Forest Carbon Partnership Facility (FCPF)
Readiness Preparation Proposal (R-PP)
UNITED REPUBLIC OF TANZANIA
Date submitted: 15th June 2010
INFORMAL SUBMISSION

TANZANIA FINAL DRAFT RPP

Forest Carbon Partnership Facility (FCPF)
Readiness Preparation Proposal (R-PP)

Introduction and Objectives

- The country has about 35.3 million hectares of forests and woodlands.

- Out of this total area,
  About 18.3 million hectares are reserved forests of which 1.6 million hectares are set aside for water catchment, biodiversity and soil conservation and
  2 million hectares are wildlife protected areas.

- Over 80,000 hectares of the reserved forests is under 16-plantation forestry and 4.1 million hectares are under Participatory Forest Management (PFM) regimes.

- Around 17 million hectares of forests are under general land (General Land Forest) with no properly defined management regime, severe deforestation and forest degradation is occurring under this category.

PARTICIPATORY FOREST MANAGEMENT (PFM)

- Tanzania has benefited from many years of implementing PFM programmes/Projects which have helped to integrate communities into forest management regimes and thus address some of policy and critical forest governance issues concerning with deforestation and forest degradation.

- This experience provides a valuable basis for rapid transition into Readiness for REDD+ and development of REDD+ strategy options

Objective and scope of the Tanzania R-PP

The objective of the R-PP is to provide a framework for taking stock of the national situation from the point of view of deforestation and forest degradation, and addressing this situation by analytical work to be undertaken in a range of areas and funded from a variety of sources.

- **The scope of work to be undertaken and funded fall in core components of 'REDD readiness' Template plan including among others, the following:**

✓ An assessment of the situation with respect to deforestation, forest degradation, and relevant governance issues;

✓ REDD+ strategy options (a set of actions to reduce deforestation and/or forest degradation, that addresses the drivers of deforestation and degradation) and the REDD+ institutional and legal implementation frameworks necessary to realize these options;

✓ Options for reference scenario (also referred to as a scenario of forest cover change and emissions) for greenhouse gas (GHG) emissions from deforestation and/or forest degradation;

✓ A possible monitoring system to Measure, Report and Verify (MRV), the effects of the REDD+ strategy options on GHG emissions and other benefits, and to monitor the drivers of deforestation and forest degradation, as well as other variables relevant to the implementation of REDD+; and lastly

✓ Establishment of a suitable financial and benefit sharing mechanism **(Sharing of the Co-benefits).**

Tanzania had embarked on an assessment of the Land Use, Land Cover Situation with respect to deforestation, Forest degradation, and relevant governance issues encompassing

- National Forest Resources Monitoring and Assessment (NAFORMA) to produce necessary data sets to contribute to the designing of a National REDD scheme Monitoring Reporting and Verifications (MRV) (Insitu data set).

- Identifying activities to be under taken, and taking stock of existing activities, identify gaps and resources needed for some identified activities.

- Drafting the National REDD framework, as a road map to develop a National REDD strategy (with Strategy OPTIONS)

Component 1a: Organize and Consult

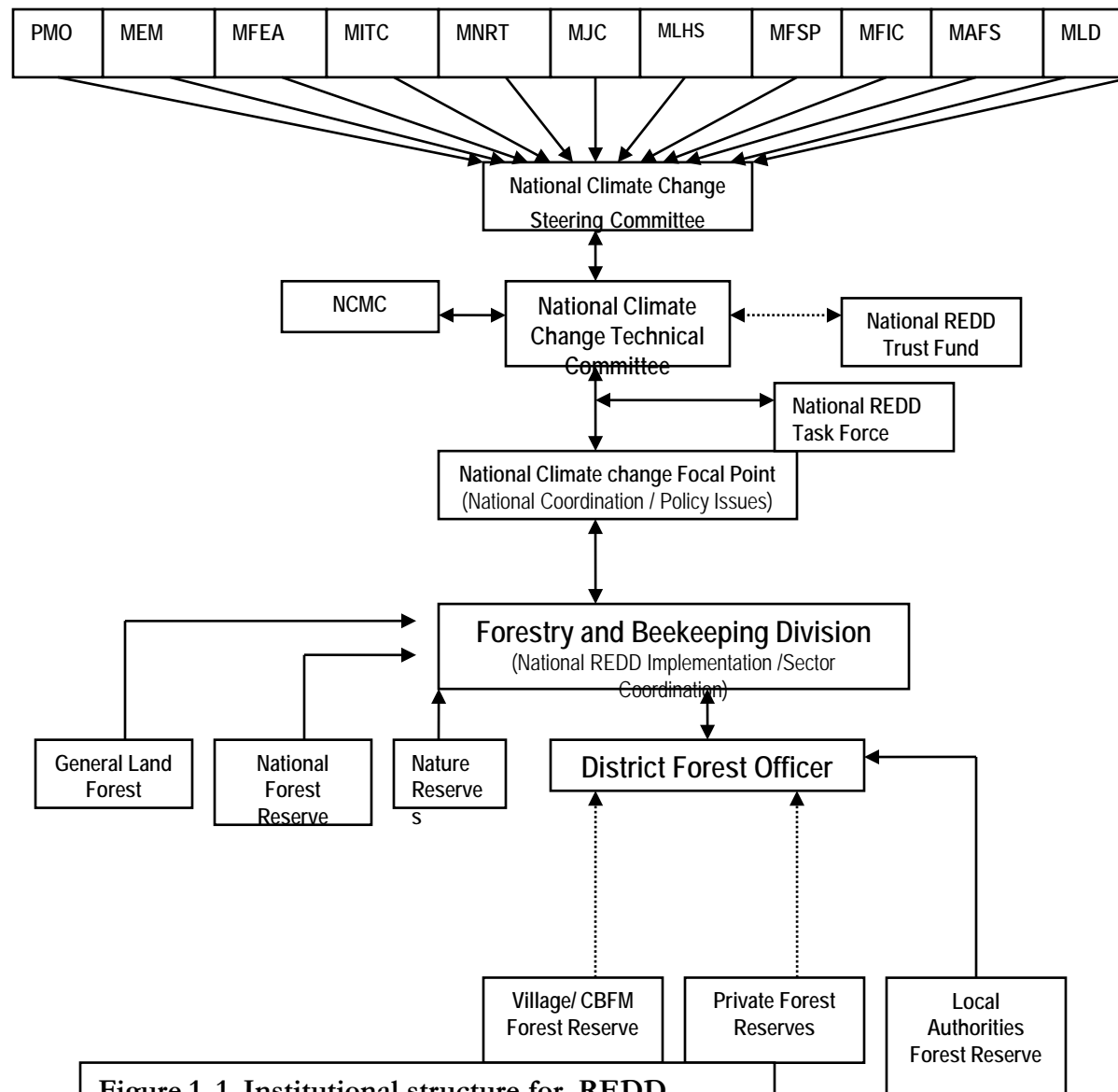## 1a. National Readiness Management Arrangement

PMO	MEM	MFEA	MITC	MNRT	MJC	MLHS	MFSP	MFIC	MAFS	MLD

National Climate Change Steering Committee

NCMC

National Climate Change Technical Committee

National REDD Trust Fund

National REDD Task Force

National Climate change Focal Point
(National Coordination / Policy Issues)

Forestry and Beekeeping Division
(National REDD Implementation /Sector Coordination)

General Land Forest

National Forest Reserve

Nature Reserves

District Forest Officer

Village/ CBFM Forest Reserve

Private Forest Reserves

Local Authorities Forest Reserve

Figure 1 .1 Institutional structure for REDD implementation and reporting

National REDD Framework and REDD+ Strategy Options

- **The National REDD Framework** embraces the National Readiness Management Arrangement http://www.reddtz.org (Annexed)

- **The National REDD Strategy options**, Encompass sets of actions to reduce deforestation and/or forest degradation (D&D), by addressing the drivers of D&D and their underlying causes (To be Ready by November 2010)

1b. Stakeholders Consultation and Participation

Table 1b-1: *Consultation Plan and Workshop has been done-*

A Comprehensive Outreach Consultation plan is Annexed

Zone	Regions	Dates
Northern Zone	**Manyara**, Kilimanjaro and Arusha	1st - 7th August 2009
Eastern Zone	**Tanga**, Morogoro, DSM and Coast	8th – 9th September 2009
Southern Zone	Lindi and **Mtwara**	16th – 17th September 2009
Southern Highlands Zone	Iringa, **Mbeya**, Rukwa and Ruvuma	24th – 29th October 2009
Lake Zone	**Mwanza**, Kagera, Mara and Shinyanga	30th – 31st September 2009
Central Zone	**Dodoma** and Singida	15th -21st August 2009
Western Zone	Tabora, **Kigoma**	6th – 7th October 2009
Zanzibar	**Unguja** and Pemba	19th – 20th October 2009

Summary of National Readiness Arrangement, Activities and budget

Table 1b-3: Summary of National Readiness Management Arrangements Activities and Budget						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands US$)**				
		2010	**2011**	**2012**	**2013**	**Total**
Strengthen capacities of national steering and technical committees	Support to NCCSC to meet regularly	$5	$6	$7.5	$8	**$26.5**
	Capacity building on REDD governance	$150	$30	$160	$0	**$340**
Strengthen capacities of REDD task force and Secretariat	Training and capacity building	$120	$90	$50	$50	**$318**
	Office Running	$30	$35	$40	$45	**$158**
Training and awareness of LGA and other key stakeholders (all districts)	General training and awareness (REDD)	$190	$200	$200	$150	**$740**
	Technical training (governance etc)	$80	$90	$90	$60	**$320**
	Publications and documents	$20	$22	$22	$18	**$82**
	Functioning costs	$25	$25	$27	$25	**$102**
Total		**$577**	**$498**	**$596.5**	**$356**	**$2086.5**
Domestic Government		$27	$20	$30	$25	**$102**
FCPF		$	$	$	$	**$0**
UN-REDD Programme		$200	$150	$150	$150	**$650**
CCIAM		$150	$128	$120	$120	**$518**
NORAD		$200	$200	$296	$196	**$892**

Component 2: Preparation of the REDD Strategy

2a. Assessment of Land Use, Forest Policy and Governance

In-depth studies ToRs Annexed/ Table 2a: Land use categories

Land use type	Area (000 ha)	Percentage
Small holder cultivation	3,880	4.1
Large scale cultivation	585	0.6
Urban development	1,600	1.7
Inland water	5,900	6.3
Grazing land	48,740	51.7
Forest and woodlands	33,555	35.6

Remarks under Assessment of Land Use, Forest Policy and Governance

- Tanzania is still endowed with extensive forest resources but their sustainability is threatened by human activities that cause deforestation and forest degradation, and occur when communities **strive to earn their lives/ livelihoods**.

- It is important to recognize a **forest-livelihoods linkage** if SFM is to be achieved. As peoples' livelihoods are embedded in many sectors (e.g. agriculture, fisheries, forestry), halting deforestation must be approached from the multi-sector perspective.

- SFM can only be realized if the forestry sector aims to optimize the dual objective of improving forest condition and conserving the environment, while at the same time improving livelihoods of the people, particularly the poor, who largely depend on forest resources for their livelihoods.

Summary of Assessment of Land Use, Forest Policy and Governance Activities

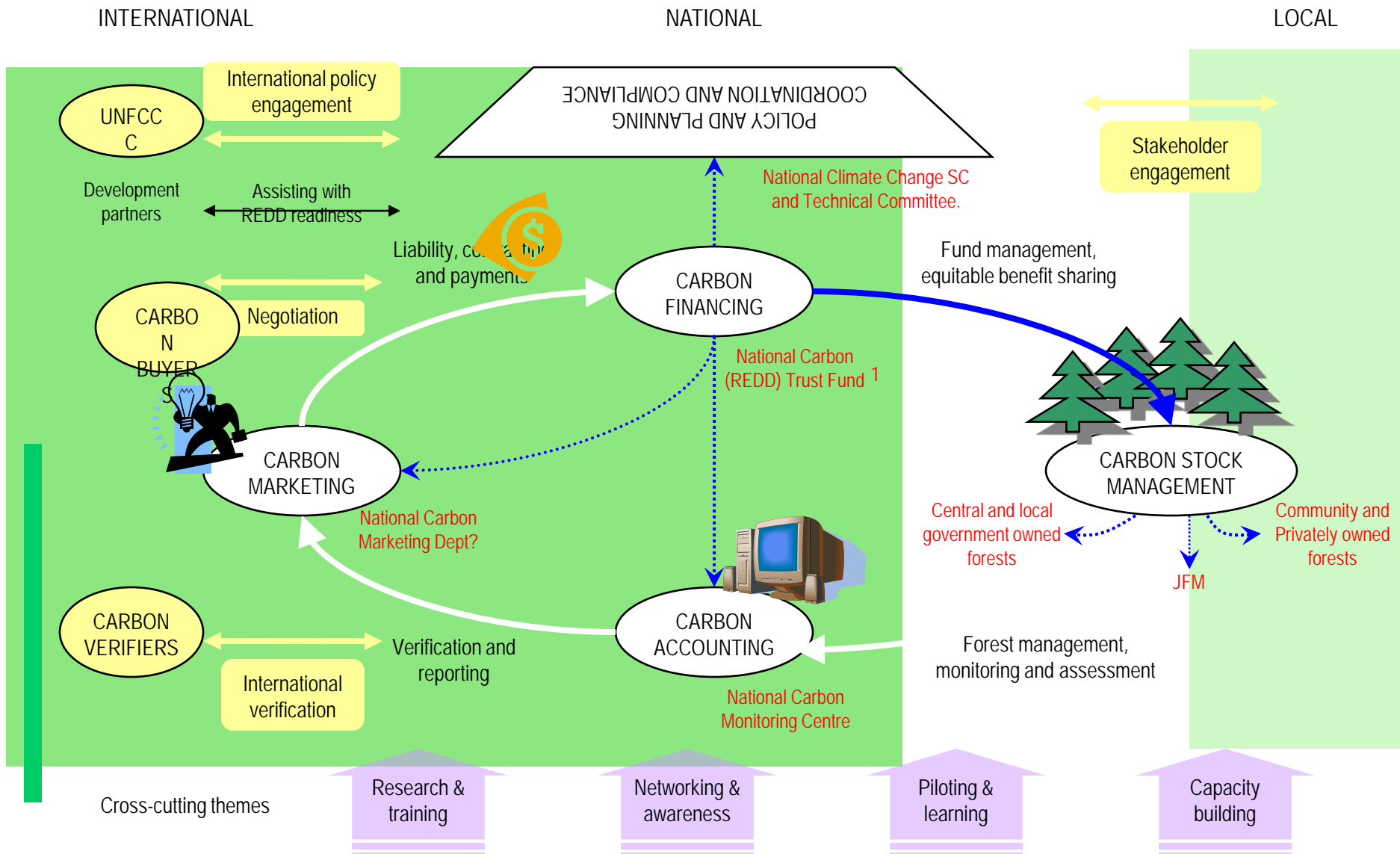| Table 2a.4: Summary of Assessment of Land Use, Forest Policy and Governance Activities and Budget (Follow-up Activities Needed)						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**				
		2010	**2011**	**2012**	**2013**	**Total**
Synthesis of experiences on forest governance at national and community levels.	Synthesis and analysis of governance issues (Study)	$50	$50	$	$	**$100**
	Cross sectoral analysis of current knowledge and activities in addressing drivers of deforestation.	$120	$	$	$	**$120**
Policy analysis to identify gaps (cross-sectoral)	Consultations at national and district levels	$50	$50	$	$	**$100**
	Synthesis and validation workshops	$45	$	$	$	**$45**
Study of impacts of drivers and underlying causes of deforestation and degradation		$45	$	$	$	**$45**
Total		**$265**	**$100**	**$**	**$**	**$365**
Government		$35	$10	$	$	**$45**
FCPF		**$**	**$**	**$**	**$**	**$**
UN-REDD Programme (if applicable)		$150	$50	$	$	**$200**
NORAD		$88	$40	$	$	**$128**
Other Development Partner 2 (name)		$	$	$	$	**$**
Other Development Partner 3 (name)		$	$	$	$	**$**
Table 2a.4: Summary of Assessment of Land Use, Forest Policy and Governance Activities and Budget (Follow-up Activities Needed)						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**				
		2010	**2011**	**2012**	**2013**	**Total**
Synthesis of experiences on forest governance at national and community levels.	Synthesis and analysis of governance issues (Study)	$50	$50	$	$	**$100**
	Cross sectoral analysis of current knowledge and activities in addressing drivers of deforestation.	$120	$	$	$	**$120**
Policy analysis to identify gaps (cross-sectoral)	Consultations at	$50	$50	$	$	**$100**

2b. REDD Strategy Options

- The REDD+ strategy in TANZANIA will be based on the National Framework for REDD developed in early 2009 and the National Forest Programme (NFP) (which has addressed issues/drivers of deforestation and degradation) and other issues addressed under section 2a Analysis.

Summary of Strategy Activities and Budget Component 2d- Strategy Options

Table 2b-2: Summary of Strategy Activities and Budget						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**				**To**
		2010	**2011**	**2012**	**2013**	
Follow-up of ongoing studies and pilot projects	Supervision visits to projects	$100	$120	$120	$	
	Documentation, workshops	$15	$20	$25	$25	
Review and analysis of sector based programmes & REDD related activities (Feasibility assessments)	Technical assistance (Consultancies)	$70	$70	$	$	
	Documentation, workshops	$15	$20	$20	$25	
Training and institutional capacity for improved governance, monitoring and knowledge sharing	Training of local government and district officials on governance and knowledge sharing issues	$150	$150	$150	$150	
	Support Inclusion and participation of NGO and civil society stakeholders	$30	$35	$37	$40	
Total		**$380**	**$417**	**$352**	**$240**	**$**
Government		$40	$25	$25	$20	
FCPF		$	$	$	$	
UN-REDD Programme (if applicable)		$170	$200	$200	$70	
NORAD		$170	$207	$127	$150	

Conceptual Framework for REDD Implementation Arrangements

INTERNATIONAL   NATIONAL   LOCAL

International policy engagement

UNFCCC

POLICY AND PLANNING
COORDINATION AND COMPLIANCE

Stakeholder engagement

Development partners

Assisting with REDD readiness

National Climate Change SC and Technical Committee.

Liability, contractual and payments

Fund management, equitable benefit sharing

CARBON BUYERS

Negotiation

CARBON FINANCING

National Carbon (REDD) Trust Fund [1]

CARBON MARKETING

CARBON STOCK MANAGEMENT

National Carbon Marketing Dept?

Central and local government owned forests

Community and Privately owned forests

JFM

CARBON VERIFIERS

Verification and reporting

CARBON ACCOUNTING

Forest management, monitoring and assessment

International verification

National Carbon Monitoring Centre

Cross-cutting themes

Research & training

Networking & awareness

Piloting & learning

Capacity building

Activity Budget REDD Implementation Arrangements

Table 2c-2: Summary of Implementation Framework Activities and Budget						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**				**Total**
		2010	**2011**	**2012**	**2013**	
Building and strengthening the implementation capacity	Completion of legal and institutional processes	$20	$	$	$	**$20**
	Capacity building of all key implementing structures an organs.	$50	$80	$80	$60	**$270**
Information flow procedures at national and district levels	Develop and share information and data collection and knowledge sharing procedures	$30	$30	$35	$35	**$130**
	Monitoring and information tools harmonized	$10	$10	$	$	**$20**
Carbon accounting and registry established	Carbon accounting systems verified and procedures harmonized	$20	$25	$25	$	**$70**
	Development and operationalisation of REDD fund	$15	$20	$20	$20	**$75**
Support operations of all institutional structures at district and national levels	Facilitation of operations	$120	**$125**	**$100**	**$100**	**$345**
Total		**$265**	**$210**	**$260**	**$215**	**$950**
Government		$26	$10	$15	$20	**$91**
FCPF		$	$	$	$	**$**
UN-REDD Programme (if applicable)		$70	$40	$50	$60	**$220**
NORAD		$100	$80	$130	$120	**$430**
CCI		$69	$80	$50	$15	**$214**

2d. Social and Environmental Impacts/Safeguard Forest Dependent/Indigenous/Traditional Communities???

Scope of work

- **The assignment will involve an initial diagnostic work, including an initial analysis of the environmental and social context of the legal, institutional and biophysical activities in relation to REDD as specified in the REDD framework document and the draft REDD strategy [In-depth studies ongoing]**

- **A stakeholders analysis has been designed to analyse and map out the expected outcomes, opportunities and risks related to REDD and REDD readiness, consultations with key stakeholders and interest groups, including forest-dependent/ indigenous peoples in a transparent manner.**

- **The SESA should give special consideration to livelihoods, rights (including those of forest dependent Peoples), biodiversity, cultural heritage, gender, the special protection of vulnerable groups in society, capacity development and governance .**

- **ToR Annexed**

Summary of SESA Activities and Budget

Table 2d: Summary of Social and Environmental Impact Activities and Budget

Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2010	2011	2012	2013	Total
nduct finalization he SESA	Consultants and technical assistants	$120	$50	$	$	$150
	Coordination and support to NEMC and TF	$30	$30	$50	$30	$140
	National stakeholders workshop for sharing results	$55	$	$	$	$55
ining and Capacity ding of national itutions to ertake SESA	Training at national and sub-national levels	$80	$55	$40	$	$175
	Support to LGAs and other organizations to implement SESA	$40	$35	$30	$	$105
Total		**$325**	**$170**	**$120**	**$30**	**$625**
vernment		$25	$30	$15	$3	$73
PF		$	$	$	$7	$237
-REDD Programme (if applicable)		$100	$70	$45	$20	$235
RAD		$100	$70	$60	$7	$237

Component 3: Development of a Reference Scenario

Key activities:-

- Establish Activity Data=Historic rates of deforestation

- Establish Conservative Estimates of Carbon Biomass

- Establish Spatially explicit Carbon maps

We have Planned for both Approach REL/RL

Simple Approach

- [**Based on historic rates of deforestation** (activity data) for a historic period] x [**Conservative estimates of Carbon biomass~Emision factor**]
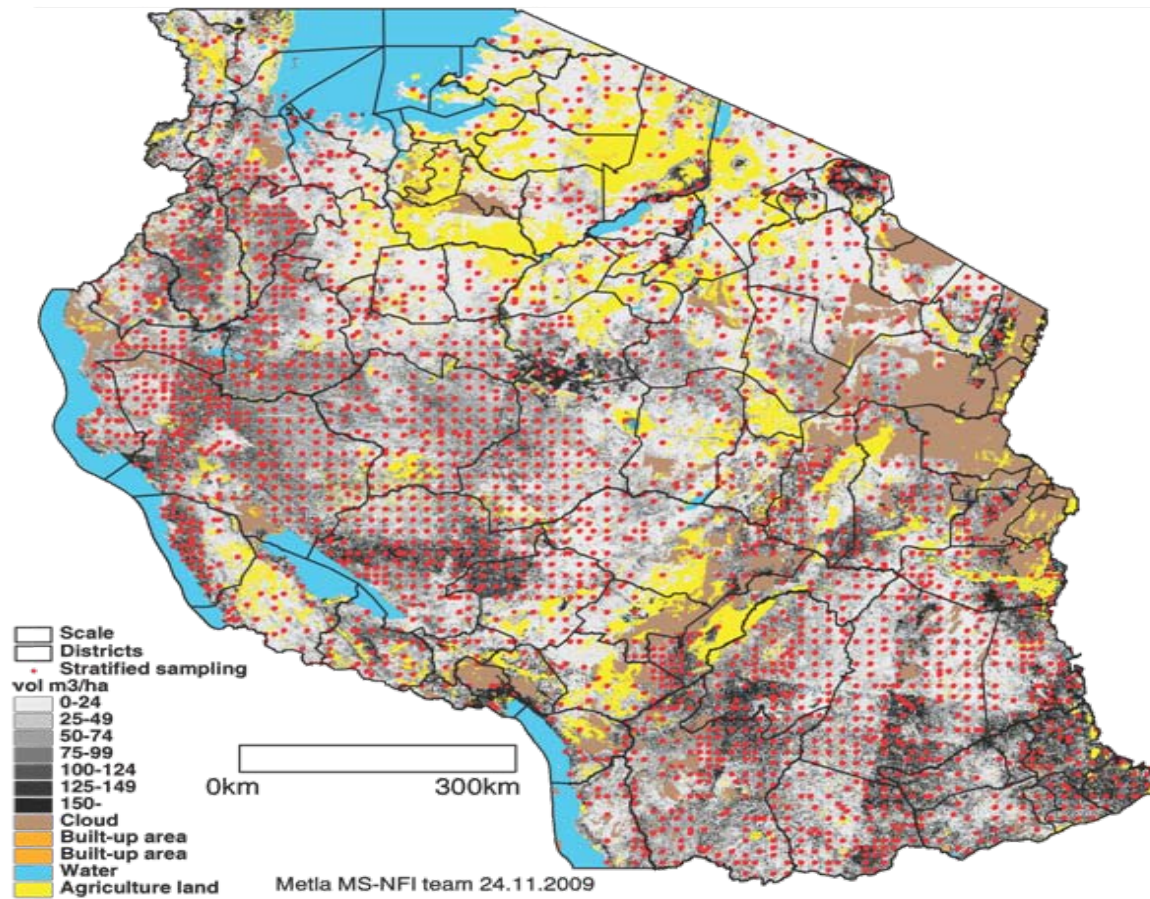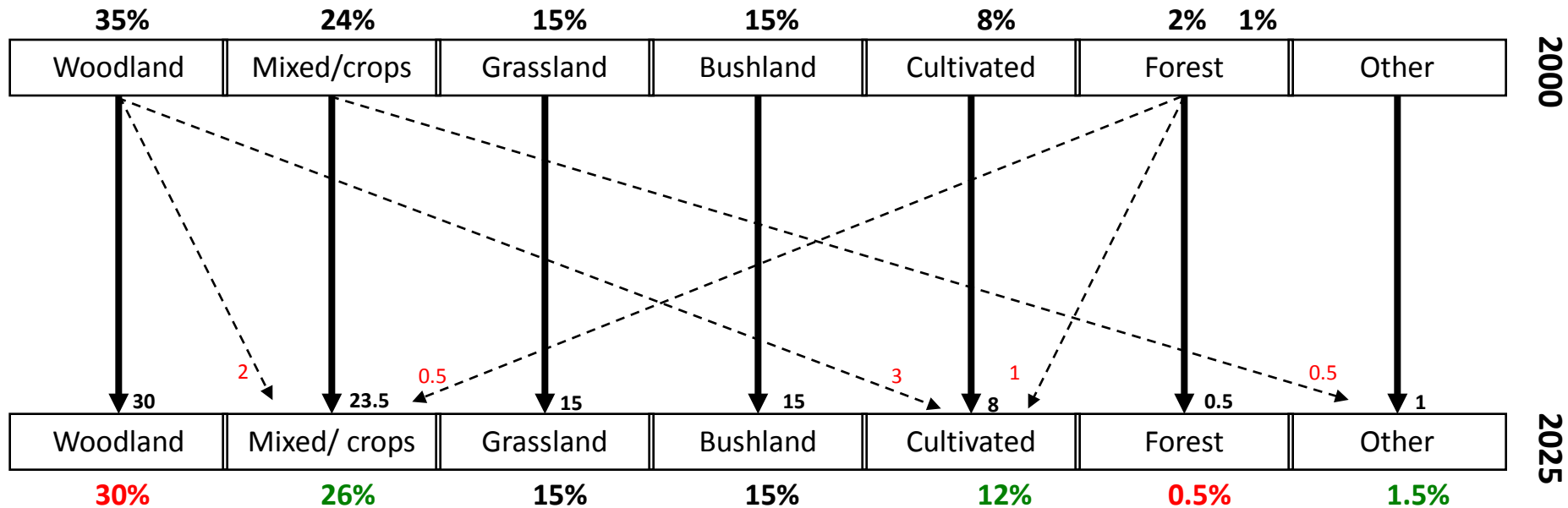
- ✓ NAFORMA=Government of Finland +FAO

Complex Approach

- [**Based on historic rates of deforestation** (activity data)] x [**Spatially explicit carbon maps**]

- ✓ MAPPING-Co_benefits of REDD=UN-REDD+RGN
- ✓ Done at tier 1

National Forest Stratification and Sampling Design

Simple Approach

[**Based on historic rates of deforestation** (activity data) for a historic period] x [**Conservative estimates of Carbon biomass**]
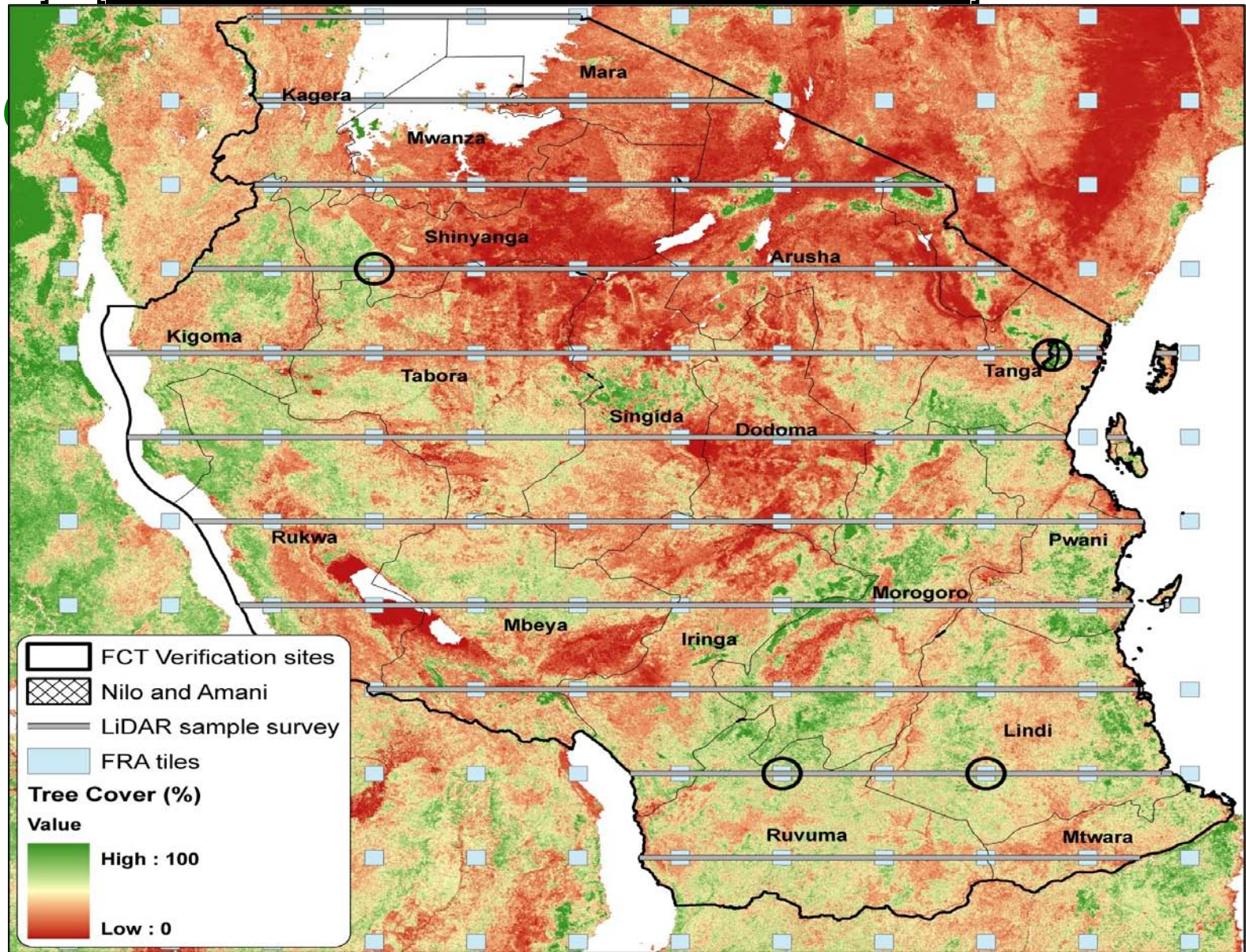
Business as usual

Firewood extraction increases
Pole extraction increases
Charcoal production increases
Expansion agriculture

Some lost around urban centres
due to population migration to Cities / towns

Significant expansion due to investment in commercial agriculture. Response to growing population

Increased rate of decline due to illegal logging & degradation

Increases in urban areas and water storage

35%	24%	15%	15%	8%	2% 1%	
Woodland	Mixed/crops	Grassland	Bushland	Cultivated	Forest	Other

2000

30   2   23.5   0.5   15   15   3   8   1   0.5   0.5   1

Woodland	Mixed/ crops	Grassland	Bushland	Cultivated	Forest	Other
30%	**26%**	**15%**	**15%**	**12%**	**0.5%**	**1.5%**

2025

Hopeful expectations

Charcoal extraction steady
Pole extraction decreases
Timber extraction steady
Encroachment of agriculture

*Small expansion,
mirroring more general
agricultural expansion*

*Small expansion as
woodlands cleared*

Steady expansion

*Small decreases through
Degradation & logging,
Coupled with small scale expansion of
plantation forests.*

35%	24%	15%	15%	8%	2%	1 %
Woodland	Mixed/crops	Grassland	Bushland	Cultivated	Forest	Other

2000

1   0.1   1.9   0.1   0.1

32	24	14.9	15	8	1.9	1
Woodland	Mixed/ crops	Grassland	Bushland	Cultivated	Forest	Other

2025

| **32%** | **25%** | **15%** | **15%** | **10%** | **2%** | **1%** |
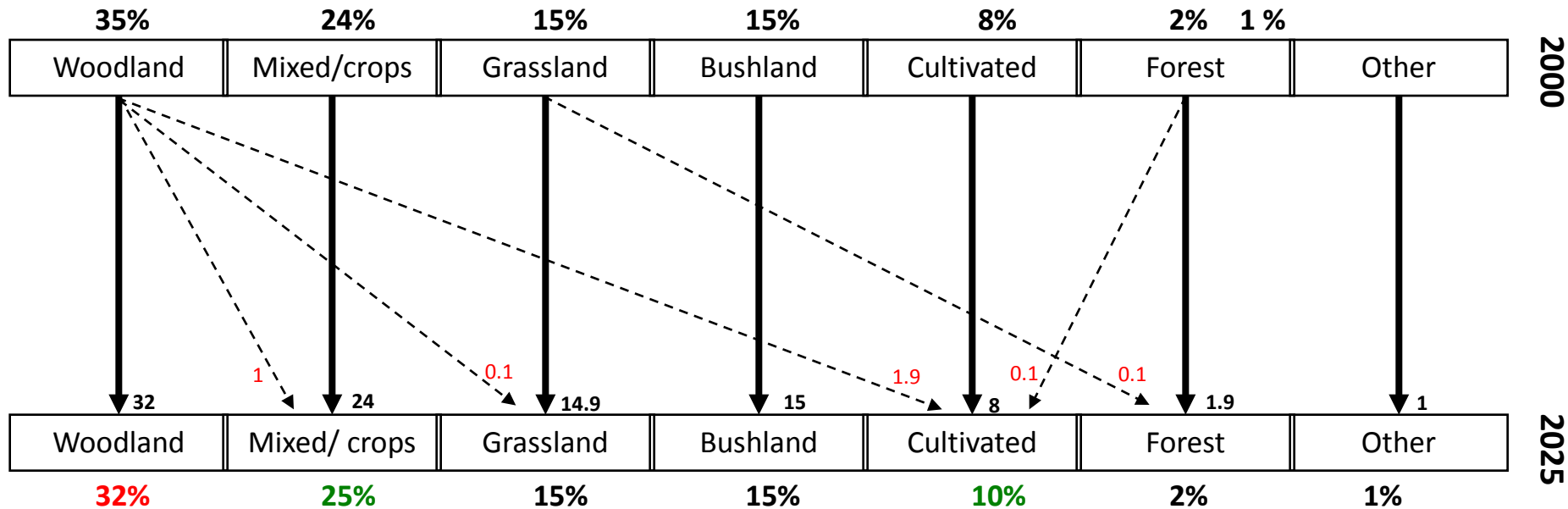
NOTES FOR INTERPRETATION

The top row of boxes represent our current land cover (which I have labelled as year 2000 but essentially represent NOW. The percentage figures across the top of the boxes represent the CURRENT landcover (i.e. our fixed starting point). THESE figures must be the same for all scenarios.

The bottom row of boxes represent the future land cover for 2025 under our Matamazio scenario (hopeful expectation)

The bold arrows show how much of the 2000 stock of each land cover class is present both in 2000 and 2025. The lighter, dashed arrows represent flows between land cover classes. So for example, the Woodland category covered 35% of our study area in 2000. Of this 32% remained unchanged in 2025. Of the original 35%, 1% had been converted to Mixed with Crops, 0.1% to grassland and 1.9% to Cultivated land. Overall there was a 3% reduction in the overall area of Woodland. All of the inputs to the 2025 boxes should add up to the figure below, similarly if those arrows are traced back, they should add up to the 2000 figure. Figures in RED indicate change.

Complex Approach

[**Based on historic rates of deforestation** (activity data)] **x** [**Spatially explicit carbon maps**]   MNRT/UNEP-WCMC,2009
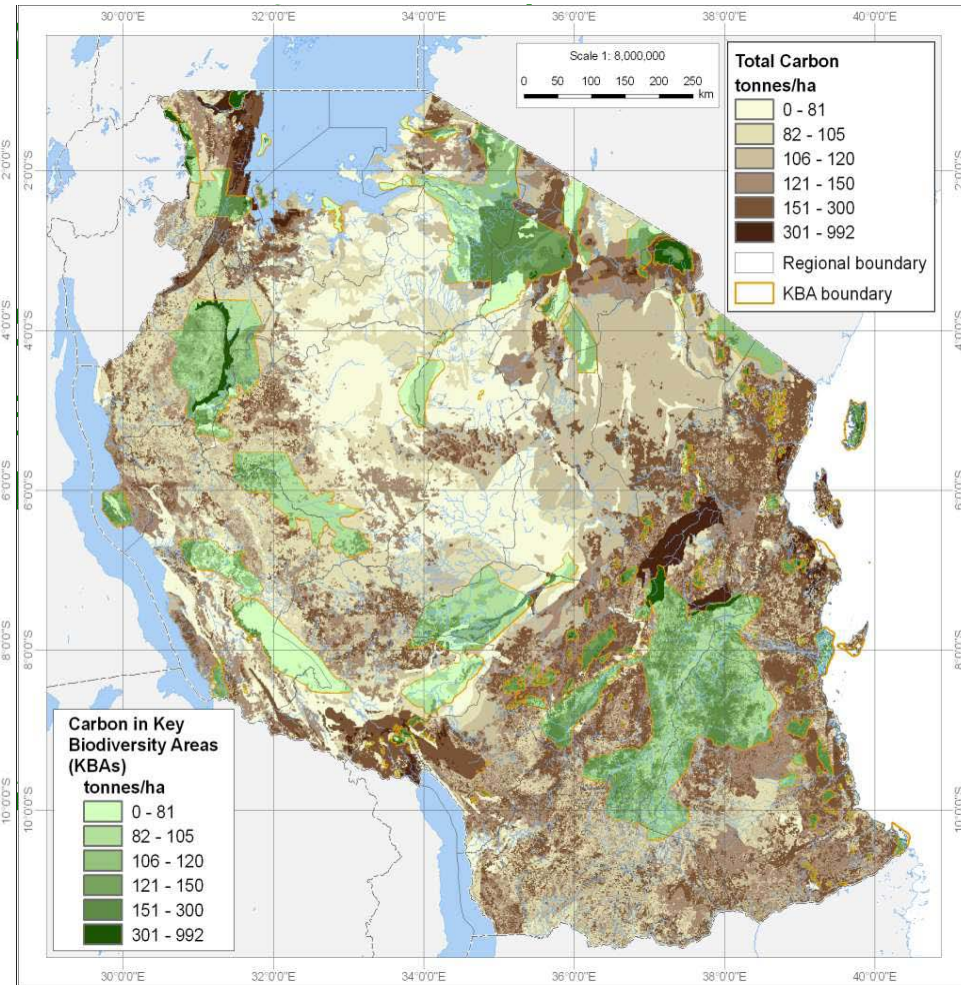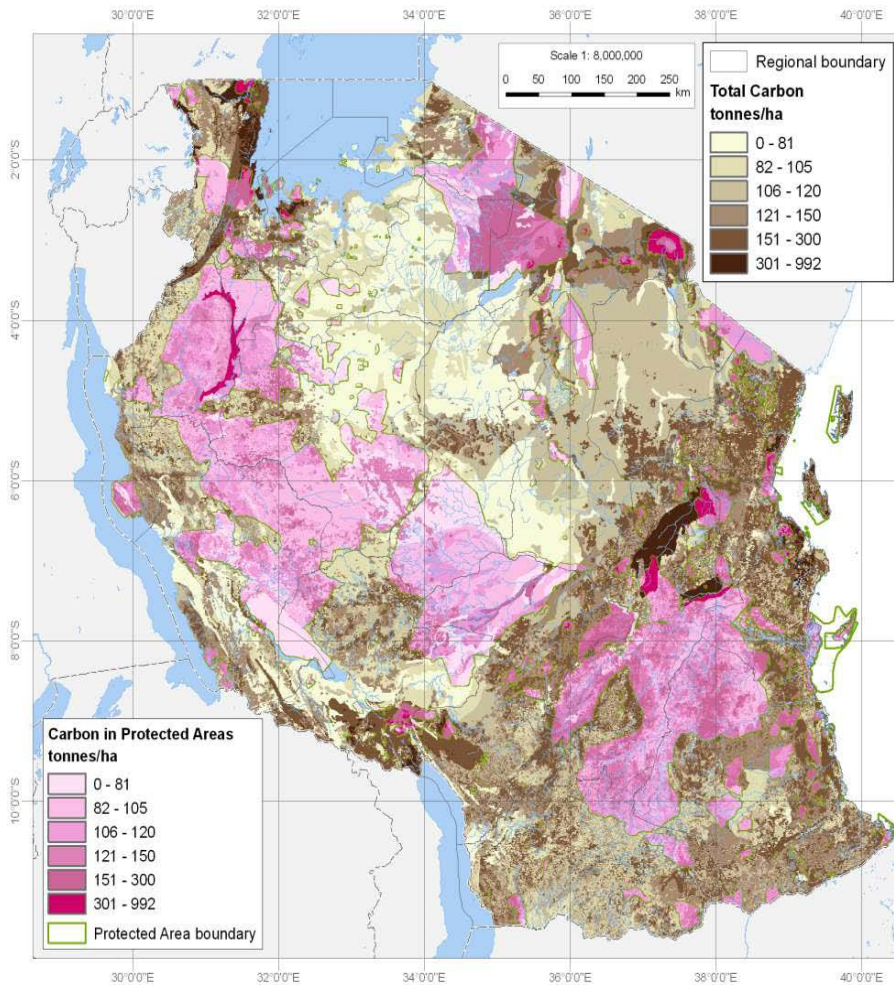
Activity Summary and Budget for Baseline Scenario

Table 3-1: Summary of Reference Scenario Activities and Budget

Main Activity	Sub-Activity	Estimated Cost (in thousands)				
		2010	2011	2012	2013	Total
Assessment of carbon levels from different forest regimes	Engagement of national consultants for the study	$25	$150	$75	$	$225
	Harmonization of methodologies and data capture systems with MRV systems	$15	$15	$	$	$30
Knowledge and information sharing with all stakeholders (Dissemination)	Synthesis and development of results into user friendly formats (brochures)	$30	$50	$55	$30	$160
Training and Capacity Building of national experts	Training (Capacity Building) in MRV, modeling, remote sensing methods mapping and data synthesis	$60	$80	50	50	$240
Carbon Mapping using various techniques	Carbon mapping	$100	$100	$90	$50	$340
	Backcasting of Carbon lost/changes	$100	$110	$70	$50	$330
National workshop to share info on NCAS-	Operationalisation of national workshop	$200	$	$		$200
Total		$530	$505	$340	$180	$1555
Government		$45	$15	$	$	$65
CPF		$	$	$	$	$0
UN-REDD Programme (if applicable)		$80	$70	$55	$30	$235
Clinton Climate Initiative (CCI)		$100	$52	$20	$	$172
NORAD (Including CCIAM)		$300	$368	$265	$150	$1083
GRAND TOTAL		$530	$505	$340	$180	$1,555

Component 4/5: MRV Institutional Set up and/or Linkages

NAFORMA APPROACH
NATIONAL INSTITUTIONAL LINKAGES
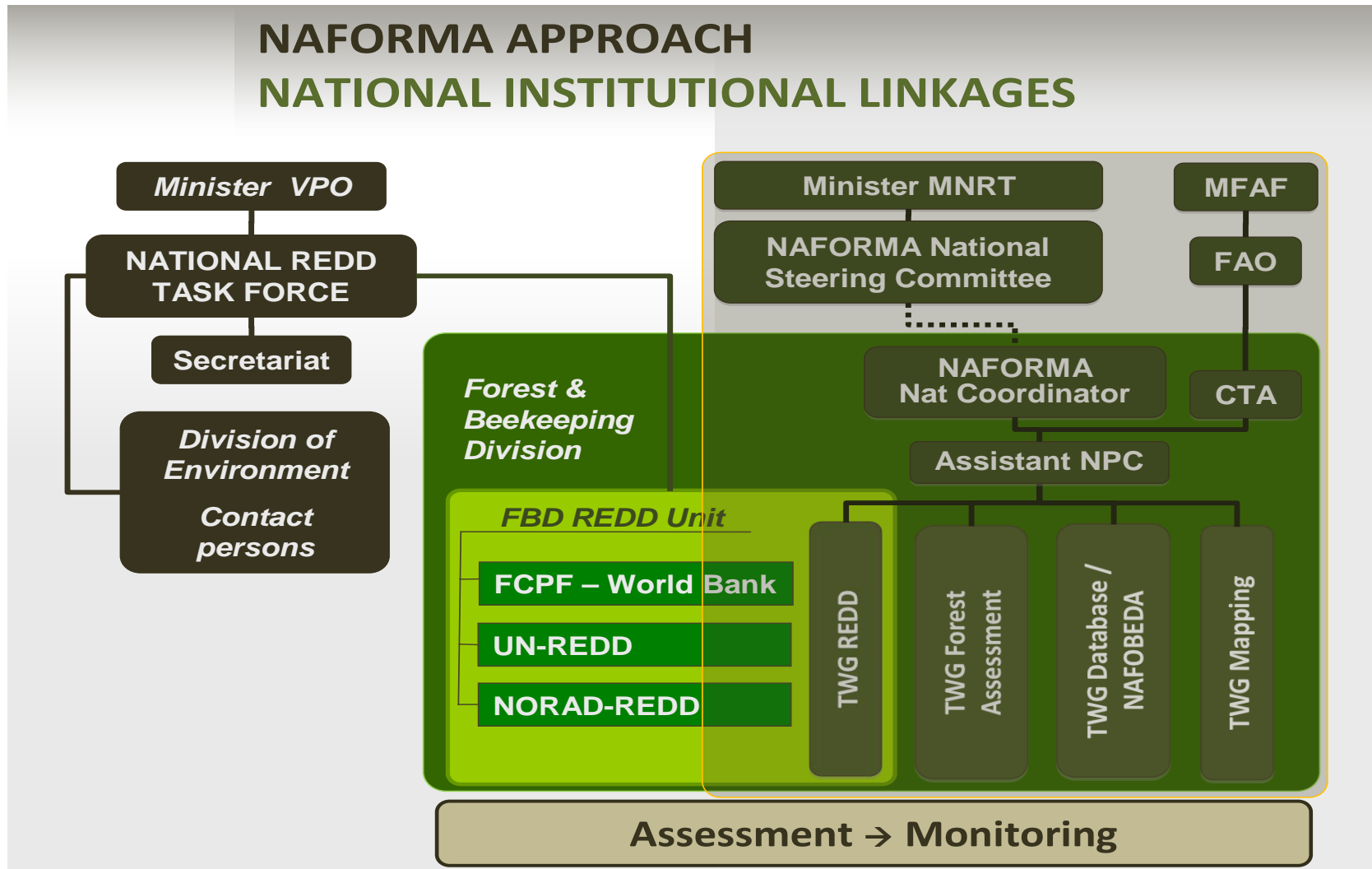
Component 4: Design a Monitoring System

Table 4: Summary of Monitoring Activities and Budget						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands)**				
		2010	**2011**	**2012**	**2013**	**Total**
Establishment and strengthening of the NCMC	Establish NCMC	$10	$	$	$	**$**
	Upgrade national database	$20	$20	$20	$20	**$80**
Development and updating of national baseline database using data from NAFORMA and other sources,	Data collection and synthesis	$30	$35	$40	$40	**$155**
	Update baseline with current data	$30	$30	$30	$30	**$120**
Development and updating of national baseline database using data from NAFORMA and other sources,	Capacity building at all levels	$120	$120	$140	$140	**$394**
	Support operations at national and district levels	$70	$70	$80	$80	**$300**
Total		**$281**	**$275**	**$310**	**$310**	**$1049**
Government		$15	$20	$25	$25	**$85**
FCPF		$	$	$	$	**$**
UN-REDD Programme (if applicable)		$70	$80	98	$98	**$346**
NORAD		$80	$100	$120	$120	**$420**
NAFORMA		$80	$50	$50	$50	**$330**
CCI		$36	$25	$17	$17	**$59**

A Conceptual system to Measure, Report and Verify (MRV) the effect of the REDD strategy on GHG emissions and other benefits
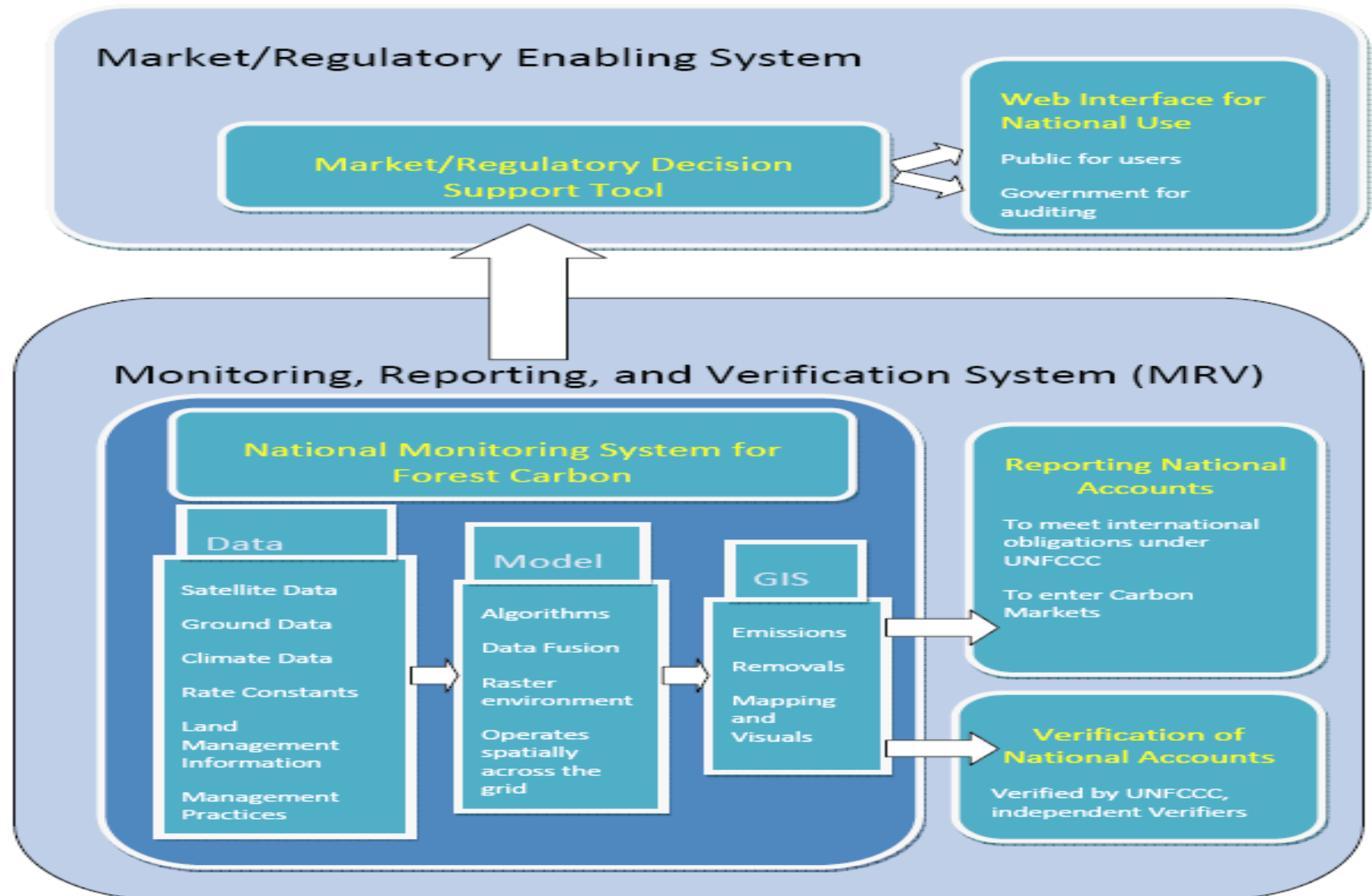
A potential Tanzania framework for monitoring and evaluation of REDD+ is proposed, encompassing

The framework that address the major policy objectives or activities specified in the National REDD Framework. In broad terms, potential targets and outcomes are presented under the following key policy and institutional objectives;

✓ Policy framework for REDD in place

✓ Institutional structures in place and capacities strengthened

✓ Awareness creation on REDD at national and sub-national levels undetaken

✓ Baseline and carbon accounting mechanisms established at national and sub-national levels

✓ Natural resources management systems to address drivers of deforestation in place

✓ REDD information synthesis and sharing system established and linked to National Database.

✓ Monitoring reporting and verification (MRV) framework developed and functional

✓ Cross sector natural resources and environment management partnerships development and

✓ Equitable resource sharing mechanisms developed/Sharing of co-benefits

Designing National Forest Monitoring and Assessment:
An important data provider for REDD

REDD
Reduced Emissions from
Deforestation and Forest
Degradation

The National Forest Monitoring and Assessment (NAFORMA) is the first comprehensive and nationwide forest inventory for Tanzania. Over the last 30 years sub-national inventories for different parts of the country have been carried out. In 1996 a national land-use mapping survey was undertaken.

In addition to providing very useful data on sustainable forest management, NAFORMA is key for Tanzania's Reduced Emissions from Deforestation and Forest Degradation (REDD) initiative as it will provide important forest-based biomass data for feeding into a National Carbon Accounting System.

The NAFORMA methodology is based on a backbone of 'permanent sample sites' that are initially 'assessed' (surveyed) and then 'monitored' at regular intervals into the future. NAFORMA has been designed to provide robust data from the district level upwards. The NAFORMA methodology is divided into two components:

» A '**Biophysical**' component which:

- Provides information on the extent and condition of the forest and 'trees

outside forests' (TOF) resources, and;

- Captures deforestation and forest degradation though re-measurements.

» A '**Socio-economic**' component which:

- Provides knowledge about the human factors that affect changing forest conditions in a country – driving forces for forest change;

- Potential REDD+ linkages (ecosystem services).

Both components when put together are a powerful tool in assessing the effectiveness of forest and other related policies such as land use planning.

The objective of the survey design process has been to develop a methodology for NAFORMA that results in an accurate, repeatable, time– and cost-efficient survey. Attaining an indicative understanding of the overall distribution of forest resources in Tanzania has been key to planning the survey. Knowing where the trees are, how many there are likely to be and how difficult it is to get to them helps in designing a survey that is accurate (the more trees, the more

measurement), repeatable (for monitoring), and time- and cost- efficient (good logistics planning).

'Input' data has been used iteratively to model design solutions such that the survey:

» achieves efficiency and accuracy/precision;

» provides reliable information at national & district level;

» improves the Food and Agriculture Organisation (FAO) National Forest Monitoring and Assessment (NFMA) methodology;

» uses multi-source input data.

This poster provides an overview of the innovative methodology developed to address complex design considerations in the planning of the bio-physical component of NAFORMA. The methodology has been developed by the Forest and Beekeeping Division in collaboration with the Finnish Forest Research Institute, Sokoine University of Agriculture and FAO.

Landsat Mosaic Image

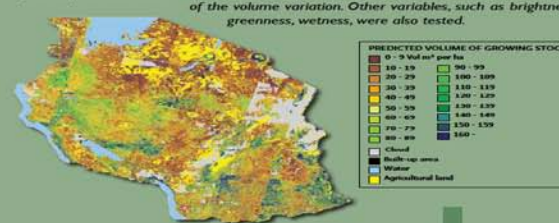Reflectance at top of the atmosphere, based on the GLS 2000 (Global Land Survey) data set from USGS.
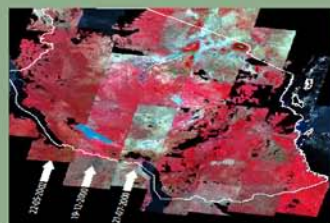
Corrected Landsat Mosaic Image

MODIS Aqua Composite used to compute surface reflectance from the original image data.

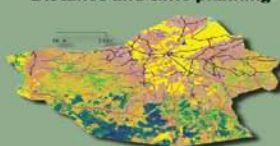## Predicted Growing Stock

A non-linear volume model was used to predict the size and distribution of growing stock (trees) using robust non-linear estimation, parameters estimated with Finnish data, top of atmosphere Landsat TM data with atmosphere correction. The model explained 75 % of the volume variation. Other variables, such as brightness, greenness, wetness, were also tested.

PREDICTED VOLUME OF GROWING STOCK

0 - 9 Vol m³ per ha	90 - 99
10 - 19	100 - 109
20 - 29	110 - 119
30 - 39	120 - 129
40 - 49	130 - 139
50 - 59	140 - 149
60 - 69	150 - 159
70 - 79	160 -
80 - 89	Cloud
Built-up area	
Water	
Agricultural land	

Distance and time planning

The most time efficient work plan for the sample clusters is resolved in relation to the existence of roads, foot paths and topography (not shown). Multiple solutions can be modeled and generated to provide cost and time estimates.

DISTANCE FROM ROAD (KM)

| 0 - 2 |
| 2 - 4 |
| 4 - 6 |
| 6 - 8 |
| 8 - 10 |
| 10 - 12 |
| 12 - 15 |

Driveable Road
Footpath
River
Sample cluster

Sampling solutions for the survey

One of many potential sampling solutions for Tanzania, based on stratification and optimal allocation of the field plot clusters using the volume predictions and assessed measurement time, is shown below. Clustering and optimal allocation substantially increases the accuracy and efficiency of the inventory.

Clumped /stratified sampling

The predicted growing stock density is then used as the basis upon which to vary the distance between sample plot clusters. Several sampling designs are tested to find the most optimal in terms of the accuracy and costs. A model is run many times to generate the optimal placement of the clusters for the whole country which provides the sampling pattern with the smallest predicted error with the given costs. Each field plot cluster has ten sample plots. Each sample plot consists of four concentric circles, designed in such a way as to capture as much variability in the plot while minimising the measuring effort required.

Species name and dbh of all measured trees will be recorded in each plot in the following manner:

1. Within a 2m radius: all trees with dbh > 0cm will be recorded;

2. Within a 5m radius: all trees with dbh >5cm will be recorded;

3. Within a 10m radius: all trees with dbh >10cm will be recorded;

4. Within a 15m radius: all trees with dbh >20cm will be recorded.
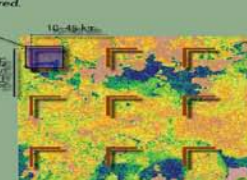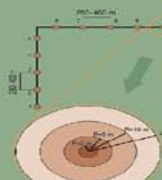
About the National REDD Task Force

Tanzania is developing a National REDD Strategy in anticipation of a post-2012 climate change agreement that will include a new global facility for Reduced Emissions from Forest Degradation and Deforestation. A National REDD Task Force has been established through the Vice President's Office and Ministry of Natural Resources and Tourism. The Task Force coordinates and guides the development of REDD-Readiness initiatives underway in Tanzania.

An interim National REDD Framework has been developed that sets out key areas for achieving REDD-Readiness, including:

» Baseline establishment, monitoring, reporting & verification;

» Financial mechanisms and incentives;

» Stakeholder engagement and community participation;

» Coordination of REDD Implementation;

» Market access and negotiation;

» Governance and policy;

» Capacity building;

» Applied research;

» Information management and networking.

The Government of the United Republic of Tanzania is working with a diversity of implementing and funding partners, including local communities, international organisations, universities, local civil society, the private sector and development partners in preparing for REDD. As part of this process, key collaborative initiatives underway are the National REDD-Readiness Initiative and the UN-REDD Tanzania Quick Start Initiative – both funded by the Norwegian Government.

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Thank you for listening

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