



GETTING STARTED ON REDD IN TANZANIA: A SCOPING STUDY FOR THE KATOOMBA ECOSYSTEM SERVICES INCUBATOR

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EAST & SOUTHERN AFRICA KATOOMBA GROUP



EXECUTIVE SUMMARY

This ‘Incubator’ Scoping Study was undertaken prior to more site-specific studies of potential Reduced Emissions from Deforestation and forest Degradation (REDD) projects to be considered for support by the Katoomba Ecosystem Services Incubator. Analysis of a range of criteria, including key legal and institutional constraints to REDD projects, resulted in the identification of REDD project types with the best market potential as well as responding to the criteria of the Incubator, e.g., community benefits. A key objective of the study was to develop an approach to identifying a balanced and strategic portfolio of REDD projects, which will be refined in further Incubator scoping studies in Uganda and Ghana.

In addition to identifying project types with good prospects for success, the analysis sought to identify critical legal, institutional, and policy barriers or gaps, which if they can be effectively tackled, would result in a major boost for REDD in Tanzania. It is therefore hoped that the study will inform the work of Tanzania’s REDD Task Force, while recognising that there are some key differences in objectives and project selection criteria.

Much of this report is based on the scoping study workshop held in Dar es Salaam between 1-3 March 2009. A small interdisciplinary team with a broad range of forestry, legal, policy, institutional and carbon market experience, went through the following steps:

- discussion and choice of REDD project selection criteria;
- characterization of forest ecosystems and deforestation/degradation (DD) drivers;
- identification and classification of ‘project types’ according to the ecosystem type, main deforestation/degradation drivers and the institutional/tenure system;
- scoring of project types;
- selection of project types demonstrating high potential for success/market viability;
- analysis of legal and institutional constraints for the more viable project types.

After the workshop, a small in-country team fleshed out the ‘gaps and opportunities’ analysis through discussions and fieldwork with a range of stakeholders, especially around the main legal-institutional arrangements for participatory forest management (PFM): Community Based Forest Management (CBFM), Joint Forest Management (JFM) on National Forest Reserves and Wildlife Management Areas (WMAs). The workshop identified seven higher potential project types:

<i>Ecosystem type</i>	<i>Main regions</i>	<i>Main DD driver(s)</i>	<i>Institutional-tenure basis</i>
Miombo woodland	Manyara, Morogoro, Tabora	Charcoal	CBFM
Miombo woodland	Iringa, Morogoro, Tabora	Agriculture	JFM
Coastal forest	Lindi, Mtwara, Pwani	Logging, charcoal	CBFM
East Arc/montane	Iringa, Morogoro, Tanga	Fire	JFM
East Arc/montane	Iringa, Morogoro, Tanga	Illegal logging	Forest Nature Reserve
Acacia Savanna	Shinyanga, Singida	Farming, firewood	Customary CBFM
Guinea-Congol.	Kagera, Mwanza	Farming, charcoal	JFM

This selection was based partly on the scoring exercise, but particularly following further analysis of the most crucial market and project development issues – especially carbon property rights, opportunity costs and carbon additionality. For example, while mangroves and wetlands are very important for carbon and other values, without key policy or legal reforms these project types are very risky for carbon investors due to their high opportunity

and transaction costs (e.g., leakage risks and unclear carbon property rights under JFM). It is recognised that with a fund-based national REDD strategy, the project selection criteria would be slightly different; however any necessarily performance-based REDD strategy will still require most carbon market criteria, e.g., additionality and opportunity costs.

A 'gaps and opportunities' analysis of the higher potential REDD project types, and especially analysis of the legal and institutional constraints to effective and equitable REDD projects, resulted in the identification of some key measures or recommendations, which if adopted, would greatly facilitate the effectiveness of REDD in Tanzania:

- Clarification of benefit sharing under JFM.
- Development of effective aggregator mechanisms.
- Rationalisation of institutional arrangements for natural resource management in the WMAs.
- Formalisation of customary CBFM arrangements through legal registration of community forest reserves.
- Clarification of the hierarchy between general and sector specific legislation on land tenure issues.
- Careful economic analysis to locate viable REDD projects.
- Where opportunity and transaction costs of REDD are prohibitively high, a regulatory or policy response is preferable.
- Development of highly transparent and accountable institutional arrangements for channeling incentives to local forest managers.
- R&D of best practice intra-community benefit-sharing arrangements.
- Governance and administrative capacity building of local institutions, and educating community members to exert good governance pressures.

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LIST OF ACRONYMS AND ABBREVIATIONS

AA	Authorised Association
CBFM	Community Based Forest Management
CBC	Community Based Conservation
CBO	Community based organization
CFR	Community Forest Reserve
DD	Deforestation and degradation (driver)
EAMCEF	Eastern Arc Mountains Conservation Endowment Fund
EMA	Environment Management Act
FAO	Food and Agricultural Organization of the UN
ES&A KG	East & Southern Africa Katoomba Group
FBD	Forestry and Beekeeping Division, MNRT
GIS	Geographical Information Systems
JFM	Joint Forest Management
JMA	Joint Management Agreement (under JFM)
MJUMITA	Tanzania Network of Community Forest Managers
MNRT	Ministry of Natural Resources and Tourism.
NFP	National Forestry Programme 2001
NGO	Non-governmental organization
PFM	Participatory Forest Management.
PMO	Prime Ministers Office
PNRM	Participatory Natural Resources Management
PES	Payments for Ecosystem Services
PFR	Private Forest Reserve
REDD	Reduced Emissions from Deforestation and Forest Degradation.
RMZP	Resource Management Zone Plan
SUA	Sokoine University of Agriculture.
TFCG	Tropical Forest Conservation Group
TFF	Tanzania Forest Fund
UN-REDD	United Nations REDD Programme
WMA	Wildlife Management Area
VFMA	Village Forest Management Area
VLFR	Village Land Forest Reserves
VNRC	Village Natural Resource Committee

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1. INTRODUCTION

1.1 Background

Tanzania is strongly placed to develop a national Reduced Emissions from Deforestation and forest Degradation (REDD) programme due to its stable socio-political situation; its confirmed REDD Readiness funding, especially from the Government of Norway and via the UN-REDD Programme; its well-established Participatory Forestry Management (PFM) programme; and in view of its high rates of deforestation, especially in miombo and coastal forests¹, and degradation (possibly 500,000 ha of forests or woodlands are degraded annually²). Deforestation and degradation have resulted in serious socio-economic and environmental outcomes, many of them impacting disproportionately on the poor, e.g., reduced quality of hydrological services; soil erosion; alteration of local rainfall patterns; loss of subsistence, construction, fuel and other non-timber forest products; and loss of biodiversity, which also impacts tourism.

For over a decade, Tanzania has adopted participatory forest and wildlife management approaches such as Community Based Forest Management (CBFM), Joint Forest Management (JFM) and Wildlife Management Areas (WMAs), having found that policing and law enforcement efforts alone are ineffective. Carbon financing, especially REDD, provides a unique opportunity to support community-based natural resources management in Tanzania. Like other African countries, Tanzania is at an early stage of developing a national REDD programme; the government has already made significant progress with the development of a national strategy framework, formation of a REDD task force, and moves to establish REDD pilots or 'demonstration activities'.

1.2 The Katoomba Ecosystem Services Incubator

The Katoomba Ecosystem Services Incubator (or "Incubator") was established to support community-based payments for ecosystem services (PES) initiatives. The Incubator focuses on community and biodiversity centred projects with potential for long-term financial viability and poverty reduction benefits. It invests strategically in the 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 by Forest Trends firstly in Latin America, where there are four projects in the Incubator portfolio, and it is now being extended to East and West Africa. Identification of potential projects for Incubator support are underway in Tanzania, Uganda, Ghana and Liberia.

At the Katoomba Group meeting in Dar es Salaam in September 2008, the Incubator was presented as a potential mechanism for supporting community-based REDD in Tanzania. As well as agreeing on the need to identify and support potential REDD demonstration activities in Tanzania, it was noted that a careful analysis of legal, policy and institutional gaps is essential for developing a strong enabling environment, and thus for the success of Incubator supported projects (http://www.katoombagroup.org/event_details.php?id=18).

¹ While estimates of deforestation vary between 91,000 and 420,00 ha per annum, they could be as high as 13% per annum for miombo woodlands, 7% for Eastern Africa coastal forests, and 2% for mangrove forests (FBD, 2007). The national deforestation rate was 1.1% from 2000-2005 according to the 2005 FAO Global Forest Resources Assessment (<ftp://ftp.fao.org/docrep/fao/008/A0400E/A0400E00.pdf>). Although the deforestation rate is lower for the Eastern Arc Mountains (1%), degradation is also a major problem – the average carbon loss per hectare from degradation of the Eastern Arc Mountain forest is estimated at 223 tons (FBD, 2007).

² MNRT, 2001.

Establishing the Incubator requires a careful project selection process. In each country context, it is necessary to map out potential Incubator project situations, and assess what is needed for project viability.

1.3 Objectives

This Incubator scoping study aims to (a) identify REDD project types with high potential in terms of likely technical and economic viability in the carbon markets, and (b) identify the main legal, policy and institutional gaps or constraints to project viability. Specific objectives are to:

- assess promising Incubator project types as a preparation for identifying and developing Incubator supported projects in Tanzania;
- develop a methodology or process for the government of Tanzania to be able to develop a balanced portfolio of REDD projects that responds to national priorities, rather than leaving project selection to an *ad hoc* process;
- provide a basic approach or methodology that can be refined and improved in proposed Incubator scoping studies in Uganda and Ghana;
- determine key legal, institutional and policy constraints, especially those that if addressed would significantly facilitate REDD in Tanzania.

2. METHODS AND PROCESS

2.1 Selection of potential REDD project types

An Incubator Scoping Study Workshop was held during 1-3 March 2009 in Dar Es Salaam. It was attended by eight participants (Annex 1) with a range of skills and experience relating to Tanzania's forest sector and carbon markets. This workshop generated much of the material in this report. The workshop participants worked through six main steps:

- (a) Selection of a set of criteria for 'viable' REDD projects;
- (b) Identification and characterisation of forest ecosystems;
- (c) Classification of REDD project types;
- (d) Scoring of project types against the criteria;
- (e) Selection of higher potential project types;
- (f) Brainstorm analysis of constraints or gaps for higher potential project types.

The term '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; for example, miombo woodland under CBFM in the Morogoro/Tabora/Manyanara region, and where charcoal and farming are the main DD drivers.

'Viability' in the context of this study is taken to mean the potential of a project (or project type) in terms of being able to deliver verifiable and marketable carbon credits, based on the exigencies of current carbon markets. It is appreciated that there are other criteria that could be developed against different objectives (for example, the ability of a project to explore specific policy constraints – and identify potential solutions).

(a) Establishment of project type scoring criteria

The team discussed criteria suggested at the National REDD Strategy meeting (URT, 2009a), and refined these to take more account of the carbon market, as well as drawing on

the Katoomba Incubator selection process used in other regions. The main considerations in selecting the criteria were their importance for the market, technical and social viability of a potential REDD project. It should be noted that the objectives and criteria are oriented to the exigencies of current carbon markets. A slightly modified set of criteria would be needed for drawing up REDD projects in support of a national REDD strategy with a fund-based approach, although the carbon market criteria would continue to be very relevant in a necessarily performance-based incentives programme.

(b) Identification of forest ecosystems and their main characteristics

This involved identifying the main forest ecosystems in Tanzania, their location and extent, the main DD drivers, and other key characteristics.

(c) Classification of project types

The classification and characterisation of project types was based on a combination of the main forest ecosystem types/regions; the main DD drivers in each ecosystem type (as identified by the workshop team); and their tenurial and institutional basis under Tanzania's participatory natural resource management framework, specifically Community Based Forest Management (CBFM), Joint Forest Management (JFM) and Wildlife Management Areas (WMAs), as well as the state-managed Forest Nature Reserves.

(d) Scoring of project types

The 'first cut' of 14 project types were then scored by the team against 10 selected criteria, using a very basic scoring system: 3 = high score (as regards viability or attractiveness); 2 = medium or moderate score; 1 = low score. Each score was discussed and a consensus or majority view adopted. Thus a total score was obtained for each project type. Each selected criterion was given equal weighting – although it is accepted that if this tool were developed further, it may be necessary to consider a relative weighting process, as some criteria may be considered more important than others.

(e) Selection of project types

The team based its selection of seven higher potential REDD project types on both the scores and a more qualitative discussion. Criteria considered most critical to project viability were revisited and given more weight in the decision, notably the land use opportunity cost, the likely carbon additionality associated with the deforestation threat level, clarity of carbon property rights, and the institutional/legal basis.

(f) Brainstorm: legal and institutional gaps analysis

With the support of a land lawyer, the team undertook a brainstorm of legal, policy and institutional constraints to a viable and equitable REDD project. The discussion focussed on the three main institutional/tenure types: CBFM, WMA and JFM.

2.2 Stakeholder consultations and revision of documents

Following the workshop, the in-country team developed the gaps analysis via interviews with a range of key informants or potential project stakeholders, as well as through analysis of policy/legal documents and other primary and secondary data (policies, legislation, management plans, by-laws, and the internet). Stakeholders at national, district and village levels were consulted for their views on the current legal and institutional arrangements for forest management, and implications for REDD. Institutions interviewed included the Ministry of Natural Resources and Tourism (MNRT), district and village councils in Morogoro Region, community based organizations (CBOs) managing the Wami Mbiki WMA.

3. CURRENT LEGAL & INSTITUTIONAL FRAMEWORK FOR FORESTRY/REDD

3.1 Land and Tree Tenure

Land tenure is fundamental to an understanding of the potential of REDD in Tanzania. All land is vested in the President, who holds the land in trust for present and future generations. Land can only be acquired through custom/tradition or a grant by the Commissioner for Lands, who administers land on behalf of the President (as set out in the National Land Policy). The 1999 National Land Act and Village Land Act provide the legal framework for Tanzania's three land tenure categories - village, general and reserved land:

- 'Village land' constitutes all land in the village area, and is sub-divided into 'communal village land', 'private land' and 'unoccupied and used village land'. communities have a strong autonomy in the use of village land, based on the rights developed under President Nyrere's '*ujama*' villagisation programme in the 1970s;
- 'Reserved land' denotes land set aside by the state for special purposes, including forest reserves, game parks/reserves, public utilities/highways, 'hazardous' land and land designated under the Town and Country Planning Ordinance;
- General land refers to public land which is not reserved or village land, and is not in use. It is the residual left over from the other two land categories.

Authority to demarcate and register villages (and village land) lies with the Commissioner for Land. Most villages are not yet formally registered and as a result, their land is therefore categorised as general land. General land is seen as insecure (and most vulnerable to DD) since the Land Act does not clarify its definition beyond stating that it is not reserved or village land, and is "not in use". The matter is further complicated by the fact that the Village Land Act provides for a range of mechanisms for villages to identify and demarcate the boundaries of their village area – including locally brokered agreements between neighbouring villages. District authorities often dispute these informal systems of land adjudication, and as a result tenure becomes blurred.

Tree tenure in Tanzania is strongly linked to land tenure. The Land Act states that "land includes the surface of the earth and the earth below the surface and all substances other than minerals or petroleum forming part of or below the surface, *things naturally growing on the land*, buildings and other structures permanently affixed to or under land and land covered by water" (Section 2, Cap.113, R.E.2002, author italics). Furthermore trees are regarded by the law as 'fixtures' on the land.

The inference is that carbon property rights will correspond closely to land tenure. However a proviso is that specific or sectoral legislation like Forestry Acts can modify this general ruling; according to the "principle of interpretation", specific laws can take precedence over general laws. Thus there is potential for conflict between laws (Francis Stolla, personal communication).

3.2 Tenure/Institutional Systems

There are five basic tenure/institutional modalities for forest management or conservation in Tanzania, as summarised in Table 1. On a continuum from higher to lower community control and participation, they are:

- Community Based Forest Management (CBFM) on village land, with customary CBFM as a sub-category;

- Wildlife Management Areas (WMAs) on village land;
- Joint Forest Management (JFM) on National Forest Reserves (NFRs);
- Exclusive state management of National Forest Reserves reserved for catchment or protection purposes
- Exclusive state management of Forest Nature Reserves.

Table 1. Summary of Tenure/Institutional Systems for Forest Management

Institutional / Tenure basis	Main characteristics	Implications for carbon finance
Customary CBFM on village or private land	Forest areas managed for traditional, customary or sacred reasons. Managed via traditional institutions and norms. Tend to be small patches and localized in areas where traditional management is strong.	Good, although lack of formalised ownership means that permanence cannot be assured. Fragmented and small forest blocks means that aggregation is needed to reduce transaction costs.
Community Based Forest Management (CBFM) on village land	Responsibility for forest management on village land delegated to village governments, groups or individuals. Widespread, with forest areas per village varying from a few hectares to tens of thousands of hectares. Concentrated mainly in miombo, coastal and acacia woodlands.	Good. Legally defensible rights to trees, land and carbon. Fragmented nature of village forests means that aggregator is necessary to reduce transaction costs. High demand for timber, land and charcoal close to urban areas makes site selection critical.
Wildlife Management Areas (WMAs) on village land	Allows an elected CBO known as the Authorised Association to manage wildlife resources on village land and obtain a share of hunting revenues. WMAs are large, but only 16 legally established to date due to high establishment costs and delays.	Quite good, e.g. large forest blocks and well-defined management bodies. But procedures and institutions for forest management are different to village wildlife management: clarification is urgently needed.
Joint Forest Management (JFM) in National Forest Reserves (NFRs)	Legal agreements between the state and local user sharing management responsibilities and returns. But failure to agree national guidelines on benefit sharing has constrained its spread and adoption.	Moderate. Forests contain high carbon values, but failure to clarify and legalise revenue sharing is a critical weakness, and means that carbon property rights are unclear.
Forest Nature Reserves (with no or minimal co-management)	Highest protection status under the Forest Act. Very limited local use is allowed, so limited for JFM. More nature reserves could be established in Morogoro and Iringa Regions.	Good. Tenure and protection are clear, and carbon values are high. Mixed picture for co-benefits: high biodiversity & hydrological benefits, low social/livelihood benefits.

3.3 Legislative Basis for PES/REDD

There are a few references to climate change in Tanzania’s legislation which provide an initial legal basis for REDD. The 1997 National Environmental Management Policy recognizes the importance of forests in climate change mitigation, and Section 75 of the 2004 Environmental Management Act empowers the Minister of Environment to take action to address climate change and its impacts. This includes “requiring ministries and departments to put in place strategies and action plans to deal with climate change.” Forest

sector legislation does not currently mention climate change or PES, but this is set to change according to drafts of a revised National Forest Policy (Box 1).

Box 1. Payment for Ecosystem Services (PES) in the Draft National Forest Policy

The financial section of the Draft Forest Policy states: “Currently there are initiatives on adopting payments for ecosystem services (PES). Ecosystem services include watershed protection, forest conservation, biodiversity conservation, carbon sequestration and landscape beauty in support of ecotourism. PES could be a direct incentive to encourage ecosystem management in ways that ensure the continued provision of the services.”

Policy statement (40) reads: “New and innovative sectoral financing mechanisms will be developed and directed to key functions and stakeholders of the forest sector.” The ‘directions’ include: “Establishment of self-financing structures such as executive agencies and self-financing mechanisms such as PES will be developed.”

A REDD strategy would be supported by the National Land Policy (1995), the National and Village Land Acts (1999), the Wildlife Policy, the Wildlife Regulations and the Local Government Act (1992). These are generally supportive of PFM, especially CBFM, and include the power of village councils to create village forest (and other sectoral) by-laws. Once approved by the district council, these become part of the management plan. The latter is a key element of PFM in Tanzania, and is obligatory for all stakeholder on any forest area over 50 hectares. There is sufficient flexibility in the management plans, which also require inventory data on forest stocks and environmental values, to incorporate many elements of REDD project development. But the plans tend to be prepared with unreliable or old data (e.g., on tree growth rates).

3.4 National, District and Local Institutional Framework

At the national level, all environmental issues are overseen by the Vice-President’s Office Division of Environment, while more specific forestry, beekeeping and wildlife issues fall under the Forestry and Beekeeping (FBD) and Wildlife Divisions of MNRT respectively. At the regional and district levels, environment, lands and natural resources are administered under a single department head which significantly reduces tensions between sub sectors that are experienced at the national level.

In the mainly state-managed JFM, the FBD works closely with district and village councils, while CBFM is community managed, with district councils playing a facilitating role, e.g., approval of village forest by-laws, while FBD provides technical or logistical assistance in developing management plans, training, nursery inputs, support for income generating activities, provision of boots, coats and sometimes bicycles, and awareness raising. In the CBFM model, the responsibilities of the village council include drafting and approving by-laws, formulating management plans and budgets, and disseminating information to community members – although they are generally assisted by foresters from the district council. They report to village assemblies and district councils. The main roles of the Village Natural Resource Committee (VNRC) are law enforcement and fire protection.

Under the WMA model, adjacent village councils provide land for the WMA, prepare village land use plans, coordinate natural resource activities, approve benefit sharing between member villages, and monitor the Authorised Association (AA). The AA’s roles include: acquiring user rights via preparation of a five year General Management Plan or Resource

Management Zone Plan for approval by the Division of Wildlife; recruiting and training village game scouts; developing by-laws; resource monitoring; control of wild animals; and issuing permits for resource use or harvesting (in the WMA). Village Environmental Committees, equivalent to VNRCs, control fire and illegal activities in the WMA.

4. CLASSIFICATION AND RANKING OF REDD PROJECT TYPES

4.1 Establishment of project type scoring criteria

Drawing on the criteria presented at the National REDD Framework workshop (URT, 2009a) and on criteria used for selecting Incubator projects in other regions, the following criteria were selected:

- Opportunity cost associated with alternative (to REDD) land use
- Clarity of land tenure
- Clarity of tree tenure (and therefore 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 from a REDD project
- 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

Other potential criteria discussed were:

- The deforestation threat level (often associated with population density)
- The broader governance framework (e.g., presence/absence of illegal logging)
- Likely level of government interest (e.g., could be higher for state managed areas)
- Likely need for a new carbon methodology (resulting in a higher cost)
- Number and capacity of other project partners
- Strategic importance of Incubator, e.g., for policy or methodology development, and in terms of other likely sources of support for a given project
- Remoteness/accessibility

Although the deforestation threat level associated with carbon additionality was not scored, it was treated as a higher level criterion for project type selection (see 4.5).

4.2 Identification and characterisation of forest ecosystems

Table 2 summarises the location (see also Map 1), scale, main deforestation/degradation (DD) drivers and other key characteristics of seven main forest ecosystems types (as identified by the team and shown in Map 2): miombo woodlands, coastal forest (East African coastal forest mosaic); Eastern Arc and other montane catchment forests; mangrove forests; non-marine wetlands; acacia savanna woodland; and Guinea-Congolean forest.

Table 2. Forest Ecosystems in Tanzania: Location, Threats and Characteristics

Ecosystem / forest type	Extent /location	Main DD drivers and threats	Other considerations
Miombo Woodlands	≈ 220,000 sq km, about 2/3rds total forest, esp. west & south: Tabora, Morogoro, Iringa, Manyara, Tanga regions	Medium level pressure from agriculture (e.g., tobacco in Tabora area) and charcoal	Mostly outside forest reserves or other protected areas; valuable timber spp.
Coastal Forests (excluding mangroves)	≈ 8,000 sq km in 50-200 km coastal belt - Dar es Salaam, Tanga, Lindi, Pwani & Mtwara areas	High pressure from illegal logging, charcoal, biofuel plantations and agriculture.	High levels of biodiversity and endemism (except thicket forest); tends to be small isolated patches, especially hilltops, islands
Eastern Arc and other Montane Catchment Forests	Eastern Arc ≈ 3,500 sq km; mainly found in national forest reserves (NFRs) and Nature Reserves at top of mountain blocks in Iringa, Morogoro, Tanga & Kilimanjaro regions	High pressure from fire, encroachment, illegal logging for valuable timber spp., slash & burn farming	Very high levels of endemism and biodiversity; high tourism potential
Mangrove Forests	≈ 1,150 sq km located in NFRs along coastal strip.	High pressure for poles, timber, boat building (especially near towns), shrimps & salt pans	High carbon levels and critical role for climate change adaptation
Wetlands (non-marine)	≈ 2,000 sq km, mainly found mainly in Morogoro, Iringa and Tabora regions	High pressure from irrigated rice, livestock grazing	Important water catchment functions; high carbon levels
Acacia Savanna woodlands	≈ 175,000 sq km in north & central Tanzania, mainly in protected areas (including game reserves)	Medium-low pressure from woodfuel, poles, subsistence farming, grazing	Game parks – tourism; livestock a key component of ecosystem
Guinea – Congolean lowland forests	≈ 6,700 sq km in Kagera & Mwanza regions in NW Tanzania (Lake Victoria Basin); mainly National Forest Reserves	Medium-high pressures from agriculture, esp. livestock, charcoal, near urban areas	High biodiversity values; includes Podocarpus swamp forests

While there are limited data on carbon stocks in Tanzania, research by Sokoine University and the ‘Valuing the Arc’ project have generated some estimates of mean carbon storage levels in three ecosystems, as shown in Table 3.

Table 3. Carbon Stock Levels in 3 Ecosystem Types (tons per hectare)

	Carbon content of ‘pristine forest’ Tons per ha	Carbon content of ‘degraded forest’ Tons per ha
Miombo woodland	87	33
Coastal forest	157	33
Eastern Arc montane	306	83

Sources: UN-REDD (2009) and Ministry of Natural Resources and Tourism (MNRT, 2007)

Map 2. Tanzania Land Cover Map

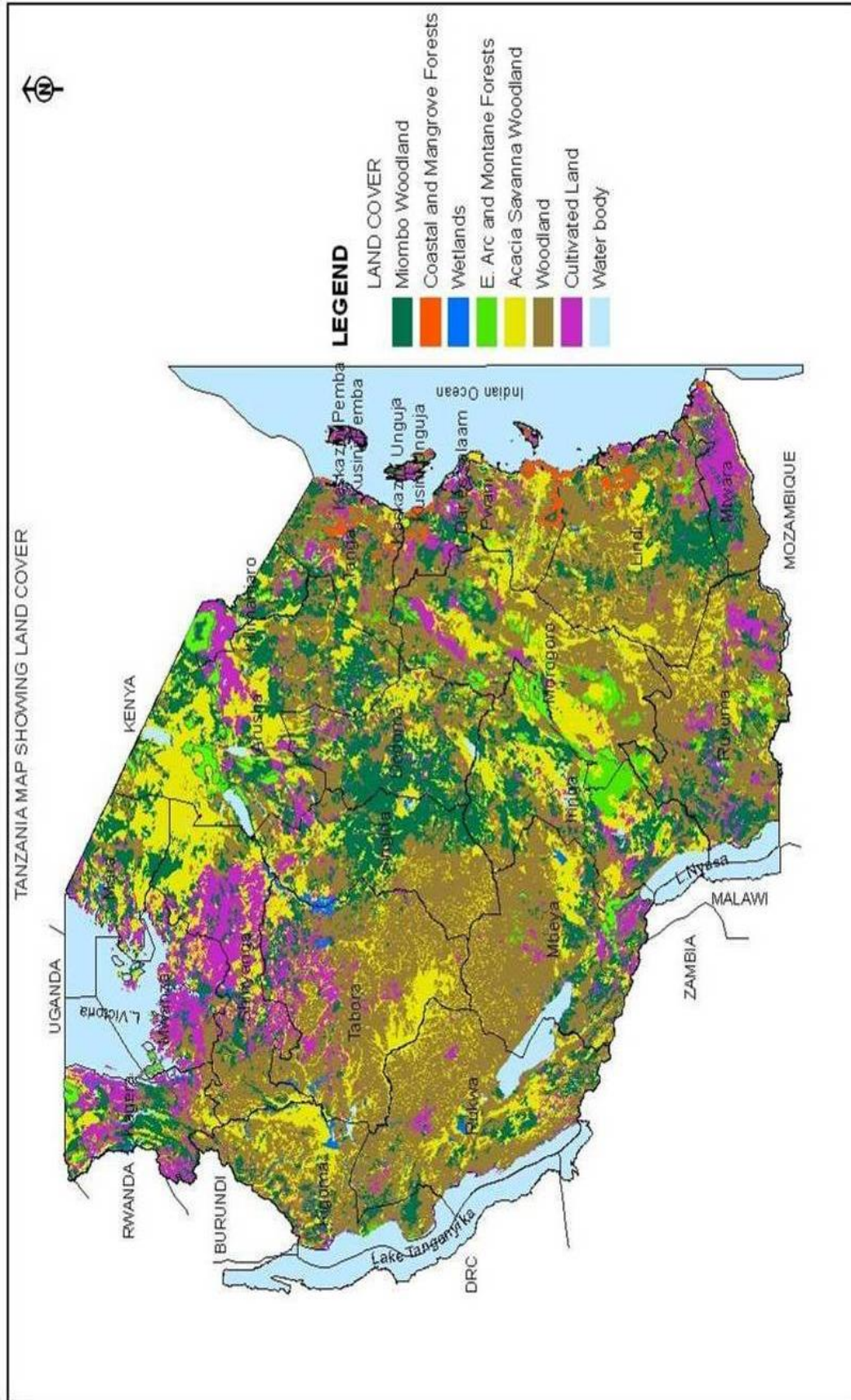


Table 4. Initial Classification of Project Types and Scores

Ecosystem	Main DD driver(s)	Institutional / tenure system	Total score
Miombo Woodland	Agriculture	WMA	22
	Charcoal	CBFM	22
Coastal Forest	Charcoal	JFM on NFR	20
	Illegal logging	CBFM	23
Eastern Arc – Montane Catchment Forests	Fire	Forest Nature Reserve	25
	Illegal logging	JFM on NFR	23
Acacia Savanna	Agriculture	Customary CBFM	22
	Agriculture	Private land	21
	Wood fuel	WMA	23
Guinea – Congolean	Agriculture	JFM on NFR	22
	Charcoal	JFM on NFR	21
Mangroves	Poles, timber, (salt)	JFM on NFR	21
	Salt pans	JFM on NFR	24
Wetlands	Agriculture	Village land	20

4.5 Selection of Higher Potential Project Types

The selection of seven higher potential project types was based on a combined qualitative-quantitative analysis, especially further analysis of critical issues for carbon project viability, such as opportunity costs, carbon additionality and clarity of carbon property rights. The desire for a balance of the main tenure/institutional arrangements also affected the final selection. The following paragraphs summarise the discussions leading to the decision of the higher potential REDD project types listed in Table 5.

- *Miombo woodlands*: the CBFM model has greater tenure clarity, but faces high opportunity costs from charcoal and logging near urban areas like Dar es Salaam. It will take more than a modest carbon payment to persuade land users to change prevailing land uses in these areas. One approach is to choose areas further away from the cities; another is to select sites where agriculture, which tends to have lower opportunity costs, is the main DD driver. But care is needed to ensure carbon additionality. Thus it was decided that a second miombo project type could be WMA with agriculture as the main DD driver, in spite of some institutional concerns.
- *Coastal forests*: CBFM sites are preferable to JFM due to tenure and local governance advantages, but high opportunity costs near urban areas would again be a concern. It would be necessary to select sites sufficiently far from the cities to give the carbon values a chance of competing with alternative land uses.
- *Eastern Arc/montane catchment forest*: where fire is the main DD driver and access for (illegal) logging difficult, opportunity costs should be lower. While JFM on national forest reserves has less tenure clarity, it is the predominant PFM system for this ecosystem type. It was also felt important to include forest nature reserves as an example of a state managed REDD model in contrast to the PFM systems.

- *Acacia savanna forest*: tree tenure or carbon rights are clear for customary CBFM, and the opportunity costs are lower than for most other ecosystem types. The problem however for these areas could be carbon additionality, since threat levels are lower, especially if there are wildlife tourism revenues.
- *Guinea Congolean forest*: JFM in national forest reserves is the predominant tenure system in this ecosystem. As for the other situations, it is necessary to find areas with credible threat levels, but where opportunity costs are not prohibitively high.
- *Mangroves*: the combination of unclear tree tenure (associated with JFM), high opportunity costs and leakage risks makes mangroves a doubtful REDD option, in spite of its high carbon values and great importance for climate change adaptation.
- *Wetlands*: the predominant tenure system is village land without CBFM. These areas therefore suffer from uncertain tree tenure (to the extent that trees are present in and around wetland areas), as well as high opportunity costs. This is not to say that, like mangroves, wetlands are not extremely valuable in terms of their ecosystem services, but rather that carbon finance may not be the best response to the degradation process. A more regulatory and institutional response is needed.

Table 5. Summary of Higher Potential Project Types

Ecosystem type	Institutional/ tenure basis	Main DD drivers	Opport'y Cost	Threat level/ additionality	Possible REDD sites/regions (See Maps 1 and 2)
Miombo Woodland	CBFM	Charcoal	High	Moderate – high	Suledo-Kiteto, Manyara Region Mgori-Singida, Manyara Region
	WMA	Farming	Medium	Moderate	Uyumbu-Urambo, Tabora MBOMIPA , Iringa Region
Coastal Forest	CBFM	Illegal logging Charcoal	High	Very high	Angai VLFR, Liwale District Lindi Region; Nyampipoto, Rufiji District, Pwani Region
Eastern Arc / Montane Catchment Forests	JFM on NFR	Fire	Medium	Moderate	Morogoro & Iringa Regions
	Forest Nature Reserve	Illegal logging	Medium	High	Amani Reserve, Tanga Region; Nilo, Tanga Region; Uluguru Mts., Morogoro Region; Kilombero, Morogoro Region
Acacia-Savanna	Customary CBFM	Farming Woodfuel	Medium	Moderate	Shinyanga District, Shinyanga Region; Meatu District, Shinyanga Region
Guinea-Congolean	JFM on NFR	Farming Charcoal	Medium	High	Kagera Region Mwanza Region

Table 5 includes some possible REDD project sites identified by the in-country team in consultation with key informants and stakeholders. However, given the time constraints of this study there was insufficient time to evaluate these suggested sites. The next stage in the screening process is to apply a similar quantitative-qualitative analysis to possible project sites, prior to pre-feasibility site visits to the most promising sites, and to undertake a site level legal and institutional analysis.

5. LEGAL AND INSTITUTIONAL GAPS AND OPPORTUNITIES ANALYSIS

5.1 Introduction

This section presents a ‘gaps and opportunities analysis’ for five selected project types (following some rationalisation of the seven project types in Table 5):

- Community Based Forest Management (CBFM) in miombo and coastal forests
- Customary CBFM in acacia savanna woodlands
- Wildlife Management Areas (WMA) in miombo and acacia savanna woodlands
- Joint Forest Management (JFM) in Eastern Arc or other montane catchment forests
- Forest Nature Reserves in the Eastern Arc or other montane catchment forests

These project types cover the main tenurial and institutional arrangements identified in this study. This section also assesses some generic and cross-cutting (across the project types) legal and institutional issues for carbon finance.

5.2 CBFM in Miombo and Coastal Woodlands

The establishment and declaration of village land forest reserves (VLFRs) provides the legal basis for village governments to own, manage and use locally available forest resources on a sustainable basis. The Forest Act provides an unequivocal legal framework that forest ownership and management responsibility rests with community members. As such, forest or tree tenure, and by extension carbon tenure, is clear and legally defensible.

Existing law and practice provides for the establishment of Village Natural Resource Committees (VNRCs) as elected bodies which report to the village council and assembly. VNRCs have the legal mandate to manage VLFRs on behalf of the community. As with any process in which a committee undertakes management responsibilities on behalf of the wider community, it is vital to ensure that appropriate checks and balances are in place in order to prevent elite capture, fraud and poor governance. A range of measures can be taken to increase accountability of village committees, including regular reporting from the VNRC to the village council and assembly, awareness raising among wider community members on the VNRC’s role and responsibilities, and public scrutiny of financial records.

Where a single block of forest managed under CBFM covers more than one village, it is common to see the establishment of a co-ordination structure or committee that draws membership from each participating VNRC. Although the law allows such higher level bodies to become *de facto* managers, in most cases, they serve as fora to address inter-village conflicts, and to oversee activities at the forest level (such as harvesting, benefit-sharing and monitoring).

Coastal forests in particular are subject to intense pressures from illegal logging, agriculture and charcoal burning. There is a strong correlation between these pressures and the distance from urban areas, especially for Dar es Salaam. In districts such as Kisarawe, Mkuranga, Rufiji and parts of Kilwa district, it is unlikely that village forest guards will be able to restrain the pressures and financial returns from unregulated forest use. In other words the opportunity costs will be too high for REDD. Consequently, REDD projects in CBFM coastal forests (and to some extent in miombo woodlands) will stand more chance of success further from urban areas – but not so far away as to prejudice carbon additionality.

5.3 Customary CBFM in Acacia Savanna Woodlands

Tanzania has a long, well documented history of customary or traditional forms of forest and woodland management. For example, over 7,000 hectares (ha) of traditionally protected forests are known to exist in Handeni District (Tanga Region) and the North Pare Mountains (Kilimanjaro Region). Most of these forests are in 125-200 hectare blocks; in Handeni there are typically 25-30 traditionally protected forests per village. These are maintained primarily for spiritual and cultural purposes, including as sites for traditional rites and ceremonies.

But compared to formalised CBFM (Section 5.2), customary CBFM provides less surety for the 'permanence' of forest carbon. While customary CBFM tenure and institutions are still widely respected, the decreasing strength of traditional rules in the face of rising land and demographic pressures make it more vulnerable to degradation..

The best known and most widespread examples of customary CBFM are in Shinyanga and Singida Regions, where large areas of forest and woodland have been recovered via traditional Wasukuma¹ reserved areas called *ngitili* ('enclosure'). *Ngitili* are traditional dry season reserves where tree and other vegetation use is regulated by individuals or groups. *Ngitili* are generally small (average 2.2 ha), but in a few cases can be up to 215 ha. By the late 1980s, many *ngitili* had become degraded as traditional rules weakened, and only about 600 ha remained. Since then, as a result of efforts by district government, donors (especially NORAD) and NGOs in collaboration with local communities, about 250,000 ha of acacia woodland have been restored across 833 villages in the two regions.

Such initiatives provide an interesting REDD opportunity since they are community-led and provide direct local benefits. However *ngitili* face increasing land and demographic pressures, including an increasing heterogeneity of local people. For example, artisan gold mining has resulted in conversion (with or without the consent of the manager) of several *ngitilis* into small-scale mines. *Ngitili* worked well when traditional norms and structures were sufficient to control encroachers and free-riders.

But now customary management provides insufficient surety for the 'permanence' of forest carbon, and there is a clear need to formalise them via legal registration as community forest reserves (CFRs) under the Forest Act, and through increased engagement with the village council and VNRCs. An aggregation system is also vital given the fragmented and small size of *ngitilis*, and their different ownership structures (individual, group and village).

5.4 WMA in Miombo and Acacia Savanna Woodlands

WMA arrangements share some similar characteristics with CBFM and JFM, but there are some key differences. WMAs are Community Based Conservation (CBC) initiatives created under the 2005 Wildlife Regulations. Sixteen WMAs have been created to date. They give local communities control over wildlife resources on village lands, allowing them to obtain a share of any hunting fees. From a REDD perspective, WMAs are attractive since they occur on large blocks of land, typically 250,000 ha, often with considerable tree cover, and mainly in high poverty areas. WMAs typically cover 10-15 village areas.

For REDD projects in WMAs it will be necessary to clarify the legal arrangements for managing forest resources. The procedures for establishing WMAs on village land are similar in some ways to those required for CBFM, but differ in other important respects (Nelson & Blomley, 2006). Most importantly wildlife management responsibility is vested in a

¹ An agro-pastoral group of people inhabiting much of west-central Tanzania.

CBO called an “Authorized Association” (AA). The AA operates at the WMA level and draws its membership from the various villages covered. This differs from CBFM or JFM in which management authority is vested in the village council and its sub-committee, the VNRC.

According to the Wildlife Management Regulations, the legal basis for forest management in WMAs can be established through the Forest Act. The most common route taken for villages to obtain legal and exclusive authority to manage forest resources on village land, is through the establishment of a VLFR. To do this however means establishing two potentially conflicting natural resource management bodies – the VNRC, operating at the village level and managing forest resources in accordance with the Forest Act, and an AA, operating at the ecosystem level and managing wildlife resources under the wildlife legislation. This arrangement would result in conflict and duplication. For REDD to function effectively in the context of WMAs, there are two options:

- a written and legally binding statement from the MNRT allowing the AA to manage and oversee forest management, including carbon monitoring and sales;
- establishment of a Community Forest Reserve (CFR) covering the same area as the WMA, and which vests management responsibility in the AA.

It is critical to introduce transparent mechanisms that facilitate equitable and transparent sharing of revenues obtained from REDD projects. A concern with the AA, which is separated from local government structures and therefore beyond the reach of village or district leadership, is the potential for conflict between competing local power bases.

5.5 JFM in Montane Catchment Forests (and Mangroves)

High carbon, biodiversity and hydrological values in montane catchment forests, as in the Eastern Arc region, make REDD highly desirable in this ecosystem type. Montane catchment (and mangrove) forests also tend to exist as large forest blocks. The FBD has encouraged and supported JFM in many montane catchment forests. Almost all the high biodiversity catchment montane forest is now in Forest Nature Reserves. VNRCs have also been established around many montane forests, and are actively engaged in protection, patrolling and law enforcement efforts. Some larger forests have established forest-wide co-ordination committees that co-ordinate the activities of individual village governments, and ensure effective management at the ecosystem level. However, given the limited harvesting allowed and lack of tangible local benefits, many are questioning the legitimacy of JFM in catchment forests.

For any carbon finance project it is vital to clarify carbon ownership in the Joint Management Agreements (JMAs). Section 16 of the Forest Act (2002) states that a JMA for forest management can be between various parties, such as the Director of Forests (for National Forest Reserves), district council (for Local Authority Forest Reserves) or local community. The Forest Act furthermore states that the agreement shall include *“rules regulating access to, use and division of, and management and audit of any funds which may be made available for, or are generated by the implementation of the agreement (Section 16(2)(h).”*

In other words, while the Forest Act provides the legal basis for joint management, it is silent on how forest management benefits should be shared, and the mechanism for doing so. Such guidance normally appears in accompanying forest regulations. However these have not been issued in spite of repeated calls from NGOs, donors and community representatives. Failure to agree and legalise JFM benefit sharing ratios and mechanisms

has had serious impacts. For example, the government has expressed reluctance to formalise JMAs, despite investing significant resources in facilitating management plans, by-laws and management committees. Thus many JMAs are yet to be approved, placing community members in a state of uncertainty and risk.

Although mangrove forests managed under JFM in NFRs¹ were not rated as a higher potential REDD project type, they are in a similar situation to montane catchment forests, and have similar attractions and constraints.

5.6 Forest Nature Reserves in Montane Catchment Forests

A Forest Nature Reserve offers the highest level of protection under the Forest Act, and is state owned and managed (under the FBD). It is a management tool designed to protect areas of exceptional biodiversity. For several years Tanzania had one nature reserve – Amani Nature Reserve in Muheza District, Tanga region. But now several new reserves have been, or are being, declared (e.g., Uluguru North and Uluguru South).

Establishment of a nature reserve allows a local manager ('conservator') to collect and retain management revenue. This typically includes tourist entry fees and local research fees. In the case of Amani Nature Reserve, a share of the revenue is apportioned to the surrounding communities through a form of revenue-sharing scheme similar to that practiced around many national parks in East Africa. Adjacent villages often have important roles and responsibilities in fire protection and control of illegal activities (logging, mining, poaching and encroachment).

However, given the strict protection regimes, opportunities for participation in management are extremely limited, and creative schemes are needed if local incentives for protection are to be delivered. The Tanzania Forest Conservation Group (TFCG) has developed a model which revolves around butterfly farming. Pupae are collected from the forest for breeding at a small butterfly farm near Amani Reserve. Exports of butterfly pupae to Europe generate significant revenue for co-operative members.

Given the absence of JFM in nature reserves, the potential conflicts described in 5.5 are unlikely. The forest resource is wholly owned and managed by central government; thus any REDD revenue would automatically accrue to the FBD and/or the local conservator. It may be possible for REDD revenue to contribute to local revenue sharing as part of the overall revenue mix generated by the reserve.

5.7 Cross-Cutting Legal and Institutional Issues

Ownership and utilisation of land, trees and carbon

Cutting across all potential project types is the fundamental issue of carbon tenure. As already mentioned, sectoral legislation has so far been silent on the issue of carbon property rights. However, in the context of REDD, in which a tradable commodity (carbon) is derived from trees, it is probably safe to assume that carbon tenure will be tied directly to tree tenure, which, in turn, is linked to land tenure in the Tanzanian context. In terms of the five project types described above, carbon property rights appear clear and legally defensible except where there are two defined managers, as in JFM. Until there are legally

¹By definition, all mangroves on mainland Tanzania are under the direct management responsibility of central government.

binding agreements defining how (and how much) forest management benefits (including carbon) are shared between the two parties, REDD will be problematic.

Mechanisms to transfer funds to communities

A second cross-cutting gap for all project types except Forest Nature Reserves is the question of how nationally received funds are transferred to local forest managers. The design of a national REDD fund will clearly depend on the international REDD architecture, especially whether it is market or fund based or some combination of the two. In a market based 'baseline and crediting' system, institutional mechanisms will depend whether a 'nested approach', involving project level carbon credits within a national accounting system, is possible. With national accounting, governments will be the recipients of REDD payments and will need to develop new or improved institutional arrangements with higher transparency and accountability levels, for channeling incentives to local forest managers.

It is envisaged that with a fund-based mechanism based on contributions from bilateral and multilateral donors and/or revenue from the sale of emissions allowances under the EU Emissions Trading Scheme, a national REDD Trust Fund needs to be established. There is legal provision under the Forest Act for a Tanzania Forest Fund (TFF), but to date this has no operational regulations. The Eastern Arc Mountains Conservation Endowment Fund (EAMCEF) has a good track record in making disbursements to groups and individuals in the Eastern Arc eco-region, and provides a good model for a national REDD Trust Fund.

It is unlikely that current government transfer mechanisms would be acceptable given their accountability levels, and the fact that transfers are mainly between ministries or levels of government (e.g., from central to district government) - there are few cases of funds being transferred directly to groups, associations, CBOs or village governments. Alternative models, like the EAMCEF will be needed to ensure performance-based (mainly carbon performance), transparent and fully accountable disbursement.

Another institutional issue is how to deal with transaction costs for community forest managers, given that forest blocks are of variable size, fragmented and often isolated. Proposals are therefore under discussion for an aggregation system in which village forest managers enter into a form of 'carbon co-operative'. This could take place through the recently formed Tanzania Network of Community Forest Managers (MJUMITA) hosted by TFCG. It may be possible to establish a system in which carbon marketing and sales from village, community and private forests can be consolidated in MJUMITA following agreed standards and norms. Payments would then be channeled via MJUMITA to local user groups and communities. MJUMITA's capacity is however relatively low at present, having been only recently launched, and the systems are far from established.

Benefit sharing mechanisms and governance in participating communities

Another vital area is distribution of REDD payments at the community level in ways that avoid elite capture. Various tools have been developed in community based forest and wildlife management that can be adopted or modified to ensure payments are shared so that local forest managers are rewarded.

Weak local governance and information flows are another key constraint that REDD must address. In the three villages visited during fieldwork, villagers complained of poor understanding or information on legal provisions, natural resource activities and financial management. There were no progress reports, M&E data or records of meetings. This is due to such factors as irregular village assembly meetings, ineffective oversight by ward

executives of village councils, lack of feedback mechanisms between community and state institutions, and weak technical and financial assistance. Agreed systems and modes of communication must be introduced, implemented and monitored at the community level.

On the other hand villages reported that forest by-laws can be effective in controlling illegal logging both within and outside forest reserves, especially following environmental education, and even when district councils have not yet endorsed them, as well as some constraints to law enforcement (Box 2). Another issue is overlapping roles and responsibilities between central and local governments, and micro-management without the capacity to do so.

Box 2. Village Forest By-laws and Enforcement in Morogoro District

Muhunga Mkora village in Morogoro District submitted forest by-laws for law enforcement in two Village Forest Reserves (VLFRs) in 2007/08. These have been approved by the village assembly, but not yet by the district council. It was reported that the delay is due to poor communication between villages and councils after submission, and to lack of follow-up by the District Natural Resource Office in the approval process. The by-laws are however being implemented and respected. Respect for customary land ownership was also well respected in all the villages visited.

Law enforcement is carried out through weekly patrols undertaken by village forest guards appointed by the VNRC. Effective law enforcement is hampered by lack of basic equipment (bicycles, boots, uniforms and identity cards) and poor understanding, even by VNRC members, of forestry by-laws. In Visigisa village, a problem was lack of feedback from village authorities to the VNRC on its efforts to stop illegal activities in a WMA.

Some general capacity building and other measures to improve local governance and participation in REDD include:

- governance, accounting and record keeping training for committee members
- measures for members to hold committees accountable, e.g., public or community auditing and reporting processes, and ensuring that information, plans, accounts and reports of committee actions are clearly displayed in places and in accessible formats
- ensuring that wider community members are fully aware of the roles and responsibilities of the committee members that represent them
- training in the use of simple techniques for forest and natural resources inventories and assessments; collection and assessment of a range of social and development data; and monitoring and evaluation methods
- training in group organisation, facilitation and leadership
- capacity building in external auditing and oversight

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Analysis of REDD Project Types

The methods and process presented here provide a means for developing a strategic portfolio of REDD projects, and are an important first step for the Incubator in Tanzania (or other countries). It is the first step in a project screening process - the next step would be to undertake a similar (but not identical) analysis of likely project sites for each high potential project type; a third step would be to make pre-feasibility assessment visits to high potential

projects; and the fourth step would be to undertake a full feasibility analysis prior to developing a Project Design Document (PDD).

The scoping study process identified seven higher potential REDD project types (Table 5). Community Based Forest Management (CBFM) provides a strong legal and institutional basis for REDD projects. Although as yet there is no legislative mention of carbon property rights, interpretation of the 1999 National Land Act implies that carbon tenure will follow land tenure. CBFM should therefore confer full carbon property rights for local forest managers. The power of VNRCs to develop and enforce forest by-laws, and the widespread respect for them, is also very positive for REDD. Key issues for REDD in the CBFM context are the need for an 'aggregator'; equitable (intra-community) benefit sharing mechanisms; and how to increase the downward accountability of VNRCs to community forest users

Where opportunity costs of REDD are high, as for forests or woodland close to urban areas, where charcoal and illegal logging are often the main threats, REDD projects are unlikely to be viable, and a more regulatory or policy response to the problem may prove more appropriate. While REDD projects need to be located in areas where deforestation or degradation is a real threat (or happening), it will not be cost-effective to locate them where the opportunity cost is prohibitively high, and where a modest carbon payment will not alter land use. Careful economic analysis is therefore needed to locate viable REDD projects.

Customary CBFM in the acacia savanna regions could be an attractive REDD option if it is formalised under the Forest Act, and an effective aggregator mechanism can be developed. Traditional institutions have been effective in the past, but face increasing demographic and land pressures. Formalisation involves legal registration of Village Land/Community Forest Reserves (as appropriate) and more formal local governance relationships with VNRCs, village and district councils, and the village assembly. This will provide local level forest managers with increased long-term security and tenure, and increase the likelihood of being able to defend their forests from external threats and land use changes.

Wildlife Management Areas (WMAs) could also be an attractive REDD option for miombo or acacia savanna regions since they occur in large blocks (typically 250,000 ha) and in areas with relatively high poverty levels. On the other hand they are found in areas with lower deforestation pressures, so there may be problems in demonstrating additionality, especially if they are already benefiting from hunting or game viewing fees. A key constraint is the potential for conflict inherent in current procedures which involve establishing two CBOs with natural resource management responsibilities – VNRCs for forest management and Authorised Associations (AA) for wildlife management. A logical option would be for the AA to be assigned overall natural resource management responsibility, and the forest area to be registered as a Community Forest. However, there are growing concerns regarding the establishment of management institutions that are outside local government structures – and which may end up in conflict or competition over resource use and allocation.

Joint Forest Management (JFM) in national forest reserves is an attractive REDD option for the montane catchment forests of the Eastern Arc and other areas due to the relatively large forest blocks and high carbon volumes, and the forest co-ordination committees that provide a basis for aggregation. But it faces the critical problem of unclear carbon property rights due to lack of clarity over benefit sharing between government and communities. While benefit shares are unclear, there is little incentive for communities to engage in REDD. JFM in mangrove forests has similar potential and constraints, but was excluded from the 'second cut' due to high opportunity costs (as well as unclear carbon property rights).

Forest Nature Reserves in montane catchment forests provide an opportunity for a traditional protected area and state managed approach to REDD. Their advantages include clear property rights, large forest blocks and high carbon volumes. Again it will be a matter of finding the right balance between carbon additionality and opportunity costs.

6.2 Recommended Legal, Policy and Institutional Measures

This report concludes with the following set of recommendations for tackling critical barriers, which, if they can be removed, would result in a major boost for REDD in Tanzania:

- Clarification of benefit sharing under JFM in the form of legally binding agreements defining how (and how much) forest management benefits (including carbon) are shared between the two managing parties, and development of practical mechanisms that allow these benefits to be shared transparently and efficiently between community members (as for all PFM arrangements).
- Development of effective aggregator mechanisms to address high transaction costs of supporting REDD in village and community forests, since these tend to be dispersed and relatively small. A potential aggregator is the recently established MJUMITA community forestry network, although significant capacity building would be needed for it to fulfill this function effectively.
- Rationalisation of institutional arrangements for natural resource management in WMAs: this probably means that Authorised Associations (AAs) should be given management authority for both wildlife and forests, although work is needed to ensure that they are properly linked to local government structures and that any overlaps with elected village councils are clarified to avoid conflicts.
- Formalisation of customary CBFM arrangements through legal registration of community forest reserves (CFRs) under the Forest Act, and development of more formal governance relationships between forest managers and local institutions.
- Clarification of the hierarchy between general and sector specific legislation in order to reduce potential legal conflicts, e.g., the potential of future Forest legislation to contradict the Land Act, which implies carbon tenure should follow land tenure.
- Careful economic analysis to locate viable REDD projects (the Katoomba Group is in the process of developing a tool for project screening and selection). Where opportunity and transaction costs of REDD are prohibitively high, but the 'project type' otherwise has high potential (e.g., mangroves), a regulatory or policy response is preferable.
- Development of a national REDD Trust Fund involving transparent and accountable institutional arrangements for channeling incentives to local forest managers, possibly based on the Eastern Arc Mountains Conservation Endowment Fund.
- Capacity building of local institutions in M&E, reporting, communications and administrative 'good practice.' Measures are also needed to educate the wider village community in its understanding of the responsibilities of village natural resource management committees, and to exert public scrutiny of financial records.

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ANNEX 1

PARTICIPANTS AT SCOPING STUDY WORKSHOP

The participants of the REDD Scoping Study Workshop, held at Hotel Protea Oyster Bay, Dar es Salaam, from 1st to 3rd March 2009 were:

- Tom Blomley: Institutional/Community Forestry Consultant, Consultant, UK
- Juma Mgoo: Policy and Planning Division, Ministry of Natural Resources and Tourism, Tanzania
- Hannah Murray: Coordinator of Forest Trends work on legal and institutional analysis of PES, Forest Trends, USA
- Dr Sara Namirembe: Regional Manager, Katoomba Incubator Project, Katoomba Group, Uganda
- Dr Robert Otsyina: DASS Consultant , Tanzania (in-country team leader)
- Dr Michael Richards: Forest Economist, Forest Trends Consultant, UK (study coordinator)
- Alice Ruhweza: Coordinator of East & Southern Africa Katoomba Group, Uganda
- Francis Stolla: land lawyer, Tanzania (2nd March only)

ANNEX 2

SCORING OF THE 14 INITIAL PROJECT TYPES

Ecosystem	DD Drivers	Rank	Tenure/ Institut.	Opport. cost 1=high	Land Tenure	Tree tenure	Size / aggreg.	Biomass level	Instit/ gov.	Leakage risk 1= high	Replic- abilitiy	Comm'ty benefits	Bundling potential	Total score
Miombo Woodland	Agriculture	1	WMA	2	3	1	3	1	3	1	2	3	3	22
	Charcoal	2	CBFM	1	3	3	2	1	3	1	3	3	2	22
Coastal forest	Charcoal	1	NFR-JFM	1	3	1	3	2	2	1	3	2	2	20
	Illegal logging	2	CBFM	1	3	3	2	2	3	1	3	3	2	23
Eastern Arc - Montane	Fire	1	Nature Res.	2	3	3	3	3	3	3	1	1	3	25
	Illegal logging	2	NFR-JFM	2	3	1	3	3	2	1	3	2	3	23
Acacia savannah	Agriculture	1	CBFM ¹	2	3	3	1	1	3	1	3	3	2	22
	Agriculture	1	Private land	2	3	3	1	1	3	1	3	2	2	21
	Wood fuel	2	WMA	3	3	1	3	1	3	1	3	3	2	23
Guinea – Congolean	Agriculture	1	NFR-JFM	3	3	1	3	3	2	1	1	2	3	22
	Charcoal	2	NFR-JFM	2	3	1	3	3	2	1	1	2	3	21
Mangroves	Poles, timber	1	NFR-JFM	1	3	1	3	3	2	1	2	2	3	21
	Salt pans	2	NFR-JFM	3	3	1	3	3	2	2	2	2	3	24
Wetlands	Agriculture	1	Village land	1	1	1	3	2	2	2	2	3	3	20

¹ CBFM with a customary basis.