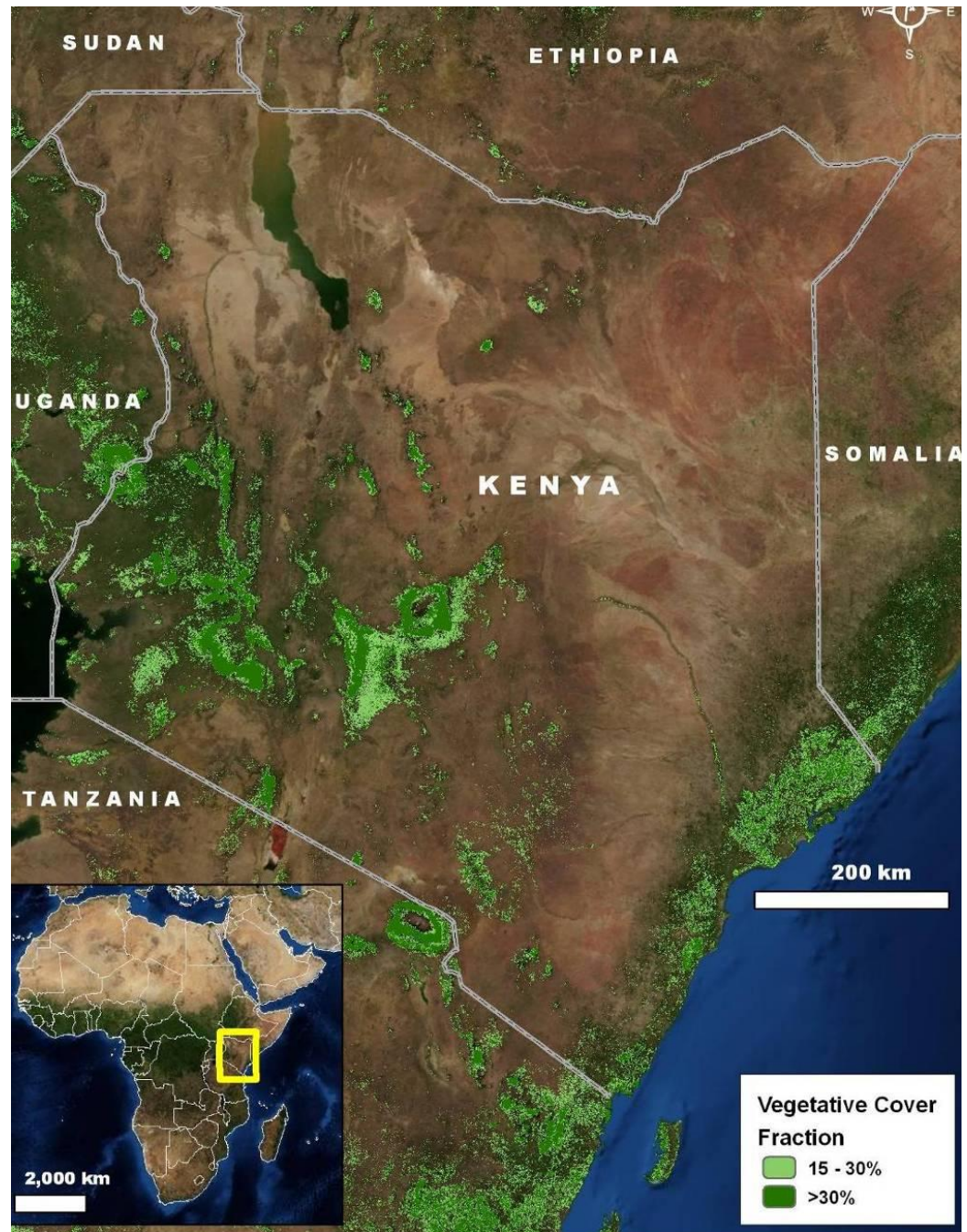# Reference Levels For REDD+ in Kenya

Presentation by

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Kenya

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Distribution of high forests
In Kenya

Introduction

- It is unknown how the modalities for establishing the crediting baseline will be set as policy decisions are still ongoing under the UNFCCC

- Generation of REDD+ credits will require a 'reference emission level' or 'reference level' against which interventions can be evaluated and performance assessed.

- Quantifying emissions and removals of carbon dioxide from the forest and woody lands to produce estimates of historic emissions requires knowledge of two parameters: the area of lands that have undergone change over a known time frame and the change in carbon stocks on the lands that have undergone change

Kenya's Participation in REDD+

Kenya is participating in REDD+ Readiness activities convinced that the process holds great potential in supporting the:

- Realization of vision 2030 objectives of increasing forest cover to a minimum of 10%;

- Gov't efforts in designing policies and measures to protect and improve its remaining forest resources in ways that improve local livelihoods and conserve biodiversity;

- realization of the NCCRS goals.

- Contribution to global climate change mitigation and adaptation efforts.

Kenya Country Profile

Profile Item	Statistic	Remark
Area	582,650 KM^2	80 % ASAL
Population	38 million	80% reside in 20 % area - high & medium rainfall areas
Dependence on agriculture sector	70% of population	Mainly subsistence
Forest cover	3.6 million Ha	5.9% ; of which 36% is closed canopy located in high population density areas
Wood energy	Over 70% national energy demand	From unsustainable sources

Reference systems and standards for mapping and resource classification

□ According to Government of Kenya published Survey Act, CAP299 in Part V 24(1) indicated as survey shall be done in either Universal Transverse Mercator Projection zones 36 or 37 using Clarke 1880 (Modified UTM coordinate system)

□ Survey of Kenya has published base map of 65% of Kenya in 1:50,000 using Clarke 1880 (Modified) UTM coordinate system.

REL and Monitoring system within NCAS.

Expected outputs of the Kenya NCAS process will include:

1. A methodology for detecting land cover change and forestry

2. An automated tool for detecting land cover change and forestry

3. A database of spatial and temporal carbon emissions from Land Use, Land Use Change and Forestry (LULUCF)

4. Carbon models for monitoring and accounting spatially and temporary disaggregated soil carbon under Land Use, Land Use Change and Forestry (LULUCF)

5. Methodology for estimating forest biomass stock and growth

6. A model for estimating the LULUCF GHG emission scenarios and projections

7. Web based interactive interface

RELEVANT INSTITUTIONS TO SUPPORT REL

NAME ON INSTITUTION	AREA OF STRENGTH
Ministry of Forest & Wildlife, Ministry of Environment, Ministry of Energy, Ministry of Lands	Policy
Kenya Forest Service, Kenya Wildlife Service	Biomass assessment
Kenya Wildlife Service, National Museums of Kenya	Biodiversity
Kenya Forest Research Institute	Allometric equation dev. and Modeling
Department of Resource Survey and Remote Sensing	Remote Sensing & Geo-database
Kenyatta University	Climatology
Moi University	Forest Research & Education
Jomo Kenyatta University of Agriculture & Technology	Remote Sensing & Geo-database
University of Nairobi, KARI	Soil Carbon assessment
Green Belt Movement	Project level monitoring
ERMIS, NACOFA	Participatory GIS

Identified required archive satellite imagery

- Epoch 1990 and Epoch 2000: Landsat Thematic Mapper (TM and ETM) images (spatial resolution 30m) of 1987-2000 covers whole of Kenya -33 scenes

Kenya -33 Landsat scenes

Some Available Landsat TM for 1990 and 2000

PATH/ROW	CLOUD COVER	
	1990	2000
P165/R061	20	8.87
P165/R062	0	5.84
P166/R057	0	0
P166/R058	0	7.35
P166/R059	0	0.1
P166/R060	0	0
P166/R061	20	0.73
P166/R062	0	7.56

2010: Considering the use of high resolution image e.g. 10m also for the main forested regions

Other MRV initiatives within the country

- Identification of equipment necessary to undertake satellite image-based creation and update of the forest resource map.

- National Forest inventory process

- Improvement of forest Information systems

- Forest Resource Account

- GHG inventory programme e.g. UNDP and USAID

- Developing of pilot projects on REDD+ supported by EU

- Low Carbon Development strategy - MEMR

Thank You