



## **MINISTRY OF WATER AND ENVIRONMENT**

### **REPORTS OF THE REDD+ METHODOLOGICAL TASK FORCE 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> MEETINGS ON UGANDA'S FOREST REFERENCE SENARIO (FRELs) AND NATIONAL FOREST MONITORING SYSTEM (NFMS) FOR UGANDA'S REDD+ PROGRAM**

**Summary of the three meetings held between April and September 2015**

*Highlights of the First Meeting of the MRV TC- 16<sup>th</sup> April 2015*

---

Donna Lee provided guidance on the designing and constructing REDD+ FREL/FRLs including discussion and explanation of key decision by the UNFCCC. She gave a detailed account of the key elements that are critical to the development of REDD+ FREL/FRLs and asked the task force members to start thinking of the approach that may be appropriate while designing FREL/FRLs for Uganda.

Each of the four reference level building blocks was discussed and these were highlighted as;

- 1) Data analysis. This includes Uganda's capacity to assess historic forest cover and change; carbon stock coefficients or emission factors plus capacity to assess current and future emissions
- 2) Scope: Includes activities, pools and gases to include in a FREL/FRL
- 3) Scale: National, subnational and/or nested?
- 4) Structure: This entails options and decisions on methodologies that a country will chose for FREL/FRL

To guide the meeting, Donna Lee provided examples of how other countries have designed or designing their FREL/FRLs. Uganda is free to develop a design that well reflects its national circumstances.

As a general guideline, Uganda should be begin to identify data and capacity gaps that are needed in order to establish a FREL/FRL. It is also important that there is an agreement on a preliminary road-map for FREL/FRL construction in UGANDA.

Members asked for a clarification on terminologies between Forest Reference Emission Levels (FRELs) and Forest Reference Levels (FRLs). The explanation was that both FRELs and FRL refer to Reference Levels (**RLs**) and the difference is in the level of detail.

- 1) Forest Reference Emission Levels refer to activities that reduce emissions levels e.g., (1) reducing emissions from deforestation, (2) reducing emissions from forest degradation and (3) sustainable management of forests (emissions)
- 2) Forest Reference Levels go a step further to include activities from the "+" that enhance forest carbon stocks, e.g., (1) afforestation/reforestation and (2) sustainable management of forests (removals)

A country is free to choose whether it wants to establish its historical emissions only or wants to even include enhanced carbon stocks.

According to the various REDD+ documents including the RPP Uganda is considering going for a Forest Reference Level.

*Highlights of the second Meeting of the MRV TC- 21<sup>st</sup> July 2015*

---

Considerations of forest definition in Uganda

Uganda has identified 5 major areas of interest while discussing the most appropriate forest definition for the REDD+ programme. Some of these interests are better addressed by rising the forest definition threshold values while others are well catered for by lowering the threshold values (refer to Forest Definition Option paper). The discussion of the forest definition option paper centered on striking a balance between these diametrically opposed interests and these are listed below:

1) Continued access to basic forest products

Uganda would like to have a forest definition that will not restrict (or deny) local communities the rights to access or use of trees and shrubs for their daily livelihood which include fuelwood, construction materials, fodder for the animals etc. For example if every shrub and trees is considered a forest, then increased consumption of these resources, especially as population grows, could be regarded as increased degradation or deforestation.

2) Greater community participation

A forest definition that will encourage greater community participation in REDD+ activities. For example a rising the minimum area threshold to a very big value or excluding plantations and woodlots would eliminate efforts of farmers that establish small woodlots.

3) Monitoring costs

A forest definition that will allow Uganda to report on past changes of in forests (deforestation, degradation, reforestation and afforestation) without need to invest in acquisition of very high resolution remote sensed data and data analysis techniques. This however does not mean that Uganda will not take advantage of such technologies if they become available.

4) Flexibility to progressively improve on carbon emission / removals estimates

Some of the woody formations that technically qualify to be classified as forest may be missing out on the maps due to the limitation of the remote sensing and GIS technologies techniques that are in use today. Uganda would like improve continuously improve on its mapping skills in tandem with improvements in mapping technologies.

***Highlights / Summary of the discussions***

**Many woodlots not mapped as forests**

It was recognized that Uganda has got many small woodlots (size 0.1 to 2 hectares) that are scattered among farmlands but are not mapped due to technological limitations i.e., it may not be easy to delineate them as units alone. Woodlots are relatively high biomass stock woody formations and there is thus a need to have a mechanism of continuously monitoring them.

The most ideal way to map woodlots is by use of high resolution remote sensed data. Spot 6 and Worldview 2 imagery could be used to sample key selected areas in Uganda. A cost benefit analysis will enable Uganda make a decision on the monitoring options.

### **Trees and forest remnants on farm land and rangelands**

In addition to woodlots Uganda has lots of tree and clusters of forest remnants on farmland and rangelands (grassland and bush). In some instances, the amount of wood in agroforestry system may be more than that found in some of the low canopy forest types. These areas which are closest to settlements are important sources forest products like fuelwood and construction materials. The importance of these trees and bushes to the livelihood of local communities need to be recognized.

It is thus recommended that Uganda builds on what was done under the National Biomass Study and continues to monitor biomass on farmland and rangeland using a landscape approach.

### **Description of various elements of Uganda's vegetation**

It was recommended gives a clear description of the various forest types e.g what constitutes a Tropical High Forest (THF).

### **Decision on Bamboo stands**

Uganda needs to take a decision on Bamboo. Should be recognized as tree and thus forest or not?

### **Forest definition in relation to existing definitions**

There is a need to harmonize or clearly state the differences between the various forest definitions e.g., the NBS classification, the FAO classification and what we present as forest definition under REDD+ in line with the IPCC guidelines.

It important to note that the Vegetation classification in Africa is in a great way influenced by the Yangambi conference which has both Physiognomic and ecological aspects

### **Choice of threshold values and the Implications**

Lowering the minimum area threshold to a very low value e.g., 0.25 ha, requires the level monitoring forest change to be low as well i.e., the country is expected to report on forest loss and again of up to 0.25

ha. On the other hand, if the threshold value is higher e.g., 1 ha, then the country is only required to monitor at that level and is thus not required to account for details less than 1 ha.

For the purposes of submitting a reference level it might be prudent to choose a definition that Uganda is confident it already has historical data or has skills and technology to generate the required historical data. However this does not mean that Uganda may not improve the details of what is monitored especially as technology improves. Based on this background, it was agreed that Uganda uses a 2 Tier approach with each tier intended to address a specific aspect i.e:

- Tier 1. A definition for the purpose of reporting to UNFCC and REDD+ i.e., tree cover  $\geq 30\%$ ,  $\geq 1$  ha attaining a height 4m and above
- Tier 2. A definition for National Circumstances i.e., Area of land containing a vegetation association that is predominantly composed of trees as stated in the National Forestry and Tree planting act

### **Over view of the forest investment**

Uganda a confluence of the four or more Africa Biomes. The Miombo in the south, the Sahel from the north, the Montane biome from the north East and the Equatorial biome from DRC. Uganda is thus has a very high biodiversity for its small size.

A small country like Uganda with highly diverse forests that are degrading very fast can afford to just sell tones of carbon offsets but needs to be sophisticated enough such that it attaches higher premium on a tone of its carbon offset.

Uganda intends to do this in a transparent manner. The approach of being transparent might also achieve a better price for Uganda's carbon and or attract forest investment.

---

*Highlights of the third Meeting of the MRV TC- 18<sup>th</sup> Sept 2015*

---

### ***Area of Focus***

The discussion of the third MRV meeting was based on a more detailed analysis of the forest definition options paper presented by the MRV expert. The discussion also touched on the other three building blocks mainly Activity data, Scale and Scope.

### ***Forest definition in Uganda***

The MRV expert presented forest definition options for Uganda in the following context;

- A physiognomic and ecological aspect that borrows from the Yangambi classification and other subsequent forest definitions / vegetation classification systems

- Uganda's unique geographical position in Africa – being a confluence of more than four biomes
- The socio economic and demographic dimension of the east African region and Uganda in particular
- The challenge of choosing land cover based versus land use consideration in developing a forest definition
- The technological aspect of mapping and monitoring whatever is considered forest. Special reference is made to maps of the National Biomass Study and NFA where woody stands of 4 metres and above that are not cropland or grassland are considered forests (woodlands) and those below 4 metres are considered bush.

## **Conclusion**

In light of the above and issues raised in the forest options paper it was agreed that Uganda adopts a 2 Tier forest definition such that reporting on the international obligations (UNFCCC and REDD+) is not construed to be in disregard of National Circumstances interests. The forest definition will thus as follows:

- Tier 1. A definition for the purpose of reporting to UNFCC and REDD+ i.e., tree cover  $\geq 30\%$ ,  $\geq 1$  ha attaining a height 4m and above
- Tier 2. A definition for National Circumstances i.e., Area of land containing a vegetation association that is predominantly composed of trees as stated in the National Forestry and Tree planting act

## ***Activity Data***

It was agreed that Uganda borrows from Environment protection agency of the United States of America while working on its activity data. The process has 10 steps that does not only look at activity data but the whole process of strengthening the NFMS and the MRV functionalities.

Some of the steps in this process that Uganda wants to fast track are;

- Finalizing the 5 maps (1990, 2000,2005, 2010 and 2015) needed to build 4 historical emission points
- Capture all Uganda's inventory data into a database that will form the foundation of building Uganda's NFMS
- Carry out Forest Inventory to improve on Emission Factor estimates
- Engage key stakeholders that are deemed critical in the provision of data, knowledge and skills in building both the reference level and NFMS

## ***Scale***

Uganda has two choices to be made as well. Either the national reference level or sub-national level with assurance of moving towards the next level.

## **Conclusion**

The general consensus was that embarking on the subnational process may be tedious given that Uganda is relatively a small country with highly diverse agro climatic zones and diverse forest types. It was also observed that there would possibly be a duplication of efforts to make sub national reference level for a small country like Uganda which is just the size of one province of a country like Brazil and DRC. Uganda will thus go for a national reference lever (subject approval by the NTC and CCPC)

## **Scope**

Scope involves identifying activities, pools and gases to include in the reference level. The country has to make a choice on whether to include all these activities when preparing for the baseline or to report on some and then make a plan on how to report on the others, depending on the availability of information on these activities.

## **Activities**

Uganda intends to include the following 5 listed activities in its reference levels;

- Deforestation
- Degradation
- Conservation of carbon stocks
- Sustainable management of forests
- Enhancement of forest carbon stocks.

Of the five activities, Uganda intends to include deforestation and enhancement of forest of carbon stocks in its first submission on of the reference level. Degradation that is attributed to use of charcoal is also considered attainable for inclusion in the first submission of the reference level.

## Summary of Activities that may Uganda considered in its initial submission

Activities to include in the first FREL/FRL submission	Activities to be considered for further improvements of FREL/FRL
• Deforestation from primary data RS and Inv.	
• Degradation derived from RS - new technology and secondary data e.g. charcoal registry	
• Enhancement of forest carbon stock derived using data from SPGS, UTGA, NFA, FSSD, etc.	
	• Sustainable management of forest carbon stock <b>data are too scattered.</b>
	• Conservation of forest carbon stock <b>inclusion will be based on UWA available/usable data.</b>

## **Carbon Pools**

Uganda intends to include above ground and below ground biomass in the submission of its first reference levels. Field trials are being carried to determine whether soil, deadwood and litter are to be included in

the submission of the first reference level. The REDD+ secretariat intends to consult and bring on board the African Innovations institute that has been involved in testing of soils for carbon and other elements.

Summary of Carbon Pools that may Uganda considered in its initial submission

<b>Pools</b>	<b>Source of data</b>
Above Ground Biomass	Field measurements
Below Ground Biomass	IPCC default values
Soil	Direct measurements to be considered for further improvement of FREL/FRL, African Innovations institute which is already doing some work to be contacted.
Dead Wood	Field measurements (possibly only for THF)
Litter	Significant in THF but not in woodlands. Inclusion to be discussed and agreed upon

**Gases**

Uganda intends include Carbondioxide in its submission on the first reference level. Other gases that might be included are Methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) attributable to wildfires. Decision will be taken based on the level of significance and proposed REDD+ action plans.

Summary of Gases that may Uganda considered in its initial submission

<b>Gasses</b>	<b>Source of data</b>
CO <sub>2</sub>	Field measurements (NFI)
Methane and N <sub>2</sub> O	IPCC and AD from Fire