UN-REDD PROGRAMME

Forest monitoring and MRV for REDD+ in Nigeria

REDD+ in Nigeria

Nigeria's rate of deforestation is one of the highest in the world and less than 10% of Nigeria's original forest remains. More than 50% of what is left as Tropical High Forest in Nigeria, is found in Cross River State. Deforestation and forest degradation reduce terrestrial carbon stocks and contribute to anthropogenic climate change. The REDD+ mitigation mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) would make it possible for developing countries to receive financial benefits for Reducing Emissions from Deforestation and Forest Degradation; forest conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+). As REDD+ is a result based mechanism, countries will be required to quantify their achievements in REDD+. Therefore, it is a key priority for Nigeria to establish robust and transparent forest monitoring systems.

Forest monitoring and MRV systems

REDD+ activities should be implemented in phases beginning with (1) readiness (2) results-based demonstration activities, and (3) evolving into results-based actions that should be fully **Measured, Reported and Verified (MRV).** Nigeria is requested to develop a robust and **transparent national forest monitoring system** for the monitoring and reporting of the REDD+ activities, with, if appropriate, sub-national monitoring and reporting as an interim measure, in accordance with national circumstances.

Key-issues in MRV for REDD+

Country driven process: each country has to establish an autonomous MRV system. The national MRV system is a crucial element of REDD+ implementation.

Learning-by-doing approach: the development of an MRV system has to be based on in-country human resources being involved in the MRV development process from the very beginning and gradually improving skills whilst progressing towards its full implementation.

Safeguards: the inclusion of the 'REDD+ Safeguards' in the monitoring system improves the consideration of biodiversity, governance and the involvement of local communities.

Consistency: an MRV system should provide estimates that are consistent across years. Under certain circumstances, estimates generated from different methodologies in different years can be considered consistent if they have been calculated in a transparent manner.

Transparency: all the data and the methodologies used in the MRV system should be clearly explained and appropriately documented, so that stakeholders can verify their correctness.

Comparability: estimates of emissions and removals should be comparable among Parties. For this purpose, Parties should follow the methodologies and standard formats provided by the IPCC and agreed within the UNFCCC for compiling and reporting inventories.

Conservative estimations: when completeness or accuracy of estimates cannot be achieved, the reduction of emissions should not be overestimated, or at least the risk of overestimation should be minimised.

The ABC of MRV

Forest monitoring and MRV for REDD+ in Nigeria

PHASE 1 — Readiness

The initial preparation and readiness phase involves the development of a REDD+ strategy at the national level, including, inter alia, the identification and prioritization of key policy and institutional capacity-building measures. This will pave the way for investments in phase 2 through the development of a forest monitoring system which is the basis for a result-based mechanism.
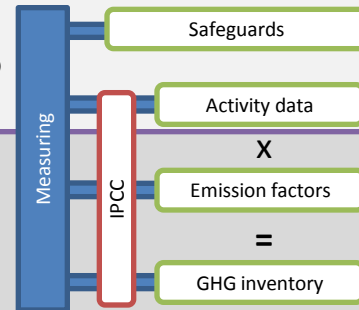
PHASE 2 — Measurement

Monitoring

Safeguards refer to information for policy approaches and positive incentives on consistency with international conventions, forest governance, rights of indigenous peoples, participation of relevant stakeholders, biodiversity, the risks of reversals, reducing displacement of emissions.

The activity data, in the context of REDD+, refers to the extent to which human activity takes place in the forest area.

For REDD+ this translates into measurements of forest area and forest area change (Activity data- AD) and coefficients that quantify the emissions or removals per unit activity (emission factors - EF). The combination of AD and EF provides information on the forest carbon stock and forest carbon stock changes.

Together, this information provides the basis to compile a national GHG inventory. Countries may also be required to measure indicators of safeguards and other forest benefits.
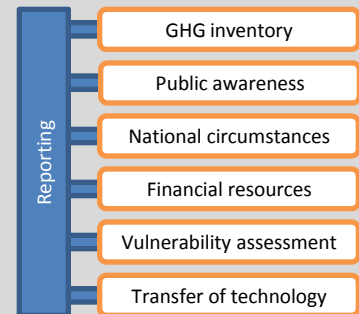
| Measuring	IPCC	
		Safeguards
		Activity data
		X
		Emission factors
		=
		GHG inventory

PHASE 3 — Reporting

Reporting is the compilation and availability of national data and statistics for information in the format of a GHG inventory. Reporting requirements to the UNFCCC (National Communications) may cover issues other than just those subject to measurement. The core elements of the national communications are information on emissions and removals of greenhouse gases (GHGs) and details of the activities a country has undertaken to fulfill its commitments under UNFCCC.

Reporting
- GHG inventory
- Public awareness
- National circumstances
- Financial resources
- Vulnerability assessment
- Transfer of technology

Verification

Verification refers to the process of independently checking the accuracy and reliability of reported information or the procedures used to generate information. The UNFCCC Secretariat through its experts will review the data reported. The verification of countries' actions depends on three factors:
1) the degree to which reported data is capable of being verified;
2) the actors who conduct the verification;
3) the way in which the verification is performed.

Submission

UNFCCC

Independent Reviewers
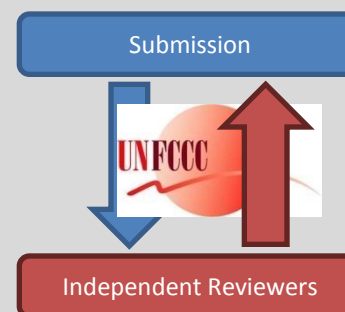
The ABC of MRV

MRV and forest monitoring for REDD+ in Nigeria

Satellite monitoring system	X	Forest Inventory	=	GHG inventory
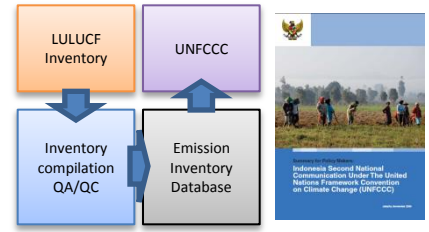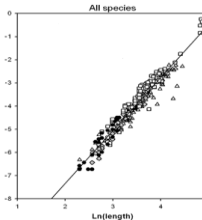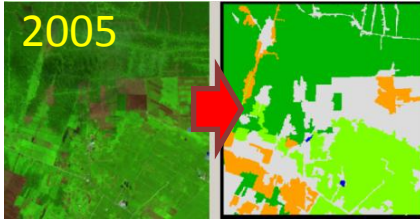
Measurement

Assessing the land area covered by the different forest classes. This is done with a satellite monitoring system. Measurements at different points in time are used to estimate forest area changes.

Assessing biomass, carbon stocks and emission factors. The data are obtained from a national forest inventory. Forest classification and sampling design improves the accuracy and the efficiency of the inventory.

Accounting all the greenhouse gasses. It is based on the data collected from the national forest inventory, the satellite monitoring systems and can be done using the templates developed by the UNFCCC.

Reporting

The data are stored and harmonized into a REDD+ database. The data on forest land area are used to develop matrices representing the changes between land uses and within the forest land area.

The data on carbon stocks and carbon stock changes are used to develop emission factors.
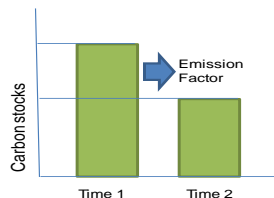
The data on land use changes and changes in forest uses are integrated with their respective emission factors to establish the GHG inventory. The data are used to report to UNFCCC.

Verification

The verification process concerns all the variables that were reported under REDD+. The verification can be done by several institutions including the civil society. All the data, including the satellite and national forest inventory data are made available in order to allow the verification of the GHG inventory. The different means of verification are: through interviews with key government officials, NGOs, forest communities, reports, media reports, training materials, etc.

Implementation plan forest monitoring and MRV systems in Nigeria

● Capacity building for MRV

The UN-REDD Programme will support the country of Nigeria in establishing a robust and transparent monitoring and MRV system. The basic elements for a national MRV system need to be developed in accordance with the guidelines under the Convention on Climate Change (UNFCCC).

● National and State Architecture for Monitoring and MRV Systems

In order for the Nigerian states to be able to implement REDD+, an MRV system architecture will be developed. This architecture will allow using the experiences from Cross River State to be replicated in a consistent way in other states. This provides a means to integrate sub-national monitoring systems into a national monitoring system, and enables Nigeria to provide results-based actions that can be fully measured, reported and verified. This architecture facilitates the integration of information from the forest communities, e.g through the verification of results.

● Designing forest inventories and field data access

The UN-REDD programme supports the development of and provides access to methodologies, manuals, databases, and software that can be used for an efficient forest inventory. This inventory is necessary for Nigeria and its states to develop the necessary data, to be in line with the UNFCCC decisions and the IPCC guidelines and guidance.

● Reporting and Verification and GHG inventory

The data and information will be integrated into transparent state and national databases and systems to inform actions and decision-making to reduce deforestation and forest degradation. Transparency of the data will facilitate reporting the results in the second phase and the performances in the third phase.

● Tools

In order to improve the effectiveness, efficiency, transparency and coordination of REDD+ initiatives and financial instruments, the UN-REDD Programme to develop a REDD+ database. The Database approach entails the development of a conceptual framework, computer software and functionality, the processes to collect, maintain and disseminate information, as well as in-depth analyses and reports.