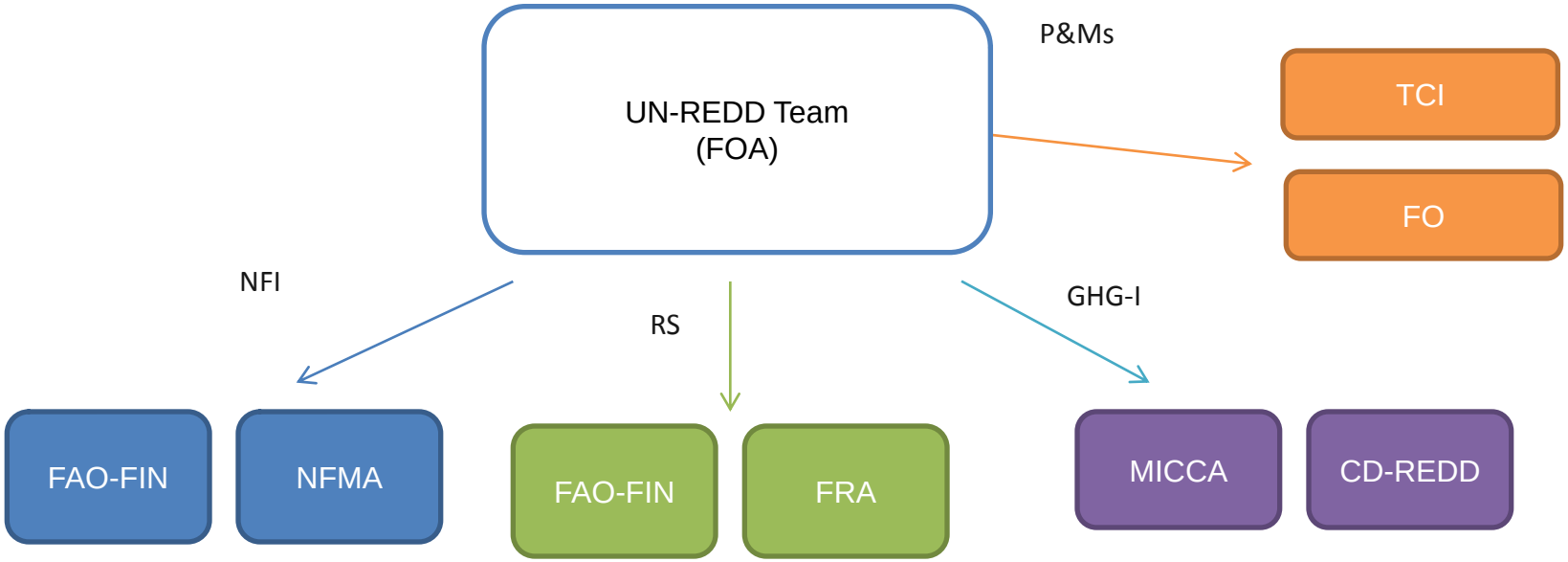
# FAO Forestry

## Existing products and tools for country support

# NFMS/MRV cooperation and coordination at HQ and national level

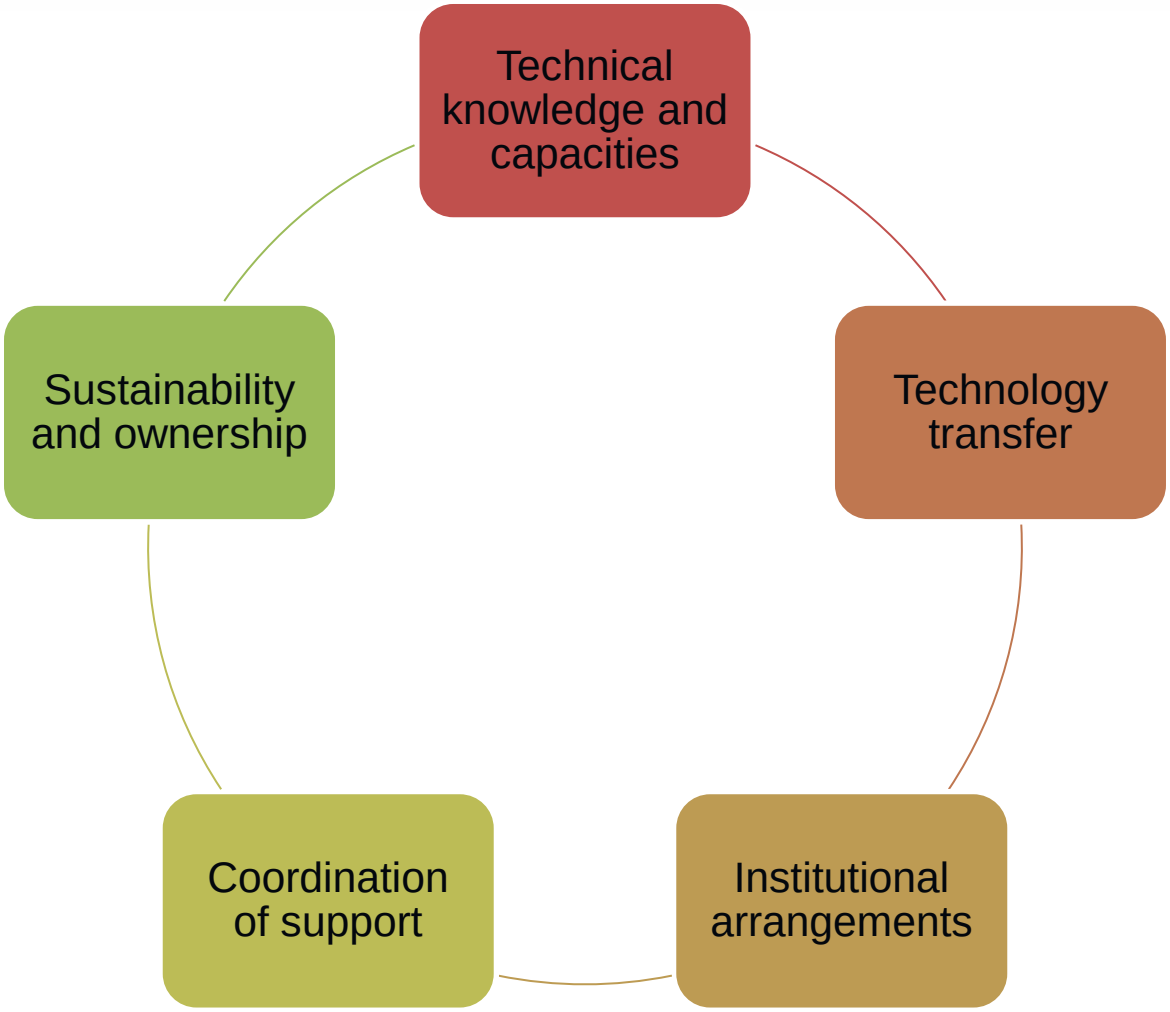
HQ Level




Country Level

- Joint implementation of activities with other projects (e.g. Tanzania, Zambia, Ecuador, Congo, VietNam)
- Staff sharing/co-financing
- Joint purchases of equipment/equipment sharing
- Joint publications/educational material
- Coordination, joint steering committee, etc.

# Key considerations in FAO's capacity building experience on REDD+



# FAO and its role in REDD+

- FAO's key role in REDD+ readiness is to help countries develop, implement and operationalize their National Forest Monitoring System (NFMS)
- FAO also assists countries in conceptualizing and implementing REDD+ activities and in the development of policies and measures

## Key principles of FAO's support

- National ownership
- Alignment with the UNFCCC process
- Step-wise approach that allows for improvement over time
- Builds upon existing capacities, available data and systems in place
- Use of open-source, freely available data and tools as much as possible
- Strengthening of national capacities (learning-by-doing)

# FAO's support areas for REDD+ NFMS

- Land cover classification
- Forest and land monitoring
- Development and implementation of NFI
- Improvement of biomass estimates
- Support to establish FRL/RELs
- GHG inventory support
- Data management and analysis

# FAO's support areas on remote sensing

- Easy-to-understand language and exercices package: no one fits all approach
- Overview methodologies and data requirements for RS using OpenForis and other open source initiatives
- Advantages and disadvantages methodologies
- Use of global products and linkages with other initiatives (WWF, WRI, USAID, Silvacarbon)
- Coordination and collaboration for RS capacity building
- SEPAL project

http://www.openforis.org

Food and Agriculture Organization of the United Nations

SEPAL
SYSTEM FOR EARTH OBSERVATION DATA ACCESS, PROCESSING & ANALYSIS FOR LAND MONITORING

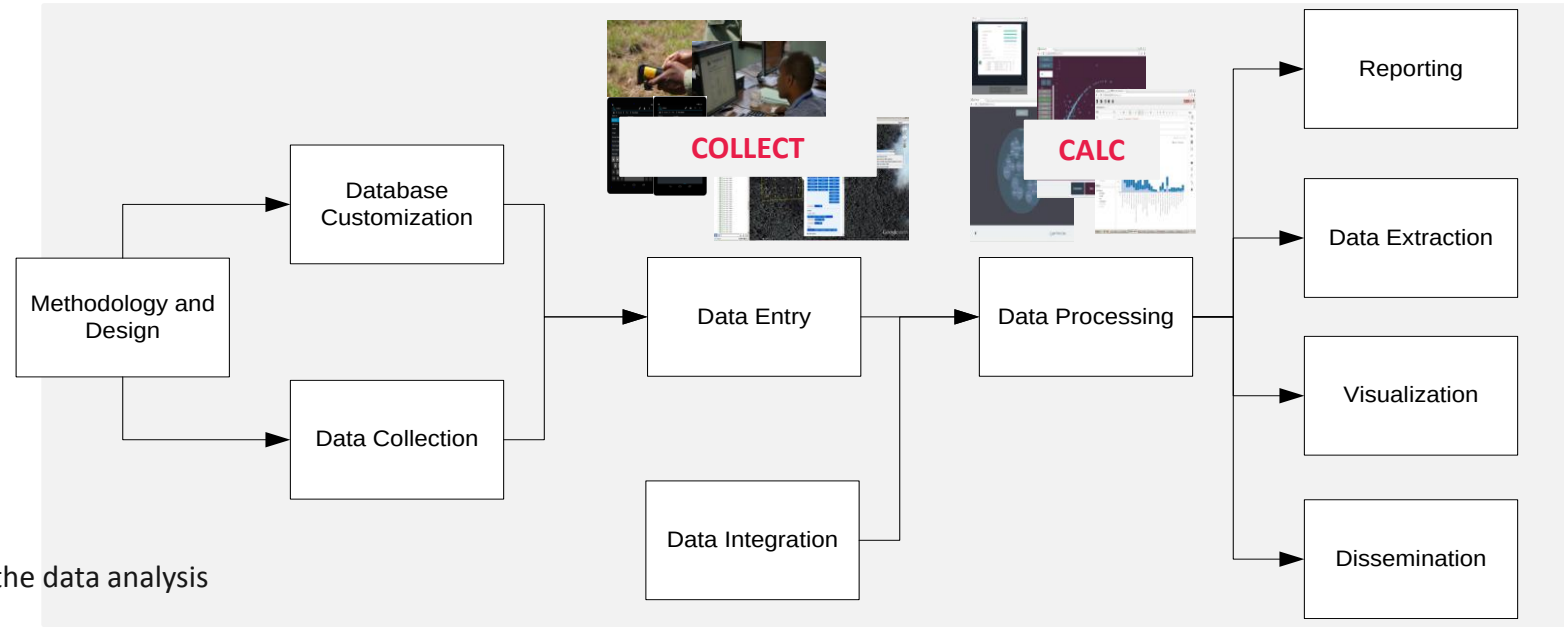
- This work was done in collaboration with FAO as a prototyping for the OpenForis system
- SEPAL → Amazon Web Services (AWS)
  - Cloud-based data processing workflow

# FAO experience in National Forest Monitoring

- Decades of experiences supporting countries on forest monitoring
- Assist countries to manage & analyse own data
- Country needs and constraints paramount
- Build on experience of best-of-class systems
- Build capacity through automation of key processes:

Continuous development and updating of manuals and guidelines

Expert consultation & networking

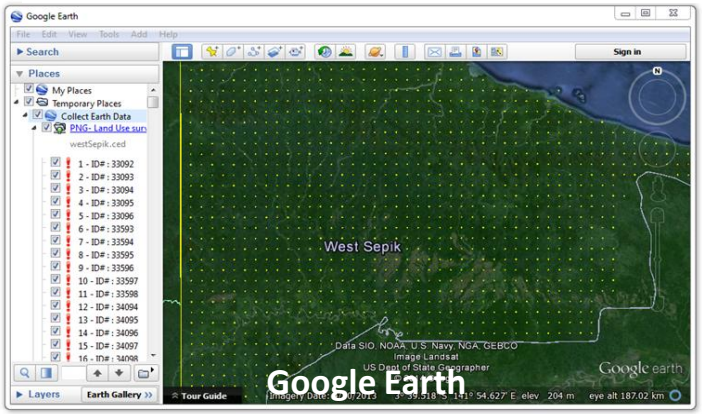



Key processes for the data analysis

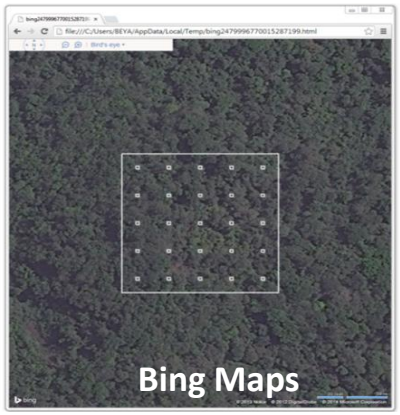
Collect Earth is a tool that enables data collection through Google Earth with a sampling approach. In conjunction with Google Earth, Bing Maps and Google Earth Engine, users can analyse high and very high resolution satellite imagery for a wide variety of purposes, including :

- Activity data assessments of the Land Use, Land Use Change and Forestry (LULUCF) for GHG Inventories
- Assessment of the land use and land use change historical trends for REL/RL
- Support multi-phase National Forest Inventories
- Monitoring agricultural land and urban areas
- Validation of existing maps
- Collection of spatially explicit socio-economic data
- Quantifying deforestation, reforestation and desertification

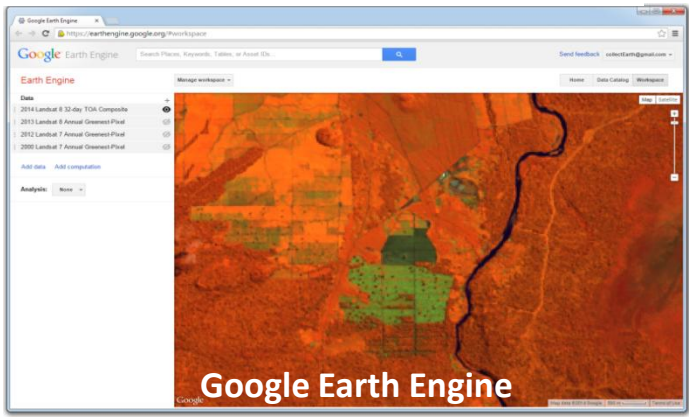
# Collect Earth System Overview



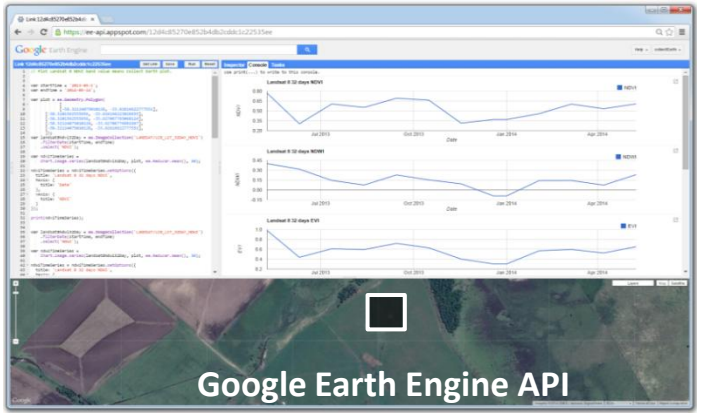

3D GIS for point-based, LULUCF sampling




Geo-link with multiple image repositories

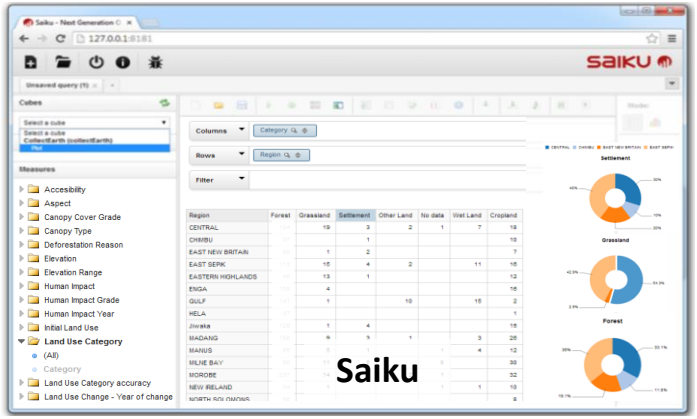



Multi-temporal analysis with 40 years of Landsat data



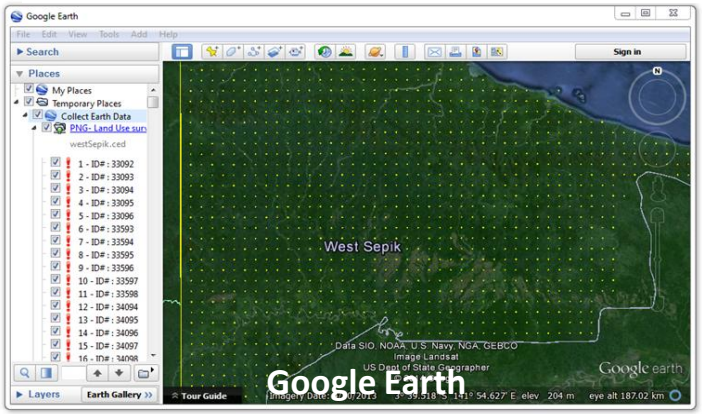

Trend visualization with vegetation indices

- Access to free, very high resolution imagery
- Full integration with Saiku, for mining data and generating charts and other graphics




Fast, intuitive and flexible data analysis

# Collect Earth System Overview

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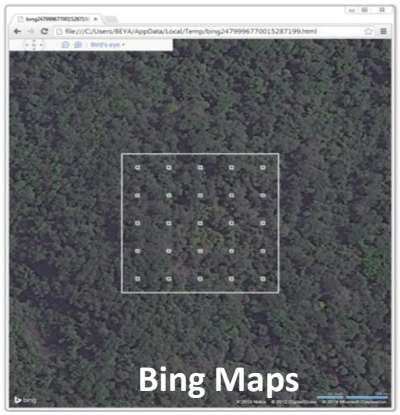


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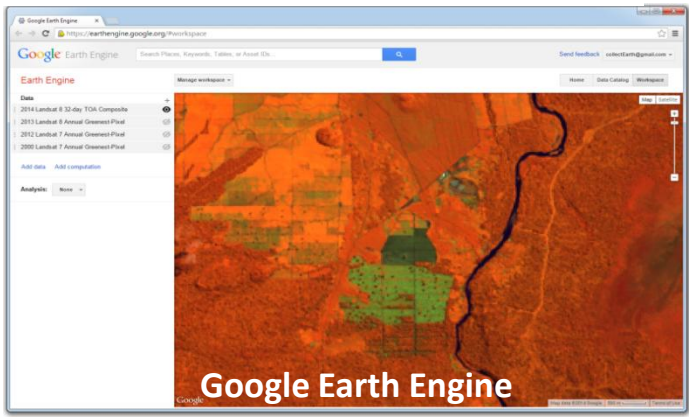


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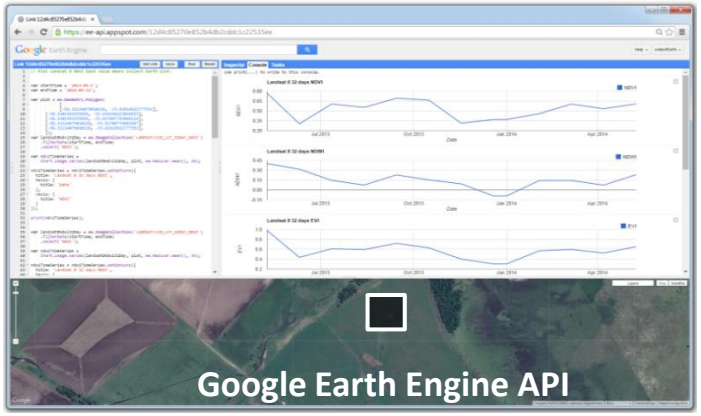


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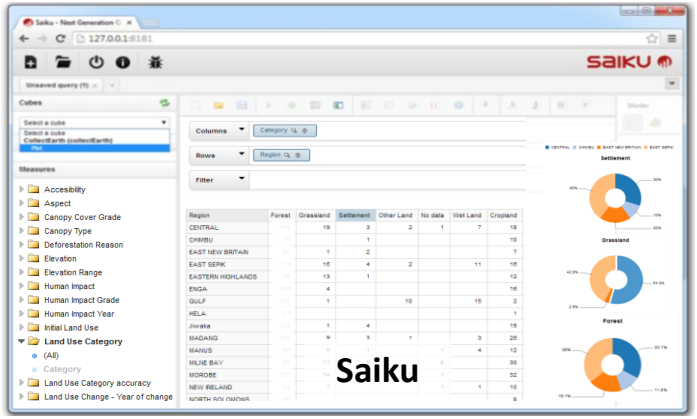


Fast, intuitive and flexible data analysis

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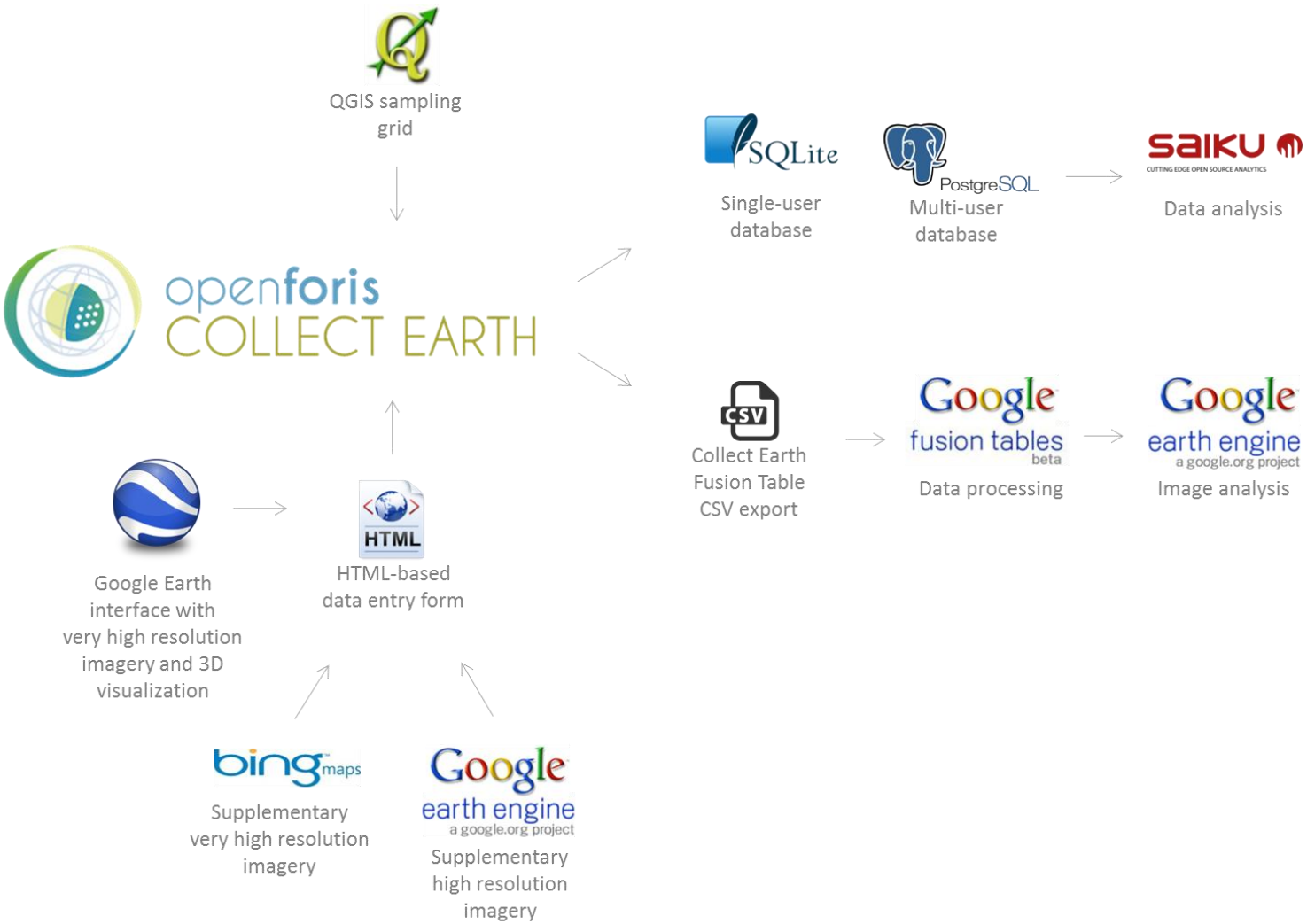
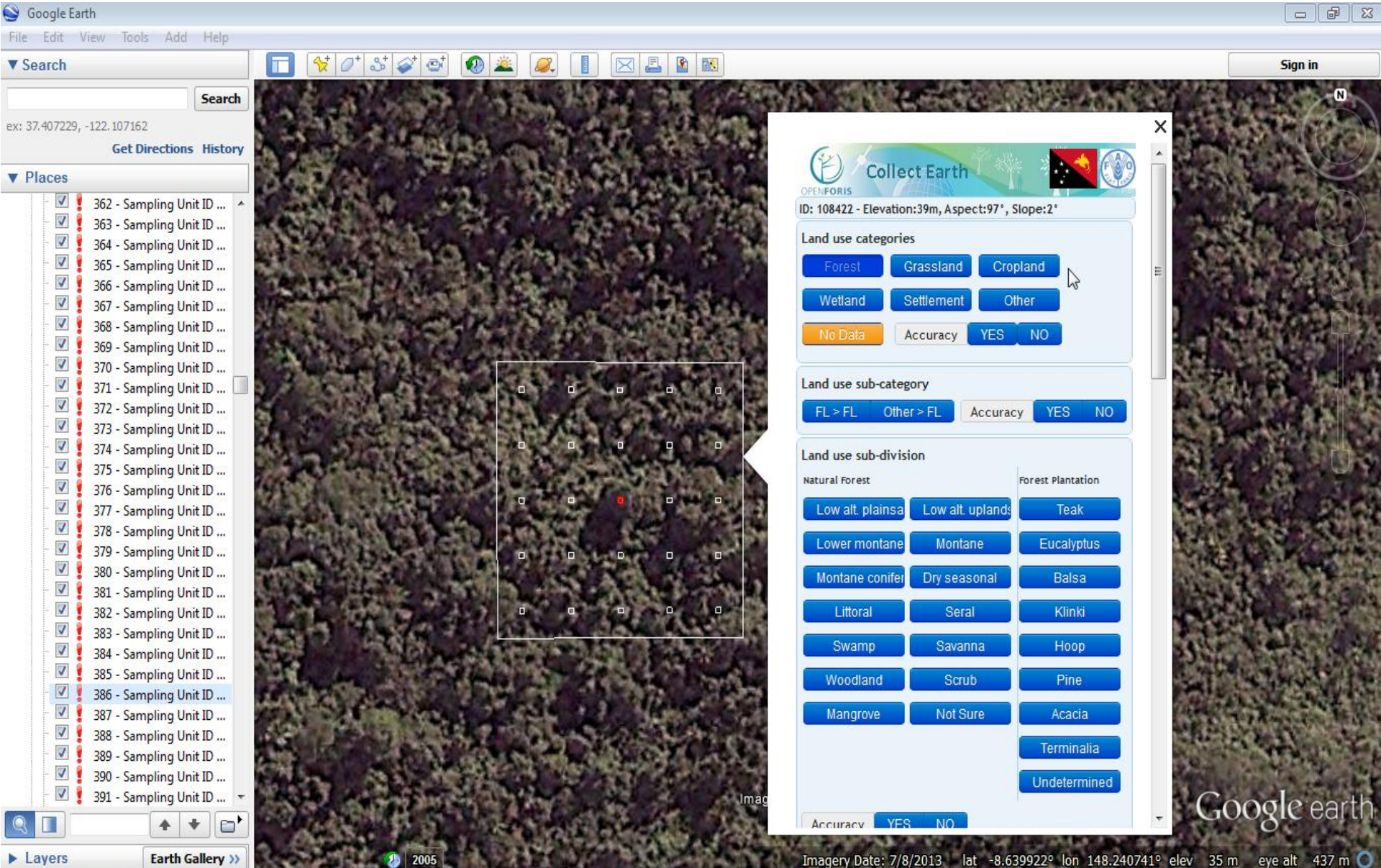


# Open Foris Collect Earth Papua New Guinea:

## support to 1st phase NFI and LULUCF REDD+ activity data assessment

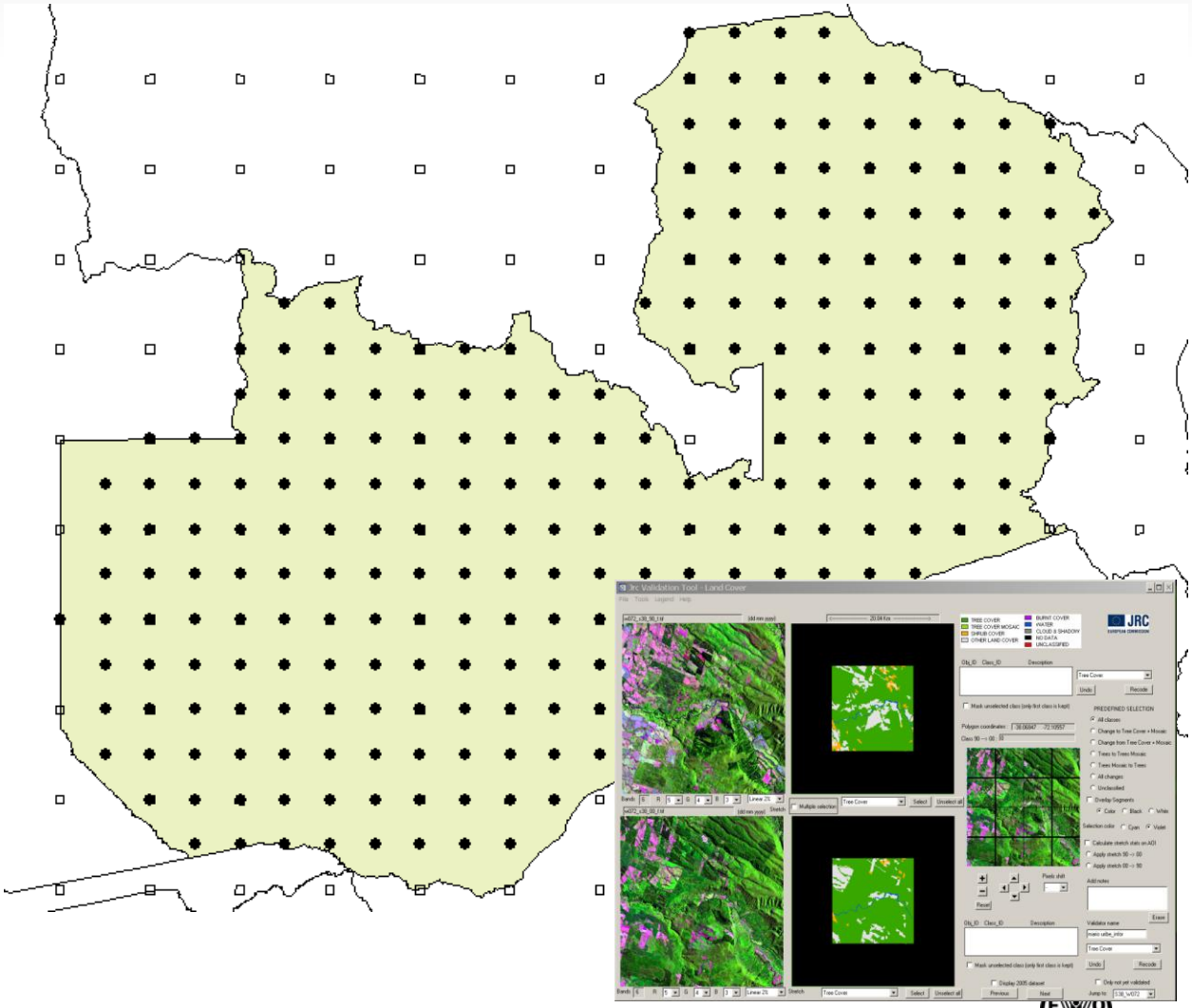


# Other examples: Zambia

Intensification of the automatic grid (FRA)

Estimation of the forests and the changes at national level

Visual interpretation for the land use



# FAO's support areas on Web portals

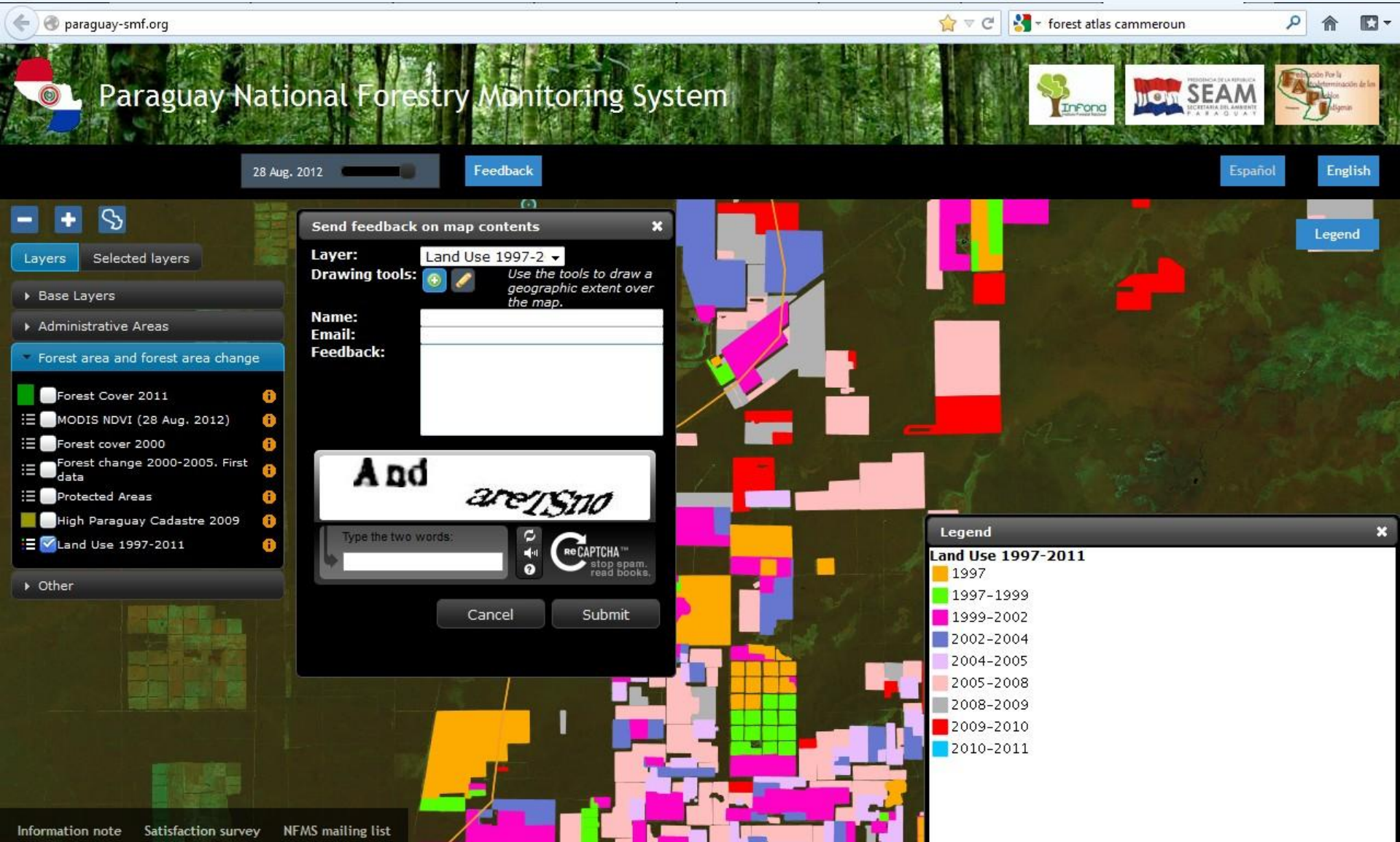
## Document with examples & lessons learned web portals

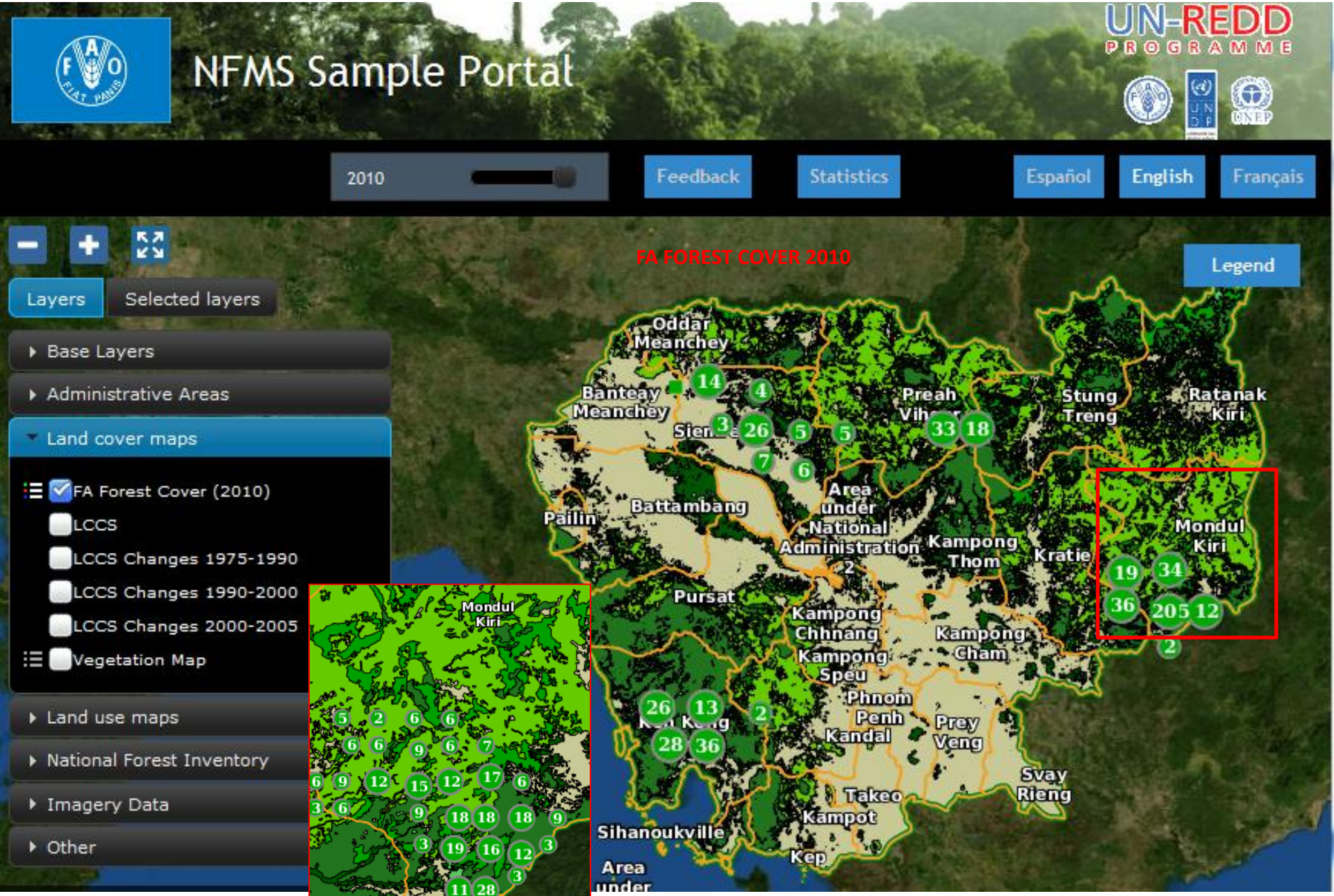
- Existing web portals (launched and ready to be launched)
  - DRC, Congo Republic, Zambia, Tanzania
  - Paraguay, Ecuador, Argentina
  - PNG, Cambodia, VietNam, Sri Lanka, Pacific Islands (Fiji, Solomon Islands)
- Initiating
  - Bangladesh, Bhutan, Myanmar
  - Colombia

## Technical guidance document web portals

- Easy-to-understand language and exercices
- Overview methodologies and data requirements
- Options and methodologies for publishing

# The NFMS development by UN-REDD




NFMS Sample Portal
UN-REDD PROGRAMME
2010
Feedback
Statistics
Español
English
Français
FA FOREST COVER 2010
Legend
Layers
Selected layers
Base Layers
Administrative Areas
Land cover maps
FA Forest Cover (2010)
LCCS
LCCS Changes 1975-1990
LCCS Changes 1990-2000
LCCS Changes 2000-2005
Vegetation Map
Land use maps
National Forest Inventory
Imagery Data
Other
Oddar Meanchey
Banteay Meanchey
Preah Vihear
Stung Treng
Ratanak Kiri
Battambang
Pailin
Area under National Administration
Kampong Thom
Kratie
Mondul Kiri
Pursat
Kampong Chhnang
Kampong Cham
Kampong Speu
Phnom Penh
Kandal
Prey Veng
Svay Rieng
Takeo
Kampot
Sihanoukville
Kep
Area under

# FAO's support areas on reference emission levels

## Document with early REDD+ Reference (Emission) Level examples & lessons learned FRLs Annex I

- Brazil – rolling average
- Guyana – combined incentives
- Annex I – use of models to project timber harvesting

## Updated technical guidance document REDD+ Reference Levels

- FREL UNFCCC decisions in easy-to-understand language
- Overview methodologies and data requirements for RL
- Advantages and disadvantages methodologies
- UPDATE BY MAY 2016
- Webinar upcoming

# Common challenges

- **Institutions or mandates are sometimes not well defined**
  - Implementation and technical capacities in government institutions are highly limited
  - Project-based mentality / lack of institutional resilience
- **Absorption capacity is sometimes low**
  - Several REDD+ initiatives are competing for competent government staff
  - Few government staff assigned for REDD+
- **REDD+ is often not a priority on the development agenda**
  - Bringing REDD+ to a higher political level is difficult
  - Environmental and forestry ministries have limited budgets/staff
- **Managing expectations**
  - REDD+ might eventually not lead to big money, so other purposes of the NFMS for the benefit of the country are key
  - Mismanagement of funds leads to stricter funds disbursement procedures

# *thank you*

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