarely surveyed and titled. Boundary markers are often physical features like trees, rivers or hills, and are often contestable. In customary and communal land ownership, there is no clear system of registration of members who can lay claim to the land.

Benefit-sharing on private forests owned by institutions is not governed by any legal provision as such, but left to the institutional governance structures. In kingdoms, systems of revenue sharing among the subjects have been developed, for example, scholarships to the needy and investment in maintaining common property resources such as water sources, fish landing and cultural tourism sites. In clan and communal set-ups, benefit sharing systems are less clear and vary greatly. Although the law provides for collaborative management of private forests with adjacent communities, no such arrangement has been developed yet. In such cases, as in CFM, avenues for community benefits will need to be negotiated.

Private forests exist in small fragmented units, although they are over 2 million hectares in aggregate. Implementing REDD on private forests has the potential of protecting 64% of the forest estate, which is experiencing the greatest threat of deforestation and degradation. The Forest Sector Support Department is registering and bringing together private forest blocks starting with units of 500 ha or more for collective support and management via district governments. These so far form about 20,000 ha in 14 districts. This avenue could be expanded to include even the small units. Again systems of fund channelling will need to be worked out. Key activities for clarifying land ownership

[7] Under the Registration of Titles Act, a certificate of title is a prima-facie evidence of ownership.
[8] The Land Act creates overlapping rights over land by recognizing *bona fide* occupants. Forests on such land are subject of conflicts between the landlords and *bona fide* occupants.

claims have to be undertaken, e.g., land surveying, demarcation and registration. Tree tenure has to be sorted out where overlapping land rights exist between landlords and tenants/occupiers. Benefit sharing and fund channelling mechanisms also need to be made clear.

4.3 Cross-cutting policy, legal and institutional issues

(a) Revenue sharing and fund-transfer systems

Community participation in forest management (through both CFM and CRM) has significantly improved forest status where it has been piloted and has high potential for achieving REDD in Uganda. However, this practice has not spread widely. The recent (1990s) restructuring of forest management from one unit (Forest Department) to being under UWA, NFA and DFS overseen by FSSD is still confusing to many. The recently formed agencies for forest management are still trying to generate experience and understand the burden of their new responsibilities as against the potential financial flows before committing themselves to benefit sharing systems that they can sustain. For example, the UWA hardly covers its costs as it implements the 20% gate-fee benefit-sharing mechanism (with all its flaws). In 2008, UWA depended on central government to support 30% of its budget.

NFA has not committed itself to benefit sharing, but has tried to provide incentives for participating communities through providing beehives and tree seedlings (and this has left a lot to be desired). Until benefit sharing is addressed, the implementation of REDD will be problematic. Unfortunately, there are no in-country examples of how to make this work. But the weaknesses identified in the initial trials can inform the creation of a working model.

A trust fund similar to the one set up for Mgahinga-Bwindi National Park (Box 1) is one way of channelling benefits and incentives that could be adapted for REDD. In 2007, parliament established a Tree Fund with UGX 100 million (US$ 51,282) seed money and 0.05% of proceeds from Tullow Oil Company, as provided for by the 2003 National Forestry and Tree planting Act, Section 40. A committee is yet to be established to operationalise the Tree Fund and to work out mechanisms of transferring these funds to the intended beneficiaries. It is not clear at this point whether the Tree Fund will also be the REDD fund. The existing system of channelling government grants from the central to local governments should be considered first, but only if corruption and accountability issues can be fully addressed.

Another alternative is granting land tenure and full control rights of government forests to communities, thus empowering them to make direct contractual agreements with, and receive direct payments from, REDD buyers. However, the precedents for this have not been good. For example, in Butto Buvuma CFR, when Makerere University successfully brokered such a deal with the (then) Forest Department, the communities immediately harvested the forest area and replaced it with crop gardens. Also the licensing of forest land for private tree growing has encountered similar problems, resulting in the current Presidential ban and reduction of license cycles from 50 to 25 years. But this approach could be revisited via awareness, capacity building and structuring of control measures to prevent the abuse of such rights. The new legal control measures should also govern the relationship between private forest owners and adjacent communities.

Box 1. Mgahinga and Bwindi Impenetrable Forest Conservation Trust Fund (MBIFCT)

The MBIFCT was set up in 1994 under the Uganda Trust Act with MoU with UWA to operate within protected area (PA) and with adjacent communities. Its main characteristics are as follows:

Objective: Reduce pressure on park by providing, in perpetuity, alternative livelihoods to communities that had been excluded from accessing park resources.
Governance: Oversight by a trust-management board – Ministry of Finance, Uganda Wildlife Authority, private sector, community representatives (World Bank supervision, 1994-9)
Vetting of community projects and approval of small grants by a Local Community Steering Committee (democratically elected)
Fund sources: World Bank, USAID (1994-5), Netherlands Government (1995-2000)
Fund Management: Off-shore investment managed by Merill Lynch; Reporting of fund performance and investment strategies
Annual earnings on investment are budgeted for community development activities (60%), research (20%) and park management (20%).
Capacity Development: Board members from Ministry of Finance and the private sector provided technical support on fund and asset management; experts were hired and trained on the job; WB supervised fund management while capacity was being developed
Challenges: Low capacity built over time; Insufficient reporting of fund performance and investment strategies – in language too complex for beneficiaries and decision makers
Success: Improved community livelihoods and better park management

(b) Poor governance and capacity issues at both national and local level institutions

Given that REDD will entail actions involving a series of stakeholders that will be rewarded after proof of performance, institutional governance systems and quality are critical at all governance levels. Otherwise REDD will generate deep conflicts and undermine forest management. For example, typical community group weaknesses in governance, record keeping, accountability and conflict management should be addressed. The existing legal provisions to curb corruption must be translated into procedures that safeguard the interests of all stakeholders. In addition, human and physical capacities are needed for quantifying carbon increments against baselines, development and monitoring of carbon projects at national and local community levels.

(c) Lack of a carbon finance policy

The existing policies and laws are weak on carbon finance. The development of a REDD Readiness Plan or strategy is still in its infancy due to a general confusion about what institutions should be in charge within the current legal framework. A Climate Change Unit has just been established under the office of the Permanent Secretary, Ministry of Water and Environment.

5.0. CONCLUSIONS & RECOMMENDATIONS

5.1. Conclusion

In general, tropical high forests (THF), which have high biomass per unit area scored higher for REDD than woodland forest types, except for forests under private and customary land ownership. Institutionally forest types under government management (especially UWA) scored higher for REDD than private and customary forests. This was because of clear institutional set-ups, strong government interest and clear land and tree tenure. Low-stocked THFs under customary tenure scored lowest because these exist

as small patches mainly on kingdom and clan controlled lands with unclear tenure and low replicability. This review did not include wetlands although their potential emissions release if destroyed can be significant.

(a) Analysis of potential REDD project types

The study identified six potential REDD projects types. Low stocked THF under CFM scored highest for REDD project development because of its potential for achieving high emission reductions per hectare (additionality) by involving communities in direct management and benefits. There are about 26 Collaborative Forest Groups that have signed management and benefit sharing agreements with the NFA, and about 68 more are in the process of negotiation. Under this arrangement, potential for aggregation exists either through NFA or the community network UNETCOFA. Since land and tree tenure are clearly vested in the NFA, payments can only be channelled to community groups through the NFA on the basis of a signed CFM Agreement.

Private low stocked THFs are also potential projects for REDD. Additionality is potentially high due to the threat from the constant pressure for expansion of agriculture and timber extraction from surrounding communities. REDD could potentially create an incentive to the process initiated by the FSSD under its FIEFOC (Farm Income Enhancement and Forest Conservation) program of aggregating the small and scattered patches of private forests under coordinated and sustainable management using local government structures. However, the majority of the forests under this model have no institutionalized mechanisms of sharing benefits with the wider community.

Low stocked THF under UWA has high potential due to the relatively large amount of carbon stocks per hectare protected, as well as the already institutionalized community involvement and revenue sharing mechanisms. However, while these tried and tested arrangements provide a useful starting point, they are generating a lot of discontent among communities and should be revised, and if necessary overhauled for REDD to be successful. Some key studies have been done on this issue and clearly point out what is needed to make them work (e.g., Blomley 2003; Namara 2006). Additionality is likely to be achieved when addressing threats from agriculture (e.g., Mt. Elgon) and unregulated pit-sawing, but in dealing with overgrazing by pastoral communities, enforcement approaches may be more appropriate.

The woodland project types were considered to be less attractive for REDD, mainly because of their lower carbon stocking potential. All woodlands are highly threatened, especially private woodlands, while those under UWA are least threatened. The main DD driver is charcoal, which can be accessed from almost all forests with the growing use of motorcycles (*boda boda*) for rural transportation. Other important drivers are overgrazing and conversion of deforested areas to agriculture. Under NFA, some woodlands are marked for conversion into plantation forests, which would have higher biomass levels as well as high potential for income generation. Given the potential economic gains associated with the drivers of woodland deforestation, the opportunity cost is likely to be too high for REDD.

The well-stocked THFs under NFA, UWA and private ownership were not included among the higher potential project types because of their low additionality potential - they are often highly protected with no co-management arrangements.

(b) Policy and institutional architecture

The existing policy, legal and institutional frameworks appear to have neither a strong negative nor positive effect in terms of facilitating REDD/PES activities. The amended 2001 Land Act gives rise to overlapping land rights – *bona fide* occupants versus absentee landlords. The land/tree tenure for JMRs and Kingdoms is also unclear for REDD. However, the emerging regime of policies like the National Land Policy, Climate Change Policy and the REDD Readiness Plan qualifies Uganda as a candidate for REDD implementation. The new set of institutions, which includes the Climate Change Unit and Forest Sector Support Department (both under the Ministry of Water and Environment), the Collaborative Forest Management Unit under the NFA, and the UNETCOFA, will enhance REDD implementation if well coordinated. The size of Uganda's permanent forest estate, the levels of deforestation and degradation especially in private forests, and the institutionalization of Participatory Forest Management models also provide opportunities for REDD.

Uganda's policies are mainly conducive to the achievement of REDD if systems of implementation and enforcement are improved on the ground.

(c) Opportunity cost

The architecture and rules of a potential REDD mechanism are still being debated among scientists, technocrats and political negotiators. The demand for additionality, for example, which necessarily puts management approaches that have been effective in combating deforestation and degradation at a disadvantage, is coming into question. It is also unclear whether REDD will focus on forests or forest landscapes, including agriculture and other sustainable land uses. In promoting REDD, politicians will need to balance mid- to long-term financial incentives to reduce deforestation against short-term political and social costs involved in fighting the practices that lead to deforestation.

For almost all the DD drivers, the opportunity costs appear significant given the prevailing low price of forest carbon. For example, in the case of agriculture, reducing deforestation by foregoing crop production is likely to have a net cost in the longer term. Analytical economic projections for implementing REDD are necessary before long-term contractual commitments are made. REDD is only likely to make sense as an incremental incentive in forests where high value economic activities such as tourism and timber business exist or can be developed (although where these exist additionality would be lower). A valuation exercise of forest resources is being implemented on sample forest patches in the Albertine Rift, spearheaded by the National Environment Management Authority. The information generated from the latter study will further inform this scoping exercise on the feasibility of REDD.

Ethical considerations in implementing PES programmes should also be prioritized so that poor forest owners are not trapped in the current poverty situations or pushed to become more vulnerable to food market hazards.

5.2. Recommended Policy, legal and institutional measures

Although the current policy, legal and institutional framework in Uganda provides a foundation for implementing PES/REDD, there are still critical gaps which will need to be addressed to enhance PES and carbon financing. The following recommendations are considered as the most important ones from this study:

(a) Clarity over land and tree tenure
Moving forward with PES initiatives and especially REDD financing schemes in the absence of clarity over property rights to land, trees and carbon could be counter productive and lead to conflict and marginalization of weaker claimants. There is a need to finalize the National Land Policy, which will pave the way for a review of the 2001 Land Act, as amended, and hopefully disentangle the overlapping land rights. Many of the forests, especially those owned by the cultural or traditional institutions and absentee landlords, are still a subject of conflict. There is also legal ambiguity over tree tenure under Joint Management Reserves.

(b) Capacity building for local institutions
Local forest managers and community institutions (CFM groups, Communal Land Associations etc.) still lack capacity in natural resource management, monitoring and evaluation, governance and accountability aspects. Their ability to manage the forests for REDD projects and channel benefits to their members in a transparent and equitable manner is still limited. This is not a case for yet more training and workshops, but identification of where the weaknesses are and enforcing measures that lead to improved governance and professional leadership.

(c) Review of the existing policy and legal framework
The current policy and legal framework is inadequate and does not squarely address the issues of PES and implementation of REDD for climate change mitigation and community benefits. Expediting the formulation of the Climate Change Policy and reviewing the 2002 National Forestry Plan are therefore essential for addressing the existing gaps.

Uganda is in its initial stages of developing a REDD Readiness Plan. The latter is critical for providing an institutional set-up with legitimacy and capacity to allocate and administer carbon trade payments and other critical aspects of REDD implementation. The challenge is how to ensure that payments reach private forest managers and local communities involved in conservation. A conflict resolution mechanism should be incorporated within the overall REDD framework to iron out differences that may arise between communities and responsible bodies on one hand, and communities, private forest managers and buyers on the other.

(d) Clarity on benefit sharing under Participatory Forest Management models
Benefit sharing arrangements under the CFM and CRM are currently governed by negotiated agreements and MoUs respectively between unequal parties (between NFA, UWA and Communities). The need is for a legal instrument that defines the nature of benefits that can be shared with communities (including carbon credits) and guidelines for a mechanism that allow these benefits to be shared transparently and efficiently between community members and forest owners.

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Annex 1. **Summary scores of different forest types for REDD in Uganda**

Forest type	Ten're/ instit'n	Drivers	Pop. Pres 1= high	Biom / Carb 1= low	Size/ Aggrg 1 = small	Threat / Addn'ty 1 = low	Opp. Cost 1 = high	Land ten'r 1 = un clear	Tree ten'r 1 = un clear	Govn'nce 1 = un clear	L'kage 1 = high	Repl 1= low	Remote 1 = far	Gov Int. 1 = low	Pov'ty 1 = least	Com Ben 1= low	Co-ben 1= low	Bundl pot. 1 = low	Emmis reduction 1 = low	Total score	Rank
THF well stocked	NFA	Pit-sawing	2	3	3	2	1	3	3	2	2	3	1	3	3	2	3	3	1	40	4
	UWA	Pit-sawing Agric'ture	2	3	3	1	3	3	3	3	3	3	1	3	3	1	3	3	1	42	2
	Private	Agric'ture Pit-sawing	1	3	2	3	1	2	2	1	2	3	1	2	1	1	3	3	3	34	9
THF Low stocked	Private	Agric'ture Fuel wood & Poles	1	2	2	3	1	2	2	1	1	3	2	2	3	2	3	3	3	36	6
	NFA	Agric'ture Pit-sawing	2	2	3	2	2	3	3	2	1	3	2	3	2	2	3	3	3	41	3
	Customary/ communal	Agric'ture Fuel wood	1	1	1	3	1	1	1	1	1	1	2	1	3	3	2	2	3	28	11
	UWA	Pit-sawing Agric'ture	2	2	2	2	3	3	3	3	2	3	2	3	3	2	3	3	2	43	1
Wood land	Private	Charcoal Grazing Agric'ture	1	2	2	3	1	3	1	1	1	3	3	1	3	3	2	2	3	35	7
	Customary	Charcoal Agric'ture	2	1	3	3	1	1	1	1	1	1	3	1	3	3	2	2	3	32	10
	NFA	Charcoal Agric'ture Forest plantation	2	2	3	3	1	3	3	2	1	3	3	1	3	2	2	2	2	38	5
	UWA	Charcoal Grazing Agric'ture	2	1	2	2	1	3	1	1	3	3	2	3	3	2	2	3	1	35	7

***Annex 2*. Institutions consulted**

- National Forest Authority _ Headquarters and field officers in Masindi and Bushenyi districts
- Uganda Wildlife Authority - Headquarters and field officers in Masindi and Bushenyi districts
- Permanent secretary, Ministry of State for Environment under the Ministry of Water and Environment
- Forestry Sector Support Department - FSSD
- Communities and community based Organizations - customary leaders (Bunyoro Kingdom), community group leaders (UNETCOFA, WEBNET and NOBNET coordinators in Budongo and KANETCOFA coordinators in Kasyoha-Kitomi).
- *Nature*Uganda (PEMA) program – a civil society organizations working with communities in collaborative forest management
- District Forest Officer of Bushenyi and Masindi districts

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