

# FAO Forestry Department

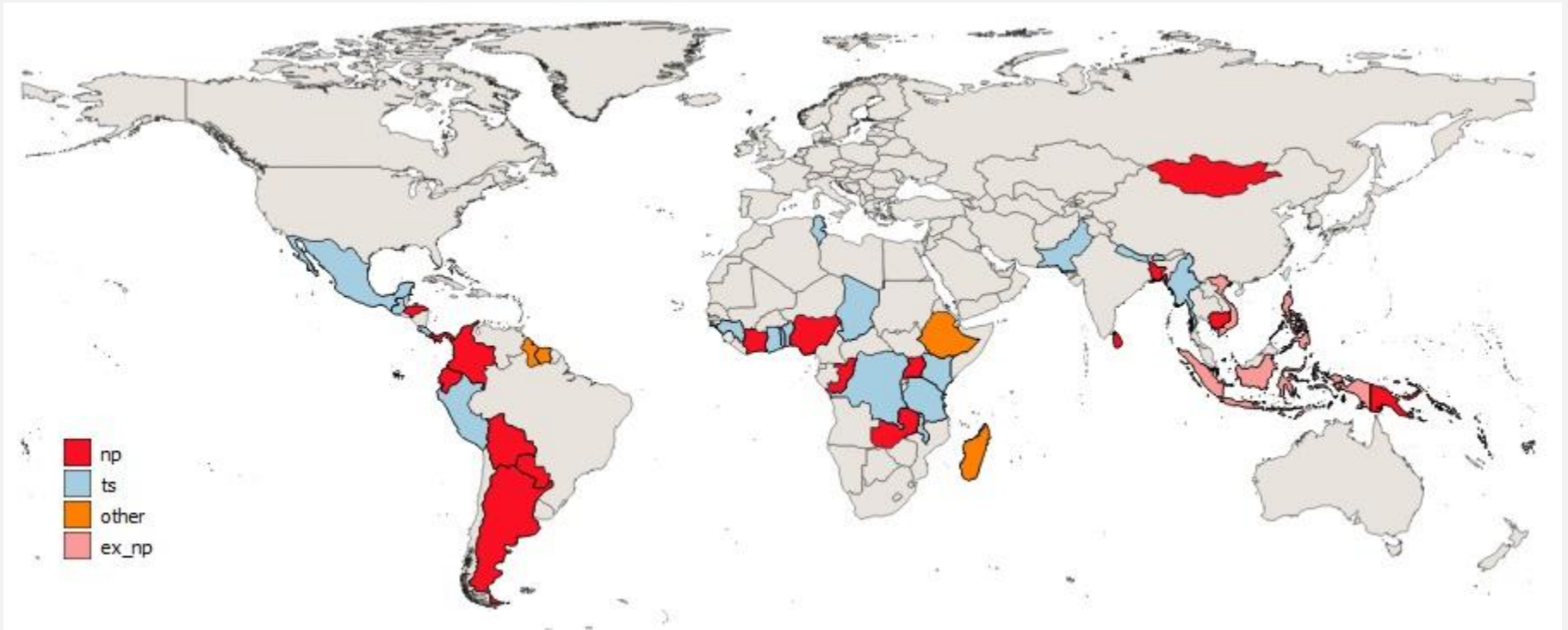
FAO in-country experiences of using the MGD

Inge Jonckheere

March 2015

Sydney, Australia

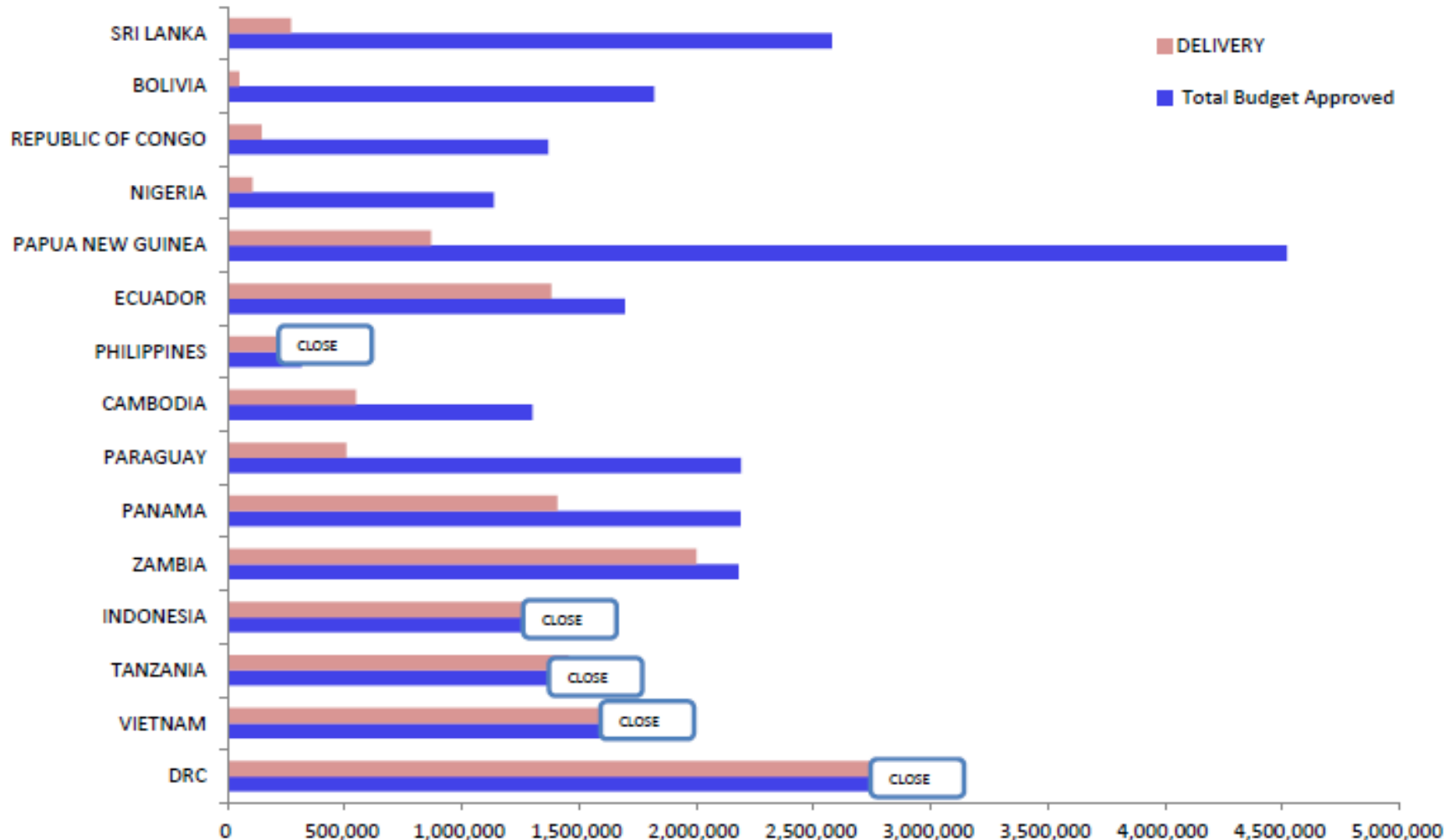




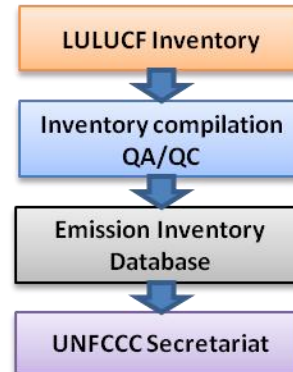
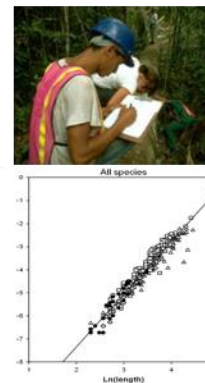
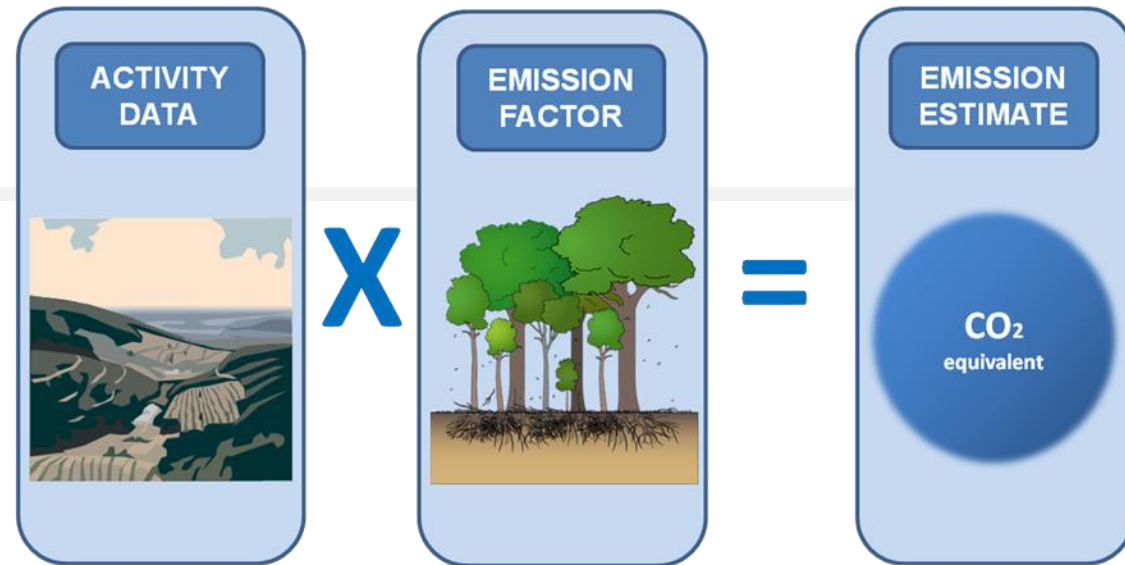
[www.un-redd.org](http://www.un-redd.org)



# UN-REDD NATIONAL PROGRAMMES



# MRV: Measurement



The IPCC's methodological approach to calculate anthropogenic GHG emissions by sources and removals by sinks related to forest land.

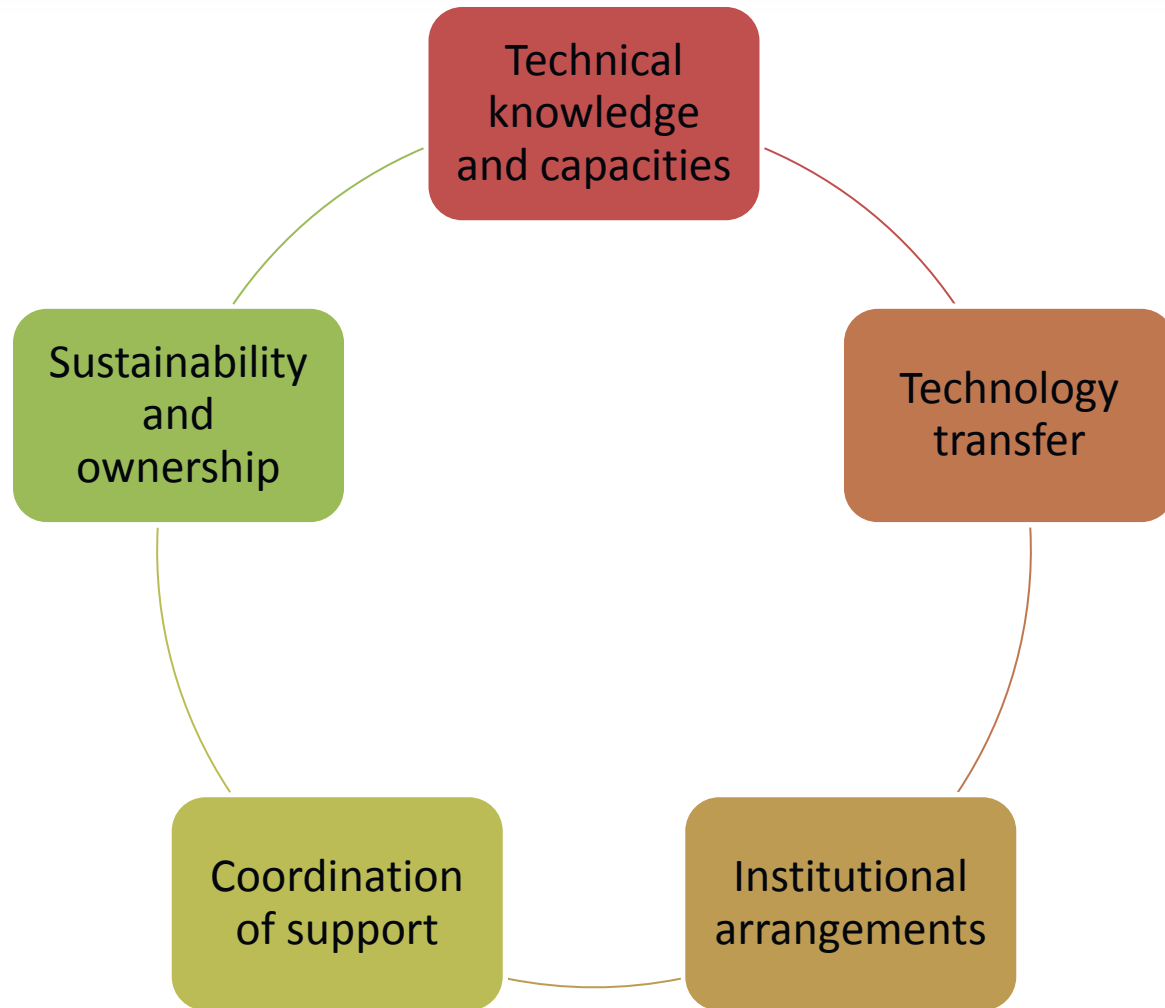
# FAO and its role in REDD+

- ❑ **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**

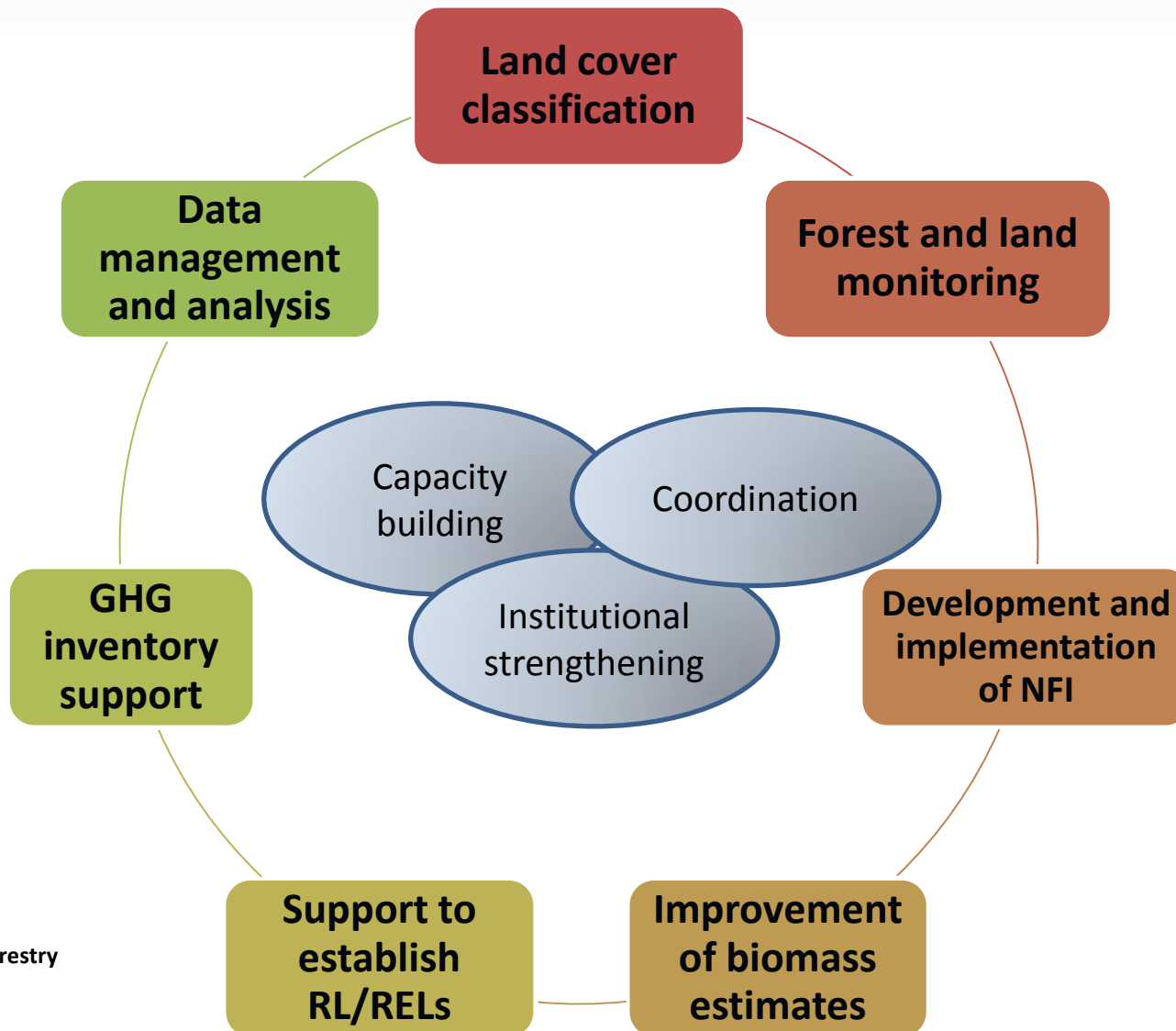
## Key principles of FAO's support

- 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)

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



# FAO's support areas for REDD+ NFMS



# Technical knowledge and capacities

Countries require strong technical skills in the field of forest monitoring and MRV to implement REDD+

## Experience

- Capacities are highly variable, ranging from low to medium
- Donors, NGOs and investors may compete for skilled technicians
- Capacity is volatile: High turn around of skilled people in government institutions
- Short-term capacity building projects/activities yield limited impacts if basic capacities are low

## Lessons learned

- National capacities are often over-evaluated
- Promoting learning-by-doing is essential
- Longer-term capacity building exercise, with daily support or regular follow up is necessary
- Long-term commitment is necessary to achieve durable results : vision has to be broader than 'project'



# Methodologies and technology for NFMS and MRV

Countries require easy and inexpensive access to technology and tools to develop their NFMS

## Experience

- Access to technology is often limited, particularly for remote-sensing technologies and data
- The basics are often missing (e.g. steady electricity, high-speed internet, performing computers, software packages)
- Certain technologies are costly (e.g. HR images, Lidar, commercial software packages), limiting large-scale deployment and sustainability

## Lessons learned

- Not promote specific tools/data sets but provide overview of available options
- Help governments make informed decisions
- Support country decisions and tailor best available approaches while maintaining consistency and comparability of results
- Heavy reliance on complex & costly technology may not be in all developing countries' best interest
- Open source, free software and data set that meet REDD+ requirements are available. If not, new tools can be developed

Support to preparation of FCPF/R-PP

Procurement satellite data: from provider negotiation until delivery

Training: Decentralization and training of provincial forest monitoring teams and Permanent Satellite monitoring Units

Developing wall-to-wall forest cover maps

Pre National Forest Inventory being executed

Land cover maps support

Maps on REDD+ environmental and social co-benefits

Reference Level options to be developed by end of 2015 (COP)

Support for NFI data analysis (supported by FAO's NFMA)

Trainings on allometric equations and NFI data analysis

Online web portal established and operating



- Support to strategic planning of NFMS and RELs in context of national REDD+ readiness:
  - Bangladesh, Bhutan, Mongolia, Myanmar, Pakistan, Solomon Islands, Sri Lanka
- Planning and programming specifically of NFMS activities: NFMS Action Plans:
  - Bangladesh, Mongolia, PNG, Sri Lanka
- National land use and land use change assessment (training and assessment)
  - Mongolia (Targeted Support) and PNG
- Support to National Forest Inventories for REDD+:
  - Bhutan, Mongolia, PNG



	Par.	Ecu.	Col.	Bol.	Pan.	Arg*	Hon*	Cost*	Mex*	Guat*
<b>Monitoring/Planning NP</b>	X	X	X	X	X	X	?			
<b>NFMS</b>	X	X	X	X	X	X				
<b>Web Platform</b>	X	X	X	X		X				
<b>REL/RLs</b>	X	X	X			X				
<b>Remote Sensing</b>	X	X	X	X	X	X				
<b>GHG Inventory</b>	X	X	X		X	X				
<b>All. Equations</b>	X	X	X		X	X				
<b>National Forest Inventory</b>	X	X	X	X	X	X				
<b>Safeguards</b>		X	X			X		X	X	
<b>Legal aspect</b>							X			X
<b>PGA</b>		X								
<b>Regional workshops (potential themes)</b>										
I-GEI, monitoring of for. Deg., remote sensing , web platform, REL										

- **Institutions are generally weak or mandates not well defined**
  - Implementation and technical capacities in government institutions are highly limited
  - Project-based mentality / lack of institutional resilience
- **Absorption capacity is 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
  - Corruption risk leads to stricter funds disbursement procedures

# FAO's work on REDD+ Reference (Emission) Levels

planned products and country support



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

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

## Technical guidance document REDD+ Reference (Emission) Levels , in line with MGD

- RL UNFCCC decisions in easy-to-understand language
- Overview methodologies and data requirements for RL
- Advantages and disadvantages methodologies



# FAO's work on RS and web portals

planned products and country support





# RS using MGD document

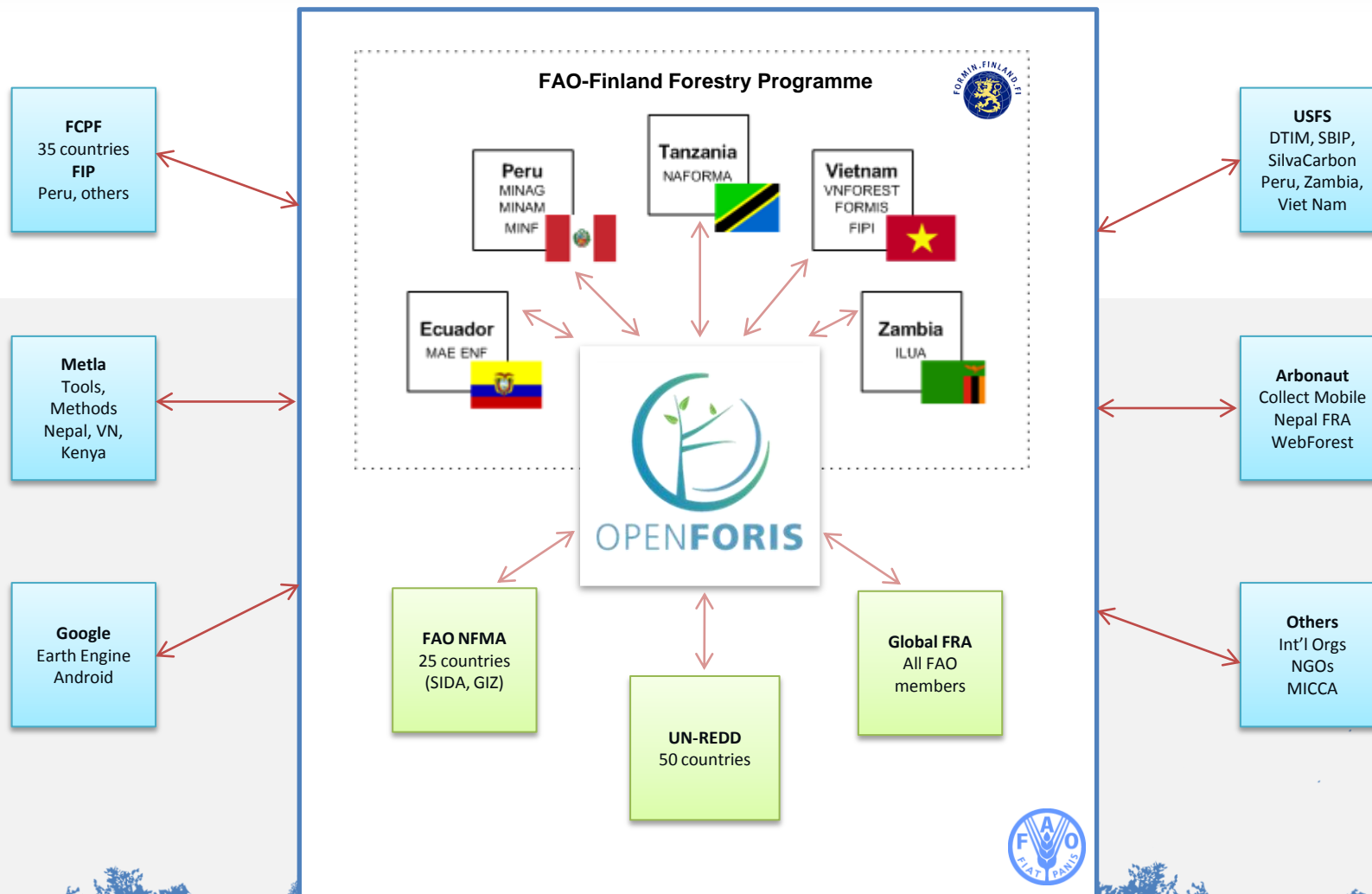
Document with accuracy assessment

Level examples & lessons learned (Zambia,

- Easy-to-understand language and exercises package: no one fits all approach
- Overview methodologies and data requirements for RS using OpenForis and other open source initiatives (R, QGIS) with hands-on examples
- Advantages and disadvantages of methodologies
- Use of global products and linkages with other initiatives (WWF, USAID, Silvacarbon, UNEP/UNDP)

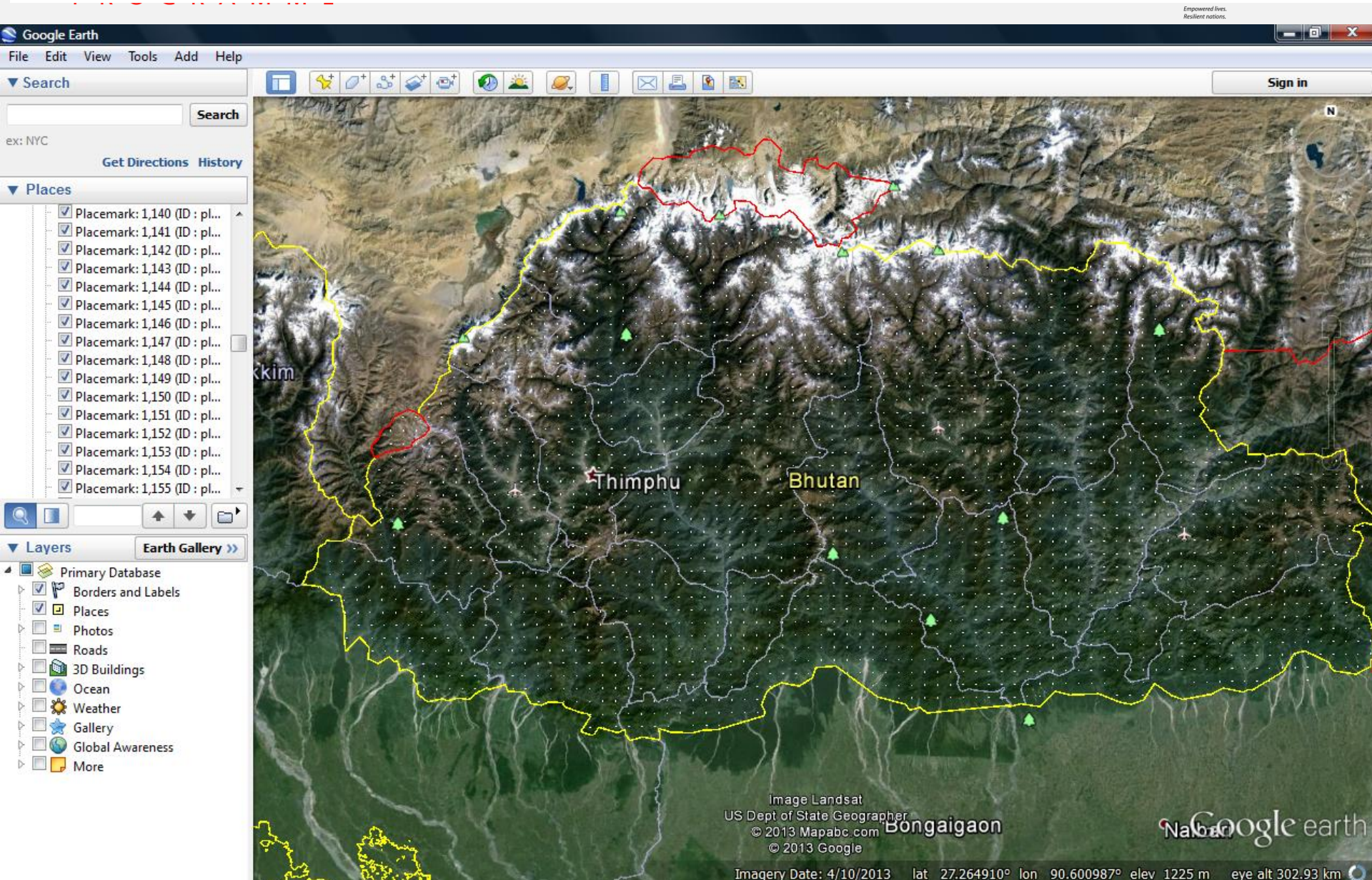
# Open Foris Initiative

Shared set of flexible software tools for NFM data processing, analysis and dissemination:





# Open Foris Collect Earth: a feature for sampling with open source software and Google Earth Engine





# Open Foris Collect Earth Papua New Guinea: support to 1<sup>st</sup> phase NFI and LULUCF REDD+ activity data assessment

Google Earth  
File Edit View Tools Add Help

Search  
Search  
ex: 37.407229, -122.107162  
Get Directions History

Places

- 362 - Sampling Unit ID ...
- 363 - Sampling Unit ID ...
- 364 - Sampling Unit ID ...
- 365 - Sampling Unit ID ...
- 366 - Sampling Unit ID ...
- 367 - Sampling Unit ID ...
- 368 - Sampling Unit ID ...
- 369 - Sampling Unit ID ...
- 370 - Sampling Unit ID ...
- 371 - Sampling Unit ID ...
- 372 - Sampling Unit ID ...
- 373 - Sampling Unit ID ...
- 374 - Sampling Unit ID ...
- 375 - Sampling Unit ID ...
- 376 - Sampling Unit ID ...
- 377 - Sampling Unit ID ...
- 378 - Sampling Unit ID ...
- 379 - Sampling Unit ID ...
- 380 - Sampling Unit ID ...
- 381 - Sampling Unit ID ...
- 382 - Sampling Unit ID ...
- 383 - Sampling Unit ID ...
- 384 - Sampling Unit ID ...
- 385 - Sampling Unit ID ...
- 386 - Sampling Unit ID ...
- 387 - Sampling Unit ID ...
- 388 - Sampling Unit ID ...
- 389 - Sampling Unit ID ...
- 390 - Sampling Unit ID ...
- 391 - Sampling Unit ID ...

Collect Earth  
OPENFORIS  
ID: 108422 - Elevation:39m, Aspect:97°, Slope:2°

Land use categories

Forest Grassland Cropland  
Wetland Settlement Other  
No Data Accuracy YES NO

Land use sub-category

FL > FL Other > FL Accuracy YES NO

Land use sub-division

Natural Forest		Forest Plantation
Low alt. plainsa	Low alt. uplands	Teak
Lower montane	Montane	Eucalyptus
Montane conifer	Dry seasonal	Balsa
Littoral	Seral	Klinki
Swamp	Savanna	Hoop
Woodland	Scrub	Pine
Mangrove	Not Sure	Acacia
		Terminalia
		Undetermined

Accuracy YES NO

Imagery Date: 7/8/2013 lat -8.639922° lon 148.240741° elev 35 m eye alt 437 m

Google earth

## Document with examples & lessons learned web portals

- Existing webportals (launched and ready to be launched)
  - DRC, Congo republic, Zambia
  - Paraguay, Ecuador, Argentina
  - PNG, Cambodia
- Ongoing
  - Vietnam, Sri Lanka, Myanmar
  - Colombia

## Technical guidance document web portals

- Easy-to-understand language and exercises
- Overview methodologies and data requirements
- Options and methodologies for publishing
- In-country trainings and centralized overview trainings







# NFMS Sample Portal

UN-REDD  
PROGRAMME



2010

Feedback

Statistics

Español

English

Français

## FA FOREST COVER 2010



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

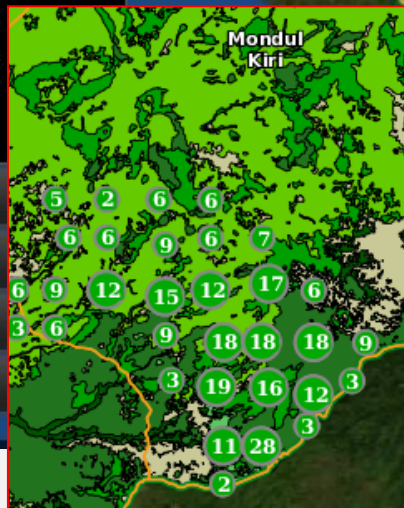
Land use maps

National Forest Inventory

Imagery Data

Other

Legend



# FAO's work on REDD+ National Forest Inventory

products and country support

Slide courtesy of M. Henry

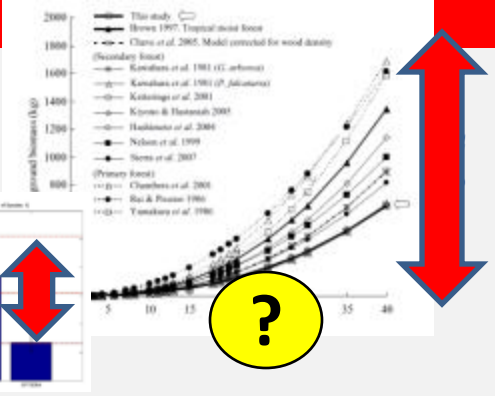




AN INCREASING NEED TO MONITOR FOREST & TREE RESSOURCES ACCURATELY

PROGRAMME

BUT!



CLIMATE CHANGE MITIGATION & ADAPTATION



TIMBER



BIO-ENERGY



NTFPS

CAPACITY BUILDING & COUNTRY SUPPORT

GlobAllomeTree

Assessing volume, biomass and carbon stocks of trees and forests

Home About Data Software Documents Contributors

Collection of existing data (e.g. through data sharing agreements or web portals i.e. Globalometree)

Manuals and tutorials

Forest allometric Software

Annals of Forest Science

Annual for building tree volume biomass allometric equations

From field measurement to prediction

Trainings

Forest science

Manual, Tutorials & software

Field measurements

cirad

Harmonization and access of data & to contribute to national processes (i.e. >100 countries & > 250 institutions on Globalometree)



---

Document with examples & lessons learned NFI

Manual and exercises, in line with MGD but concrete, practical and in open source software (R)

Technical guidance document allometry

- Overview methodologies and data requirements
- Games to raise awareness
- Platform Globalometree online to upload/download equations ([www.globalometree.org](http://www.globalometree.org))
- In-country trainings and centralized overview trainings by specialized team



- MGD very useful but not directly usable for all three MRV pillars
- In-country assistance to direct needs, mostly in line with MGD (decision and country ownership)
- New hands-on documents and exercises developed by FAO for knowledge transfer
- Providing of options/alternatives in case of problems
- Country needs are key and driving factor
- Needs: highly dynamic and fastly changing: quick adaptation is needed
- Constant follow-up and help-desk is key

---

Thank you for your attention!

Contact: [inge.jonckheere@fao.org](mailto:inge.jonckheere@fao.org)

