

Zambia's National Forest Monitoring System

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ZAMBIA





Introduction to Zambian UN-REDD program

Programme Goal: To prepare Zambian institutions and stakeholders for effective nationwide implementation of the REDD+ mechanism.

Joint Programme Outcomes:

- 1: Capacity to manage REDD+ Readiness strengthened
- 2: Broad-based stakeholder support for REDD+ established
- 3: National governance framework and institutional capacities for the implementation of REDD+ strengthened
- 4: National REDD+ strategies identified
- 5: MRV capacity to implement REDD+ strengthened
- 6: Assessment of Reference Emission Level (REL) undertaken



Introduction

- Forests in Zambia cover 60 percent of the territory, some 45.8 million hectares of land that are affected by a deforestation rate of approximately 300 000 hectares per year.
- Given the extensive forests and the high rate of deforestation the opportunities for making REDD+ work in Zambia are high.
- That's why gaining information on the extent, quality and quantity of forests is vital in supporting Zambia's readiness activities.



Introduction

- National REDD+ implementation depends on reliable and credible systems for measuring, reporting and verifying (MRV) changes in carbon (C) stock and greenhouse gas emissions (GHG) due to deforestation, forest degradation as well as conservation, enhancement of carbon stocks and sustainable forest management practices.
- Zambia's capacity for measuring and reporting C stocks, changes in C stock, and GHG emissions has been at the centre of this country's UN-REDD National Programme development.



Developing a National Forest Monitoring System (NFMS)

- Zambia's work in the area of MRV for REDD+ has focused on the development of a decentralized national forest monitoring system (NFMS). This has required extensive in-country capacity building and infrastructure development.
- Ten provincial forest monitoring laboratories have been established and equipped with tools for forest monitoring such as computers with Geographic Information System (GIS) software, Geographical Positioning System (GPS) units for forest monitoring field activities and printers and plotters for field map production.
- These provincial laboratories are manned by a group of trained cross-sectoral technicians from forestry, agriculture and planning sectors providing a decentralized hub of MRV expertise.



NFMS Hardware

- The laboratories will provide near real-time spatial data on deforestation and forest degradation which can be relayed to the central national forest monitoring laboratory in Lusaka to inform national reporting.
- This innovative approach is in-line with the decentralization policy of the Government of the Republic of Zambia (GRZ).
- Laboratories are now operational and have commenced the collection of spatial data on deforestation and forest degradation

Developing a National Forest Monitoring System



The creation of decentralised Geographic Information System Laboratories has not only provided a basis for reliable field data on deforestation and forest degradation, but has empowered provincial staff, and has greatly improved their ability to practice effective forest stewardship in the provinces creating a win-win situation for MRV reporting and improved forest management



Capacity building for NFMS

- To accompany this infrastructure development, extensive capacity building of provincial cross-sectoral technicians in GIS, GPS, MRV and GHG reporting methodology was also carried out.
- An intensive training of technical staff of the central office in Lusaka was also conducted at Brazil's National Institute for Space Research (INPE) in 2012.
- Brazil's Terra Amazon platform, which allows different users to work simultaneously on forest cover classification and monitoring, will be used as the basis of a land cover classification system which will be adapted to Zambian needs integrating country-tailored algorithms and image processing modules.



NFMS and the Integrated Land Use Assessment II

- Coordination with existing initiatives is also a key factor in the success of any REDD+ initiative.
- The development of the MRV system in Zambia is closely aligned with the Zambian Integrated Land Use Assessment phase II (ILUA II). ILUA II is implemented through the country's Forestry Department, technical assistance is provided by FAO with financial assistance from the Government of Finland.

ILUA Phase II



- With over 4000 sampling sites across Zambia, ILUA II will provide technically sound information on the physical characteristics of forests, as well as the socio-economic condition of forest communities living in and around these forests. ILUA II will provide an important input into Monitoring and MRV reporting requirements for REDD+.



NFMS and ILUA II

- The Zambian National Forest Monitoring System will be strengthened by the recent launch of ILUA II field measurements.
- The UN-REDD NJP and ILUA II are technically synchronized so ILUA II feeds into the national MRV system.
- For example, ILUA is measuring all necessary carbon pools as identified by the Intergovernmental Panel on Climate Change (IPCC) such as aboveground biomass, coarse woody debris, fine litter, and soil organic carbon.
- Information on these carbon pools for different forest types subject to different degrees of deforestation, degradation and different land uses will be a crucial input into Zambia's carbon stock calculations.



NFMS and Remote Sensing

- Remote sensing for MRV in Zambia has focused so far on the historical reconstruction of deforestation and forest degradation using freely available Landsat data.
- A national Reference Emission Level is being estimated from land cover classification for 1990, 2000, and 2010, and land cover change analysis.
- Work on land cover classification is a collaboration between the UN-REDD National Program and the Regional Centre for Mapping of Resources for Development (Nairobi)



Other UN-REDD activities

- Drivers of deforestation and forest management studies practices completed and published
- Studies for economic analysis of REDD+, Greenhouse Gas reporting, and spatial analysis of deforestation launched this week
- Preliminary Reference Emission Level estimated during 2012
- Full implementation of all FAO and UNEP activities in the 2012 work plan



**Thank you for your
attention**