

# JOINT SECTOR REVIEW

## **Building Uganda's National Forestry Monitoring System (NFMS)**

**Part of Uganda REDD+ Readiness**

**By: Assistant Commissioner FSSD/NFP REDD+ and FO/Bob**

Presented John Begumana Ayongyera, 26<sup>th</sup> September

# Key Partners in Developing Uganda's NFMS

- Financial Support
  - Government of Uganda
  - Forest Carbon Partnership Fund (FCPF )
  - the Austria Development Corporation
  - UNREDD- (UDP and FAO)
- Technical Support
  - FAO
  - UNREDD- (UDP and FAO)
  - Regional Centre for Mapping of Resources for Development (RCMRD)
  - Coalition of Rain Forest Nations (CfRN)
- In country Advisory and Technical Team
  - MWE \ FSSD
  - NFA – Mapping and Forest Inventory team
  - REDD+ Task force
  - REDD+ National Technical Committee (NTC)
  - National Climate Change Advisory Committee (NCCAC)

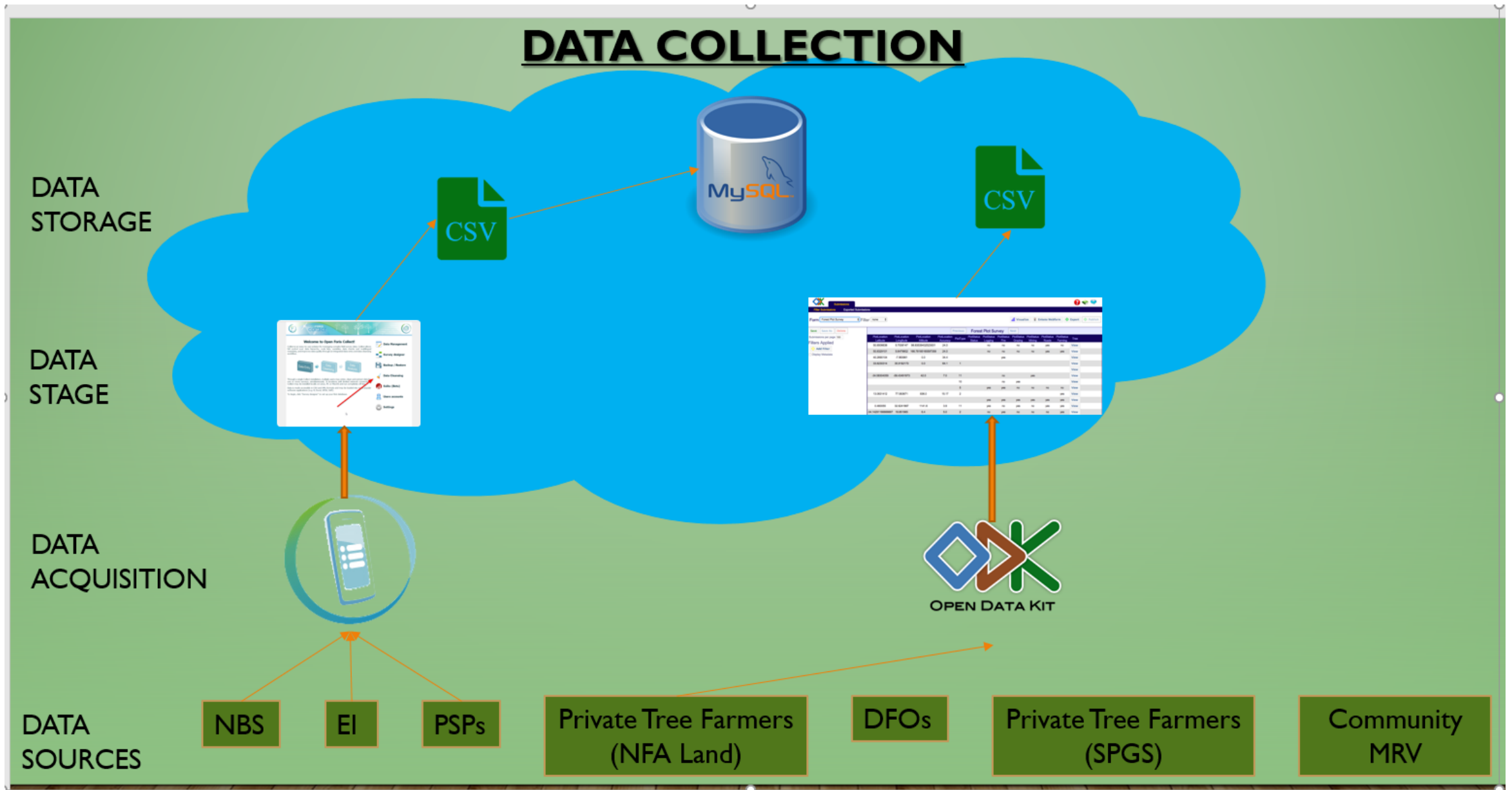
# Characteristics of Uganda's NFMS

Uganda is building a NFMS by expanding stakeholder participation at same time maintaining a robust Measurement, Reporting and Verification (MRV) functionality.

Wider stakeholder involvement in Measurement and Monitoring with differentiated responsibilities

- Joint Forest Inventories together with other stakeholder, NFA taking the lead working together with UWA, Private Sector, NGOS
- Training, testing of forest monitoring tools with local govt technical staff (DFO, DNR, DEO), Technical officers in MWE, Involvement communities in forest monitoring aspects.
- **However, Key and mandated institutions remain with core responsibility of:**
  - Collection and assessment, over time, of forest area and forest area change (Activity Data (AD));
  - Undertaking of regular National Forest Inventories (NFI) to, collect information on forest carbon stocks and carbon stock changes, relevant for estimating emissions and removals and to provide emissions factors (EF);
  - Undertaking regular national forest GHG Inventories to support the sector reporting on anthropogenic forest-related GHG emissions by sources and removals by sinks to the to the CCD that then reports to the UNFCCC Secretariat;

# Wide Stakeholder data collection and resource sharing



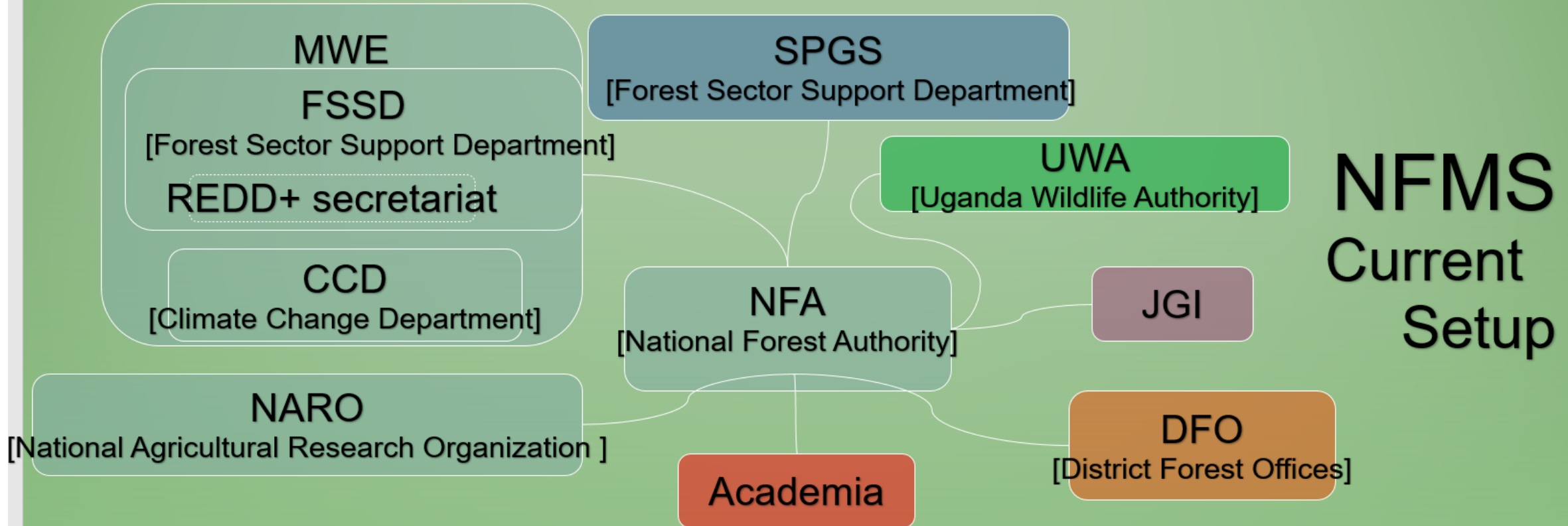
# NFMS Supporting the monitoring functions

## Under national, regional and international requirements and obligations and able to:

- Monitoring the performance of implementation of REDD+, NDC and other activities;
- Monitoring of the performance of national results-based actions that should be fully measured, reported and verified;
- Monitoring the performance of policies and measures from other sectors which have implications for REDD+

# Institutionalisation of NFMS with MRV functions

## NON-HIERARCHICAL STAKEHOLDER ASPECTS

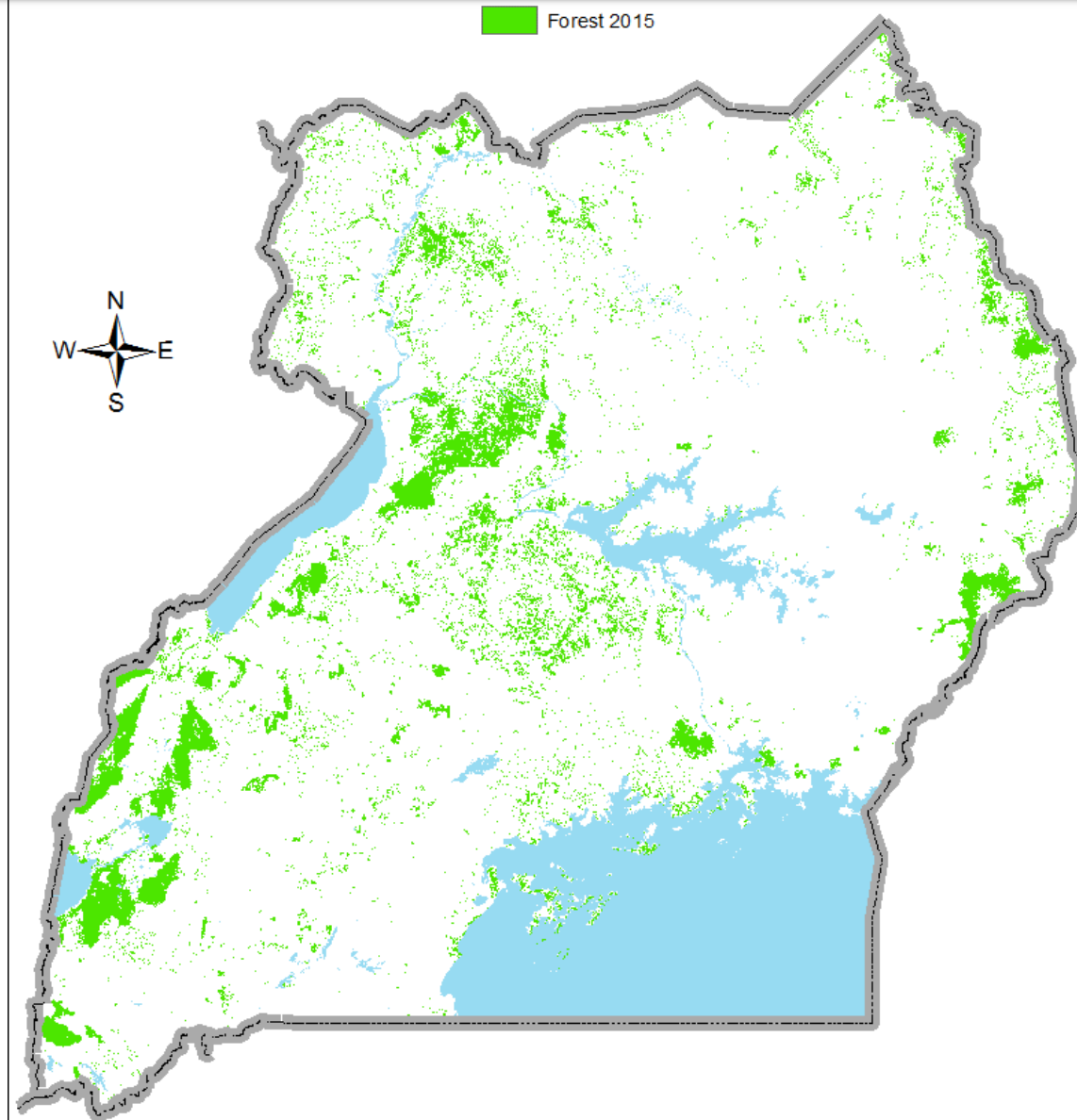


- Institutional MRV
- Other Forest Data sources
- Complementary MRV National institution.
- NGOs
- Complementary MRV Sub-national Institution
- Complementary Res. Inst.

# Key Outputs

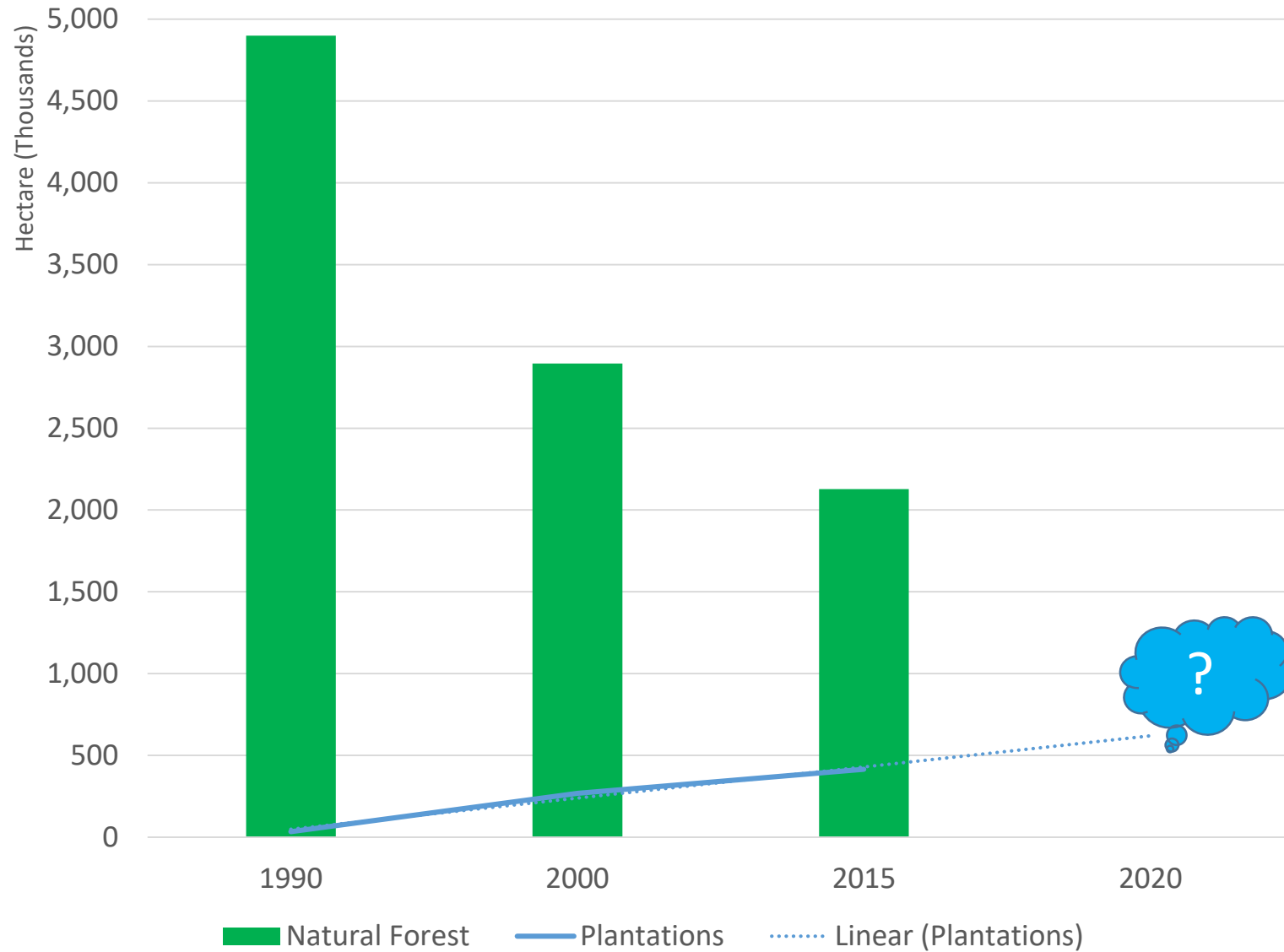
- Understanding Where Deforestation is taking place
- Understanding Direct (Proximate) and indirect drivers of Deforestation and forest Degradation
- Assess Afforestation / Reforestation efforts

# Time Series Maps on LUC Change and Forests

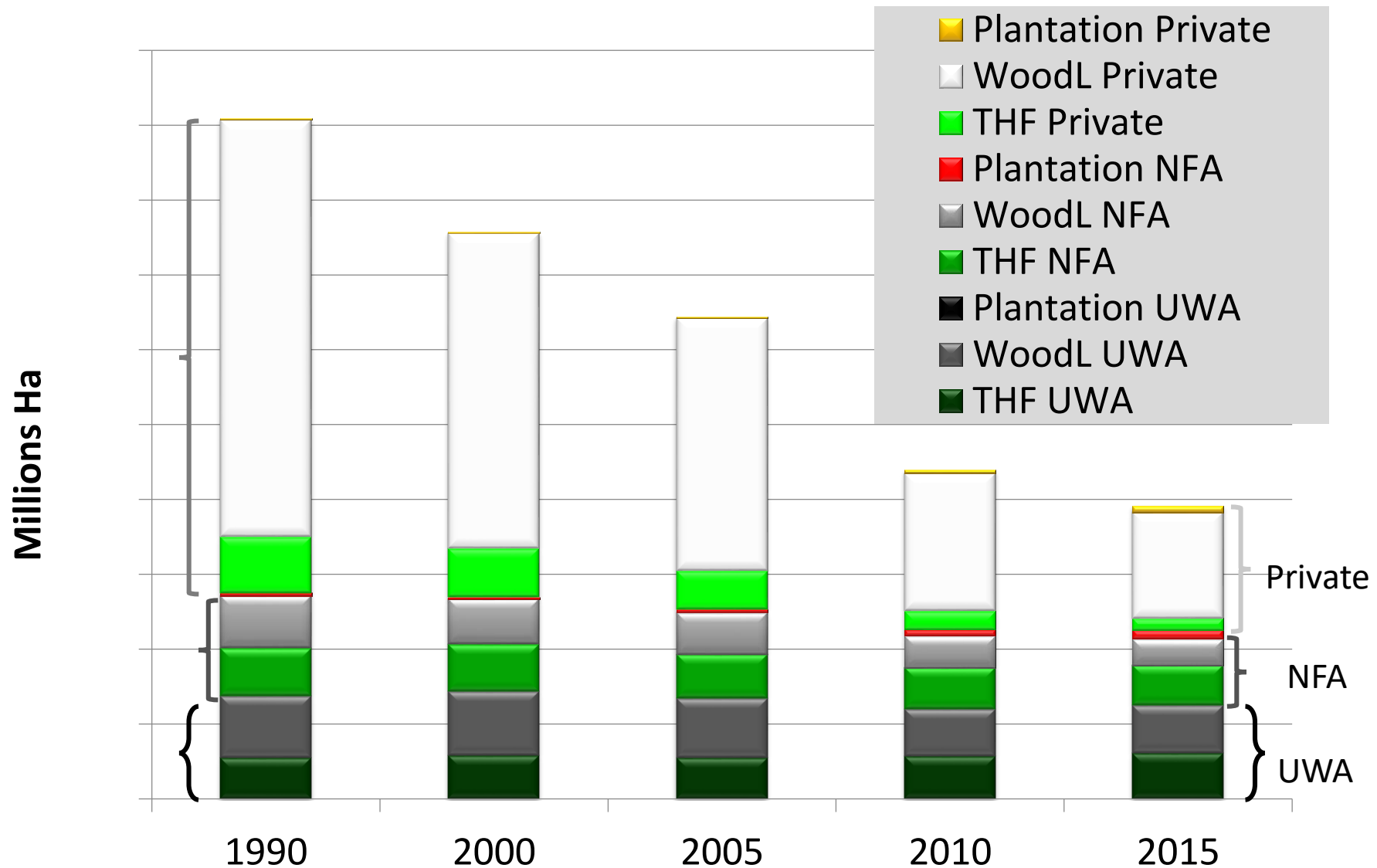




# Forest Trends 2000 to 2015



# Forest Change by Tenure, Management and Forest Strata Level



Level 2 = Woodland, Tropical High Forest and Plantations

# Key Outputs

- Establishing data access, sharing mechanism
- 1) Access to Forest Inventory data to key MWE personnel, Final data access mechanisms, data security, user accesses rights yet to be finalised, [tomcat.nfa-fmis.net/collect/](http://tomcat.nfa-fmis.net/collect/)
- 2) Access to technical information on data production processes and manuals (including blogs) via a wiki
- 3) Access key data that has informed REDD+ and Possibly REDD+ through WEB portal
- 4) Access to both spatial and attribute data through Geo-server service; **Up coming**


tomcat.nfa-fmis.net/collect/ (password needed)

The screenshot shows the Openforis Collect web application interface. The top navigation bar includes the logo, a menu icon, the text "Home / Data Management", and a language dropdown set to "ei\_uganda". Below the navigation bar is a sidebar with menu items: Dashboard, Data Management, Survey Designer, Data Cleansing, Map, and Saiku. The main content area features a toolbar with buttons for "New", "Validation Report", "Export", "Import", and "Workflow". Below the toolbar is a table with the following columns: a checkbox, "1. El Bloc...", "Transect ...", "Errors", "Warnings", "Created", "Modified", "Step", "Owner", and a lock icon. The table contains seven rows of data, all with "ANALYSIS" in the Step column and "0" in the Errors and Warnings columns.

<input type="checkbox"/>	1. El Bloc... <i>Enter 1. E</i>	Transect ...	Errors	Warnings	Created	Modified	Step	Owner	
<input type="checkbox"/>	KIBAL-1110	1	0	0	14/07/2019 18:43	26/08/2019 14:41	ANALYSIS		
<input type="checkbox"/>	KIBAL-1105	1	0	0	14/07/2019 18:43	26/08/2019 14:41	ANALYSIS		
<input type="checkbox"/>	KIBAL-1160	3	0	0	14/07/2019 18:43	26/08/2019 14:41	ANALYSIS		
<input type="checkbox"/>	KIBAL-1597	2	0	0	14/07/2019 18:43	26/08/2019 14:41	ANALYSIS		
<input type="checkbox"/>	KIBAL-1598	2	0	0	14/07/2019 18:43	26/08/2019 14:41	ANALYSIS		
<input type="checkbox"/>	KIBAL-1055	5	0	0	14/07/2019 18:43	26/08/2019 14:41	ANALYSIS		
<input type="checkbox"/>	KIBAL-1648	2	0	0	05/07/2019 09:06	26/08/2019 14:41	ANALYSIS		

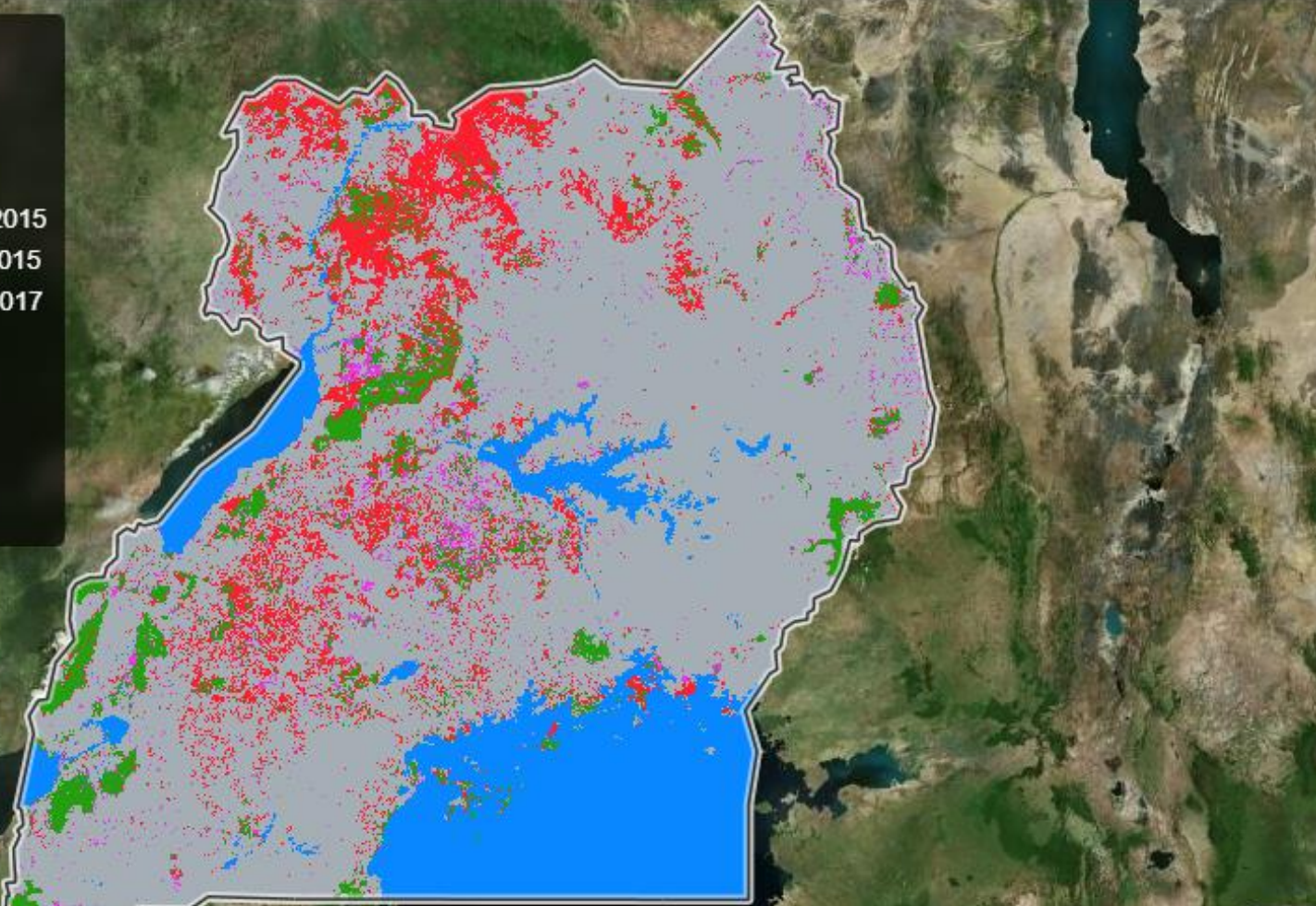
<https://www.nfa-fmis.net/> -No need for Password



**Uganda**  
**National Forest Monitoring System Portal**




**Layers [4]**

- Base maps [1]**
- Administrative [2]**
- Land use/land cover [1]**
  - Forest Cover Change 2000-2015
  - Forest Cover change 1990-2015
  - Land use/land cover © 2017
- Field inventory data**
- Protected areas**
- Socio-economic data**
- REDD+**
- Testing layer publish** ⓘ



[https://www.nfa-fmis.net/ForestWiki\\_NFA/index.php?title=Main\\_Page](https://www.nfa-fmis.net/ForestWiki_NFA/index.php?title=Main_Page) - No need for Password



Ministry of Water and Environment  
REPUBLIC OF UGANDA

### NAVIGATION

- [Main page](#)
- [Recent changes](#)
- [Random page](#)
- [Help](#)

### TOOLS

- [What links here](#)
- [Related changes](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)
- [Page information](#)

## Main Page

*From ForestWiki NFA*

### NFA-ForestWiki... Uganda's One stop forestry information center...

...that focuses on information about forestry practice and research with a Ugandan perspective.


You will find scholarly and practice articles written by forestry practitioners, students, consultants and any interested parties.

### National Forest Monitoring System

... the institutionalization of the National Forest Monitoring System (NFMS) ensures that NFA and the related institutions (Forest Services, UWA) have the capacity to measure and report forest related carbon emissions by activity in a manner that is transparent and verifiable. [FAO's](#) technical support has led to the establishment of this wiki as a repository of all knowledge that has been provided. [Monitoring System Portal](#). Uganda's capacity to measure carbon related emissions has also been enhanced by establishment of the [National Forest Monitoring System](#).

### Forest Inventories

While executing its statutory mandate, NFA has over the years made effort to establish and monitor Uganda's forest stock through the [National Forest Inventory](#) (NFI) project.



## Way Forward

To Remain actively participating in REDD+ and Support other related developments e,g NDC

- Enhance the Monitoring aspects of NFMS,- use emerging technologies to;
  - Regular Assess Forest area change
  - Changes in carbon stocks (emission factors)
  - Estimate Emissions from biomass burning
- Improved Analysis & reporting
  - National GHG information system
  - Analysis of drivers and factors of forest change
  - Establishment of reference emission level and regular updating
  - National and international reporting
  - Registry