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National Forest Monitoring Systems (NFMS) in the context of REDD+

Bangkok

15th October 2013

REDD+ discussions under the UNFCCC

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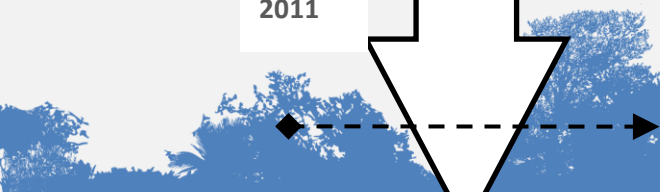

2005

2006

COP11 (Montreal): Papua New Guinea & Cost Rica ask for a new agenda item called "Reducing Emissions from deforestation": **Launch of a two-year process**

COP12 (Nairobi): Agreement on a second workshop

2007

SBSTA26: Consideration of workshop reports & draft decision

COP13 (Bali): **Bali Action Plan**: Non-Annex I Parties to undertake measurable, reportable & verifiable NAMAs; REDD+ activities introduced; guidance on demonstration activities

2008

COP14 (Poznan): Paving the way for COP15...

2009

SBSTA29: Expert meeting on reference emission levels; draft decision for COP15

COP15 (Copenhagen): Methodological guidance on REDD+ activities, including: national forest monitoring systems required to estimate GHGs from forestry activities

2010

COP16 (Cancun): **Cancun Agreements**: guidance on implementation of REDD+ activities, including: national forest monitoring systems required to monitor and report on REDD+ activities

2011

COP17 (Durban): Guidance on forest reference emission levels and forest reference levels for REDD+ activities and on systems for providing information on REDD+ safeguards

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REDD+ Activities

"Encourages developing country Parties to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

- *Reducing emissions from deforestation;*
- *Reducing emissions from forest degradation;*
- *Conservation of forest carbon stocks;*
- *Sustainable management of forests;*
- *Enhancement of forest carbon stocks."*

REDD+ under the UNFCCC

The Cancun Agreements (Decision 1/CP.16)

Elements requested to be developed

"….requested developing country Parties aiming to undertake the REDD+ activities, in the context of the provision of adequate and predictable support, including financial resources and technical and technological support, in accordance with national circumstances and respective capabilities, to develop:

- *A national strategy or action plan*
- *Forest reference emission level and/or forest reference level*
- ***A robust and transparent national forest monitoring system for the monitoring and reporting of REDD+ activities***
- *A system for providing information on how the safeguards are being addressed and respected"*

MRV

SIS

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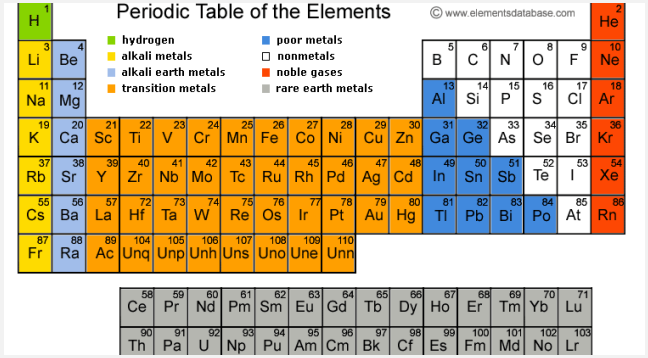
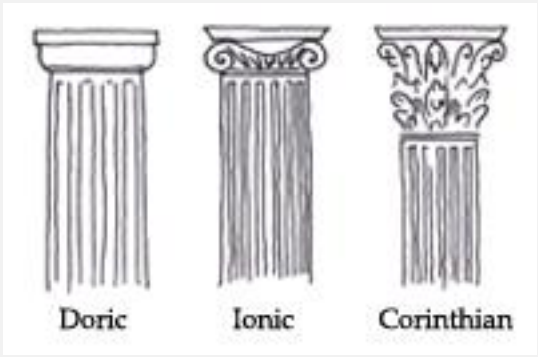
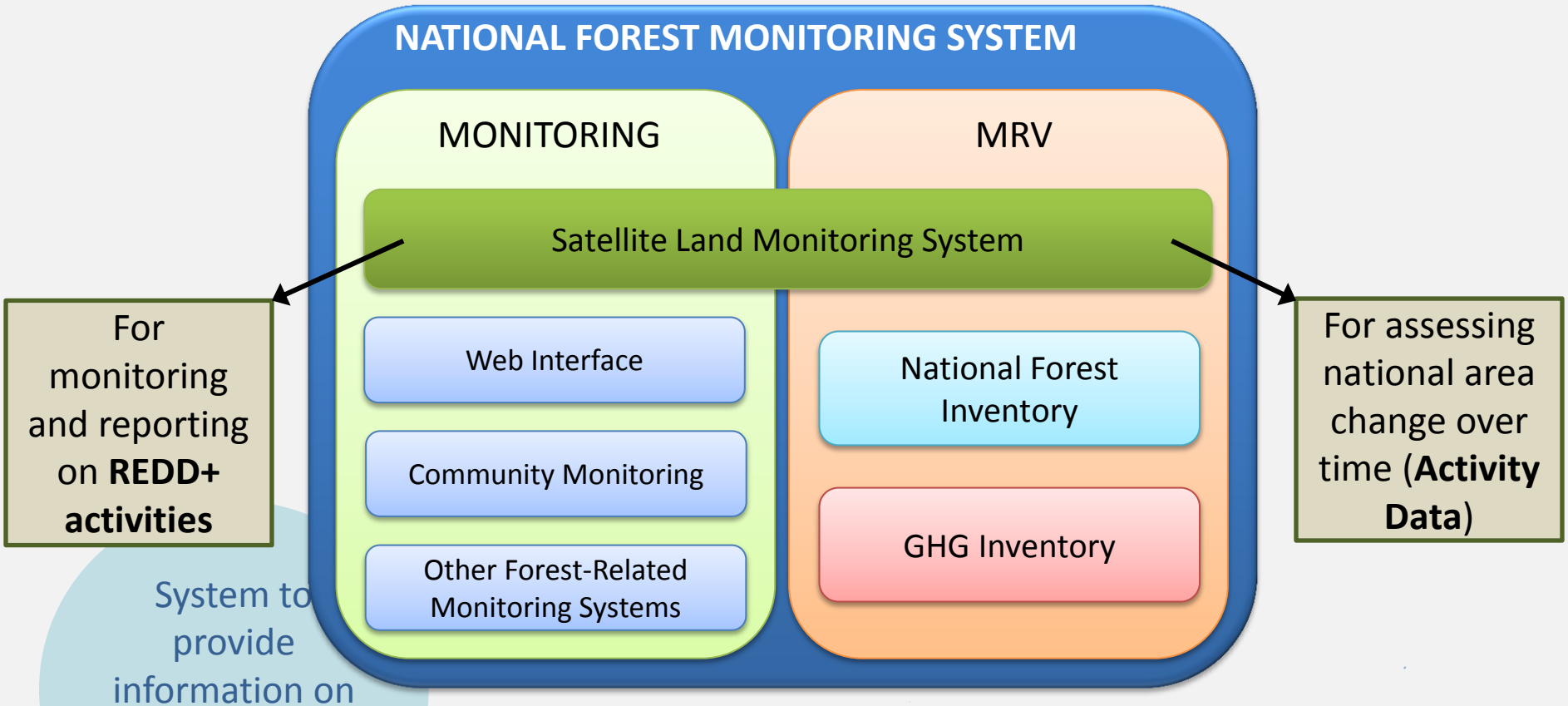
Breaking down the NFMS





Functions of the NFMS



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Why two functions?

- NFMS has two functions in REDD+ context:
  - Monitoring (M) of Policies and Measures (PAMs)
  - Measurement (the M of MRV) of emissions & removals
- Develop the NFMS in a stepwise approach through 3 Phases of REDD+
- Fully operational in Phase 3, to allow for positive incentives under an international mechanism

Monitoring function Objectives

- To deliver a comprehensive assessment of the outcome of REDD+ Policies and Measures (PAMs)
- To include carbon stocks plus all other information requirements to assess performance and safeguards under the Cancun Agreements e.g:
  - Forest health and condition, Biodiversity, Socio-economic functions
- To develop efficient, equitable resource allocation mechanisms
- To provide information necessary for non-REDD+ purposes, for wider forestry and land use sector objectives

Monitoring function Practice

- REDD+ policies and measures, implementation and performance
- Direct monitoring of forest carbon stocks, stock changes, due to PAMs
- Indicators to track implementation of a specific policy or measure – proxy indicators for forest carbon e.g.
  - Monitor volume of timber harvested through an SMF measure, as a proxy for impact on carbon
- Primarily ***domestic*** tool, to allow countries to assess and refine PAMs
- Use existing tools where possible (e.g. network of forest inspectors) and new tools where necessary (e.g. satellite remote sensing system)
- Harmonize existing tools with new tools and with newly required capacities for MRV

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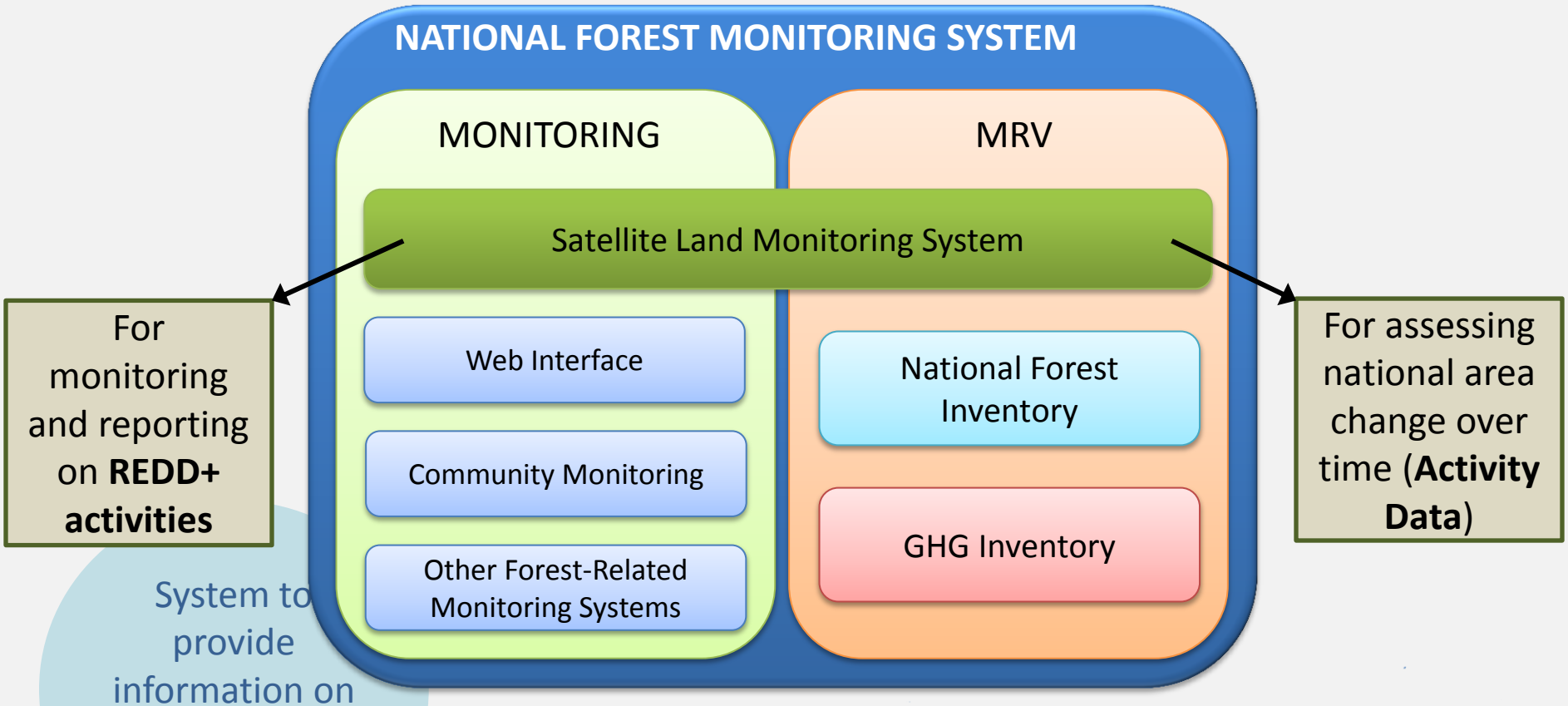
MRV within an NFMS

*"…establish, according to national circumstances and capabilities, robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of **national forest monitoring systems** that:*

- *Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;*
- *Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities;*
- *Are transparent and their results are available and suitable for review as agreed by the Conference of the Parties;"*

"Taking note of, if appropriate, the guidance on consistent representation of land in the Intergovernmental Panel on Climate Change Good Practice Guidance for Land Use, Land-Use Change and Forestry."

Functions of the NFMS



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Pillars of MRV

The monitoring function of NFMS can be defined only broadly. Its components will vary depending on national circumstances

The MRV function will always consist of three main components or 'pillars':

1. The satellite land monitoring system (SLMS)
   - To collect Activity Data (AD)
2. The national forest inventory (NFI)
   - To gather information for obtain emission factors (EFs)
3. The national GHG inventory (GHG-I)
   - To provide emissions & removals estimates for national report

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MRV according to IPCC guidance

FAO FIAT PANIS · UNDP Empowered lives. Resilient nations. · UNEP

EMISSION ESTIMATE

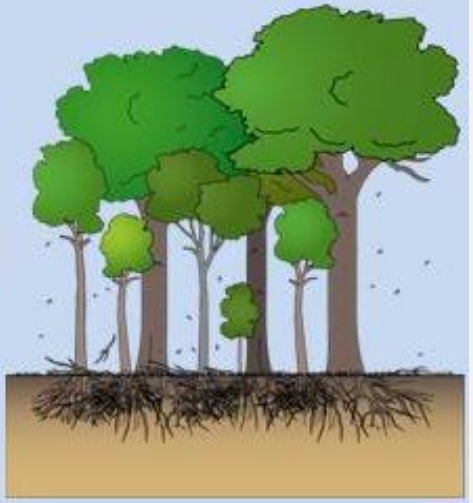
CO_2 equivalent

=

ACTIVITY DATA

X

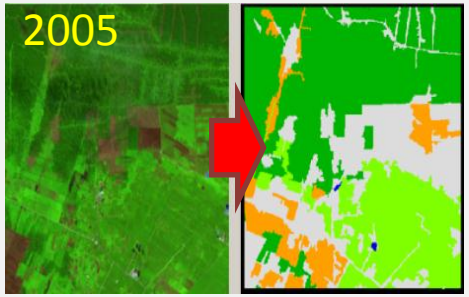
EMISSION FACTOR



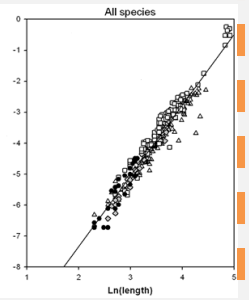
How 3 the pillars combine for MRV

Measurement

ACTIVITY DATA (SLMS)

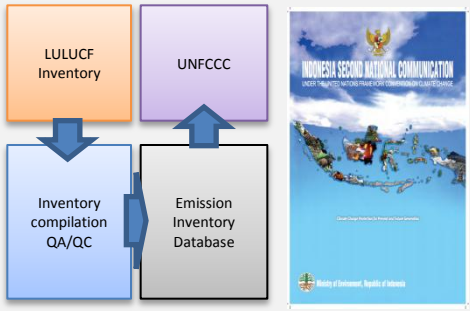


EMISSION FACTORS (National Forest Invetories)



Reporting

GHGs invetories



Verification

UNFCCC secretariat Roster of Experts

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Activity Data

- Data showing the extent and magnitude of a particular human-induced activity e.g.
  - Land area, Management systems, Materials used
- Three approaches to AD collection for land area, recommended by IPCC
  1. Net change in total areas of land categories within a defined spatial unit (e.g. a country)
  2. Tracks land use conversions between categories
  3. Tracks conversion between categories on a spatially-explicit basis

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Emission Factors

- Coefficients that quantify emissions or removals of GHGs per unit of a specific human-induced activity e.g.
  - tCO_2e per ha of forest cleared, per kg of fertiliser used, per household using improved cookstove
- An average value, a proxy for direct measurement, giving an ***estimate***
- IPCC identifies 3 'tiers' of methods to obtain estimates, with increasing accuracy
  1. Use IPCC default EF data (EF database)
  2. Apply country- or region-specific EFs which allow more disaggregated AD
  3. Regular, detailed inventories used to create very specific EFs and models

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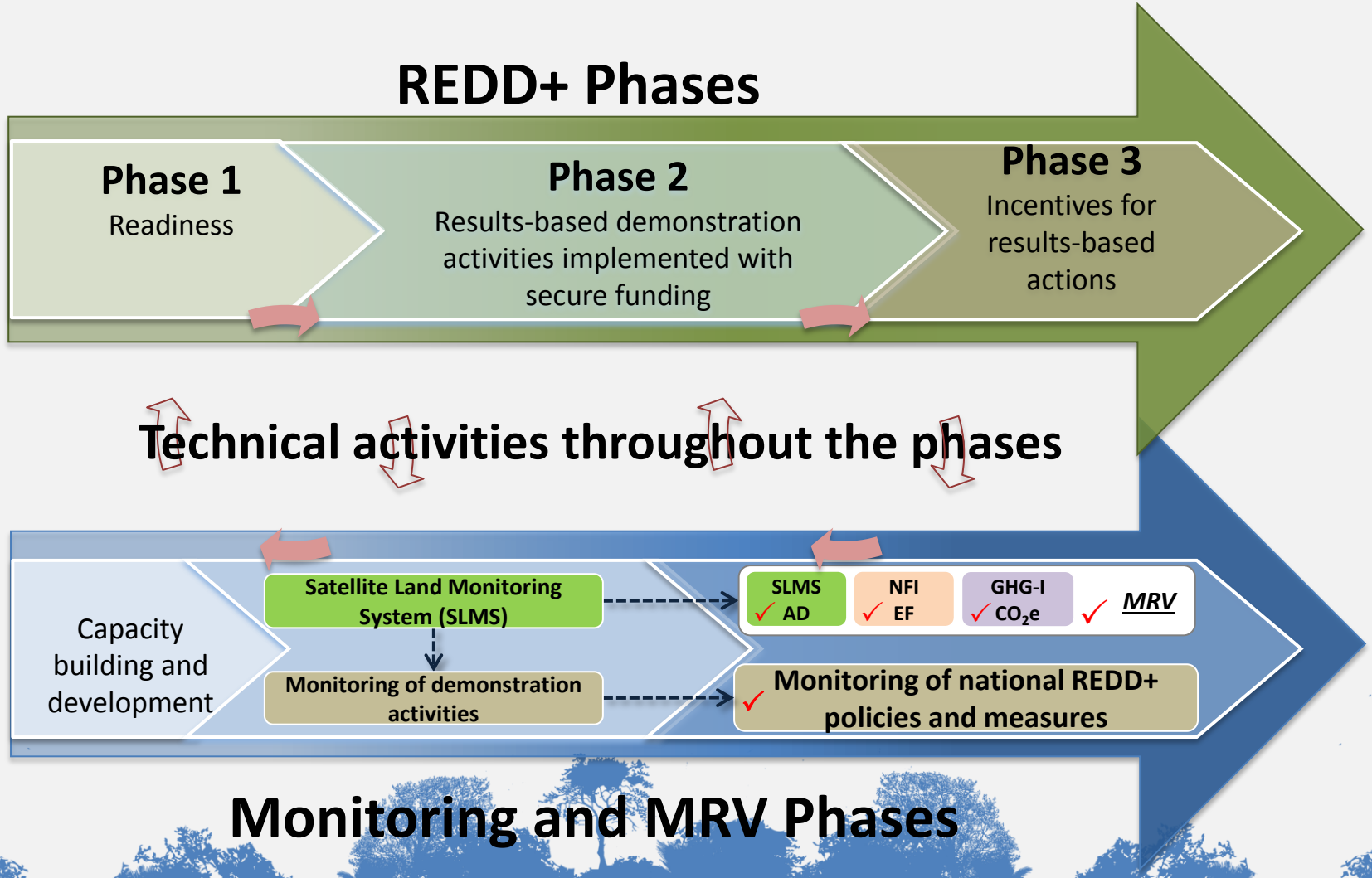
Phased implementation of the NFMS



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Principles for NFMS

- National Ownership
  - Countries must have full control over the NFMS development process, assuming full responsibility for effective operation through to implementation in Phase 3. Partner organisations should be limited to a TA and capacity building role.
- Build on existing systems and capacities:
  - Use, wherever possible, existing programmes, initiatives, institutions and infrastructure
- Consistency with UNFCCC process:
  - Fully integrate REDD+ strategies and NFMS with UNFCCC commitments, including for NAMAs

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Thank You

Website: http://www.un-redd.org