REDD+: CONCEPT AND CHALLENGES

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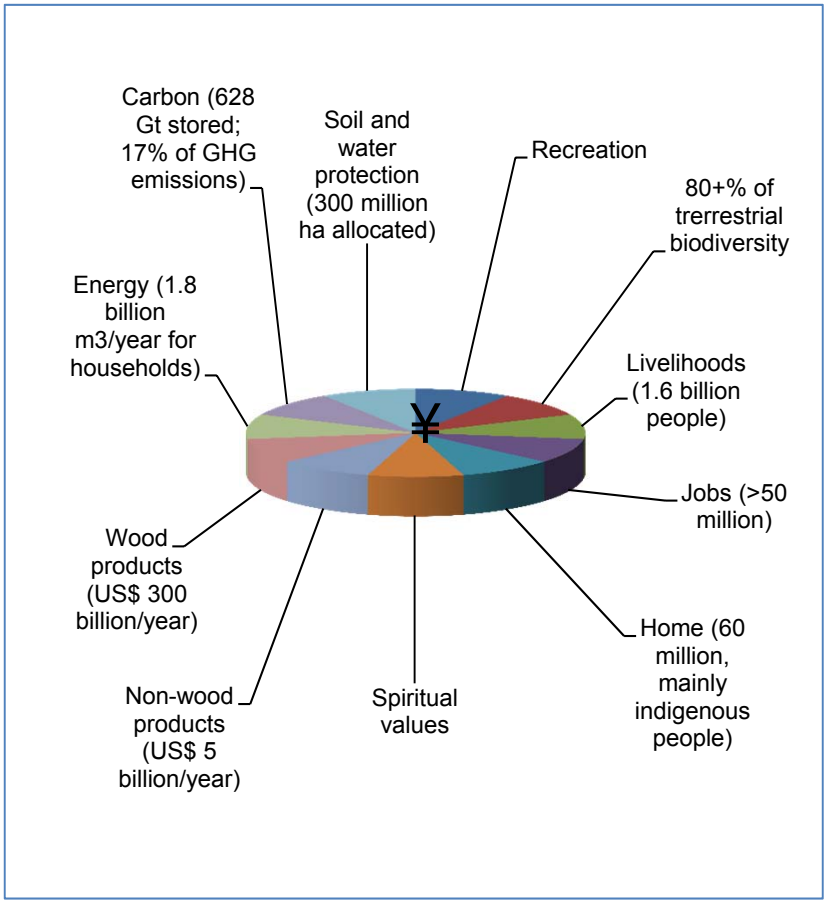
1. BACK GROUND

Current situation of forest

Climate change and foerst

1.1 Forests critical for human survival and well-being

- Natural forests provide a range of ecosystem services that are vital to human survival and well-being:
  - *Supporting services* – soil production and nutrient cycling;
  - *Provisioning services* – timber and non-timber products;
  - *Regulating services* – climate and hydrological regulation;
  - *Cultural services* – cultural, religious, recreational and scientific values.



Source: UNFF, 2009 (http://www.slideshare.net/CIFOR/the-un-forum-on-forests-facilitating-and-catalyzing-sfm-financing)

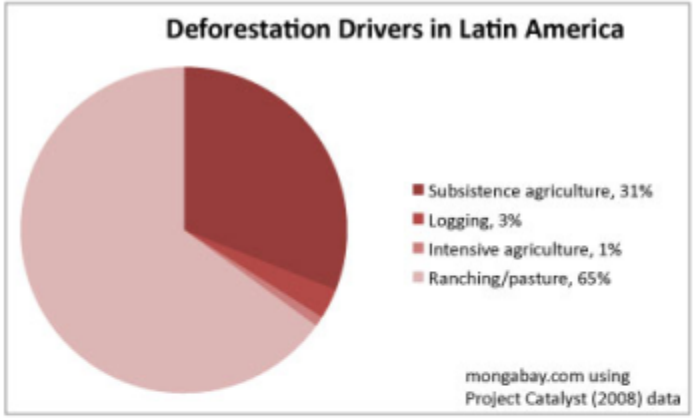
1.2 But, forests being destroyed at an alarming rate

- Almost half of Earth's original forest cover gone, much of it destroyed within past three decades (WRI 1997)
- Globally, on average 13 million hectares of forest were converted to other uses – mostly agriculture – or lost through natural events each year from 2000 to 2010 (FRA 2010).

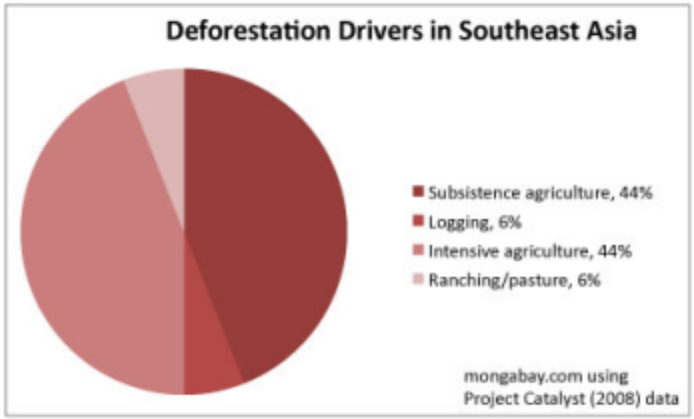
Ten countries with largest annual net loss of forest area 2000-2010 (FRA 2010)		
Country	Annual Change	
	(1,000 ha/yr)	%
Brazil	-2,642	-0.49
Australia	-562	-0.37
Indonesia	-498	-0.51
Nigeria	-410	-3.67
United Rep. of Tanzania	-403	-1.13
Zimbabwe	-327	-1.88
Dem. Rep. of the Congo	-311	-0.20
Myanmar	-310	-0.93
Bolivia	-290	-0.49
Venezuela	-288	-0.60

1.3 Why? Direct causes

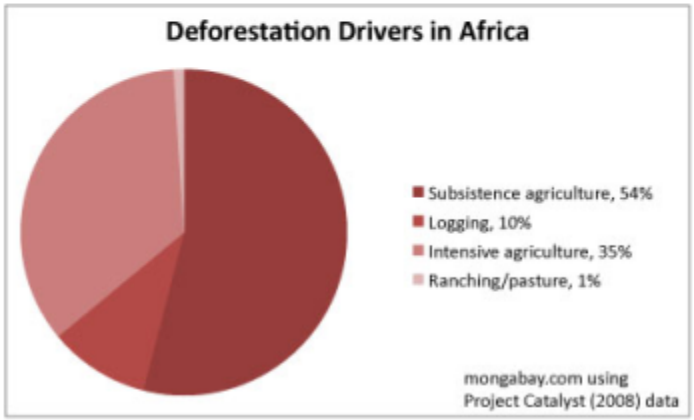
- Subsistence agriculture, Ranching/pasture
  - Local people clear forests for both shifting and sedentary agriculture.
- Logging
  - Governments allow selective logging, which is supposed to be sustainable, to generate revenue and employment. But,
  - Bad logging practices can severely degrade the forest, making it more vulnerable to fire
- Intensive commercial agriculture
  - Historically, small-scale farming and shifting cultivation have been seen as major causes of deforestation in the tropics, but now commercial agriculture and other drivers, not small farmers or shifting cultivators, are the main drivers of deforestation in the tropics



Drivers of deforestation in South America (Neotropics)



Drivers of deforestation in Southeast Asia



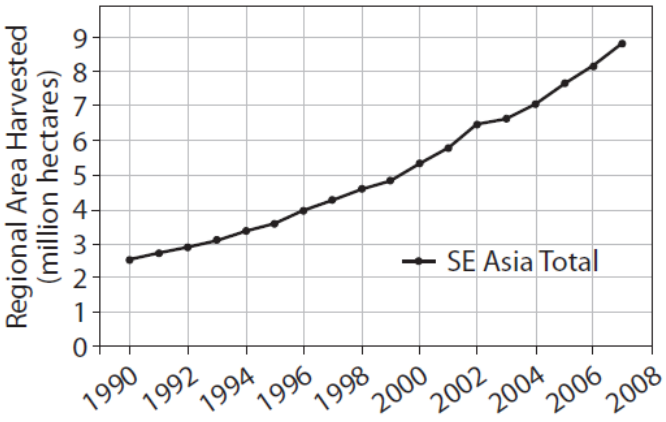
Drivers of deforestation in Africa

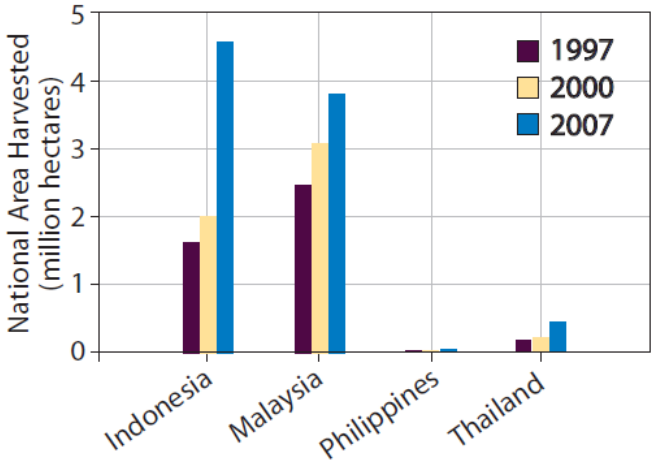
Example 1: Large-scale conversion to agriculture by investors

- ***Case study: Palm oil***

The harvested area of palm oil in Southeast Asia has tripled in just a decade. Compared to levels in 2000, global demand is predicted to more than double by 2030 and to triple by 2050. Over 70 per cent ends up in food, but the biofuels industry is expanding rapidly. Indonesia already has 6 million hectares of oil palm plantations, but has plans for another 4 million by 2015 dedicated to biofuel production alone. (Greenpeace)

The Rapid Growth in Area Harvested for Palm Oil, 1990–2007





Example 2: Legal, selective logging

- ***Case study – Selective logging in PNG***
  - The Forestry Act 1991 requires logging to be on a sustainable yield basis, i.e. logs should be harvested at a rate and using practices that allow the forest to sufficiently recover after logging to maintain harvest yields. But, of about 4 million ha being logged, only 193,000 ha is sustainably managed.
  - Politicians support logging to bring development to their communities, but the Forestry Authority has insufficient resources to control the logging. Each field inspector monitors ~ 87,000 ha of forest. In some cases, the inspectors have even had to rely on the logging companies for housing, office space and communications.

Example 3: Illegal logging

- ***Case study – Illegal logging in Cambodia***

Cambodian Reporter Found Murdered After Uncovering Illegal Logging

A Cambodian journalist who exposed illegal logging and forest crimes involving the local elite has been murdered, police said Wednesday, after his battered body was found in the trunk of his car. Hang Serei Oudom, 42, a reporter for the local Virakchum Khmer Daily newspaper, had been missing since Sunday afternoon and his body was found on Tuesday in northeastern Cambodia's Ratanakiri province, said Ek Vun, the police chief for Balung City, the provincial capital. Authorities are working to identify suspects involved in the murder of the reporter, who had recently written a string of stories about deforestation and timber smuggling in Ratanakiri, where logging and mining in recent years have taken a big toll on the environment.

Confiscated vehicles and equipment of illegal loggers, Seima Protection Forest, Cambodia

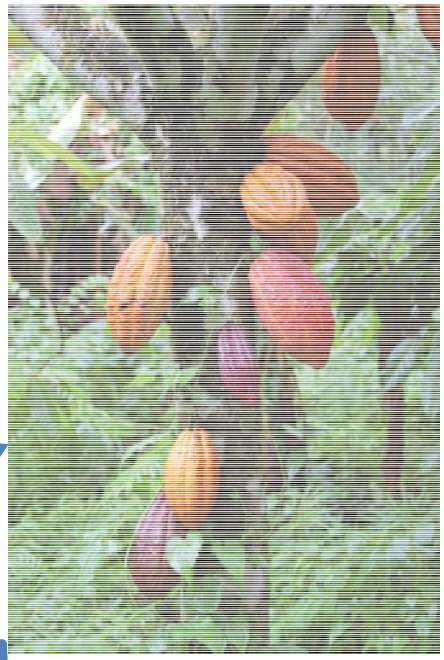
Example 4: Small-scale conversion by local people for shifting agriculture and cash cropping

Case study - PNG

Forest cleared to plant subsistence crops

Shifting agriculture puts food on the table

Village cocoa production and processing



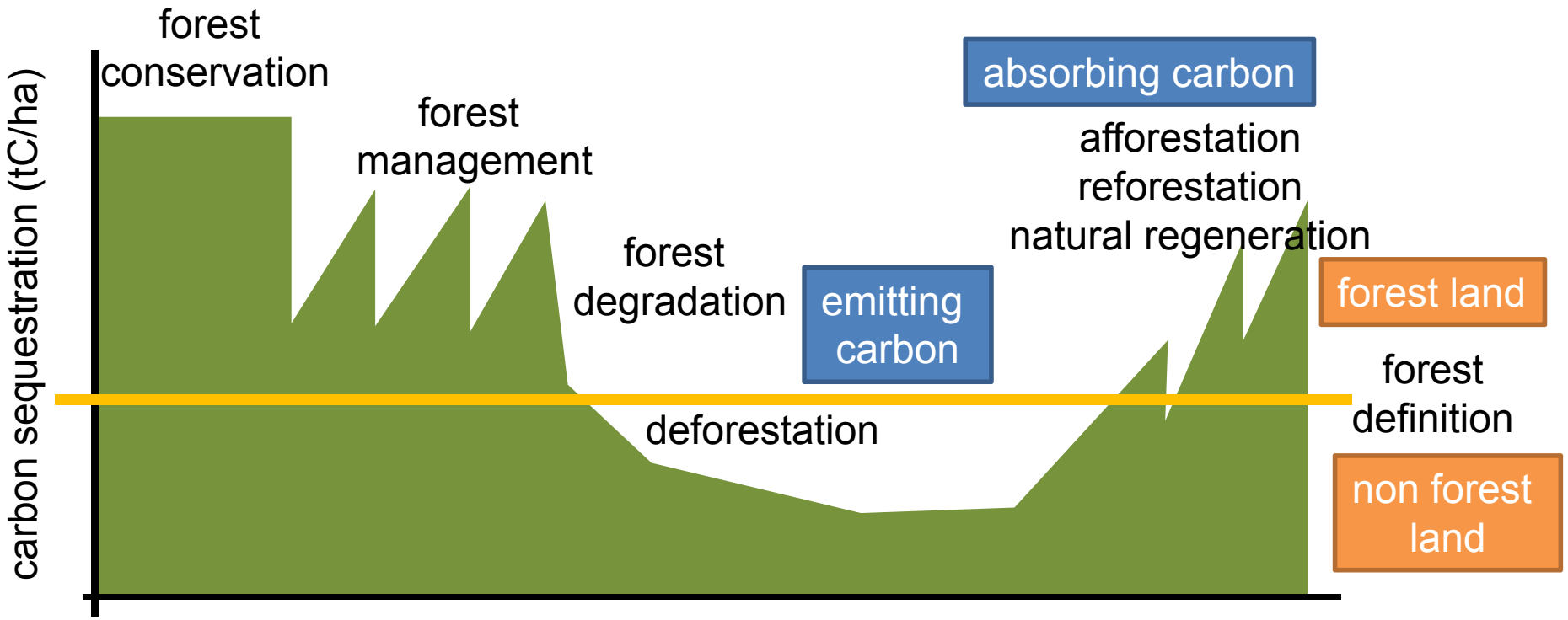
1.4 Underlying drivers

Economic drivers	• Demand for forest and agricultural products • Poverty • Market failures: Most forest values not recognised by markets
Governance drivers	• Government organizations responsible for protecting forests have insufficient resources • Powerful people persuade government officials to give them rights to forest land and resources • Corruption and lack of accountability
Demographic drivers	• Population growth • Migration (spontaneous and planned)
Policy and tenure drivers	• In some countries people must keep land clear of forests, otherwise the government will take the lands back • Local people are not given secure tenure to land and forests, so have no financial interest in long-term forest management

1.6 Role of the forest in Climate Mitigation

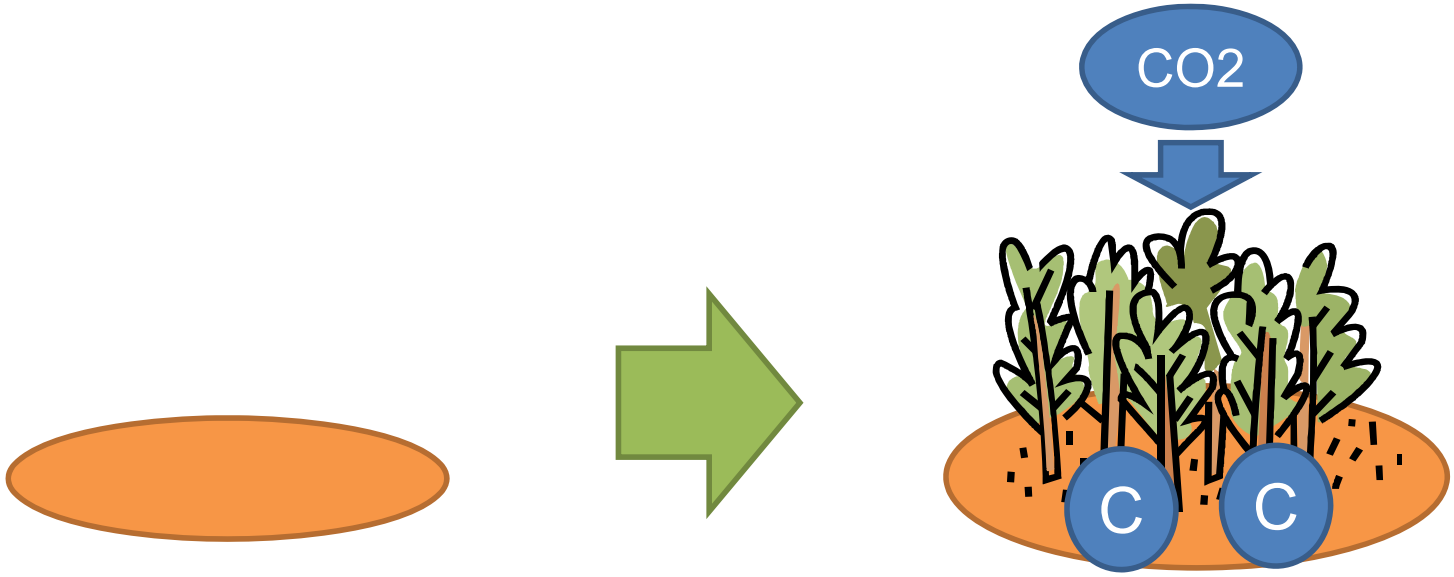
- Forest provides a variety of services
  - biodiversity
  - providing timber, food, medicine
  - regulating water cycle, purification of water
  - Carbon sequestration
- Afforestation, reforestation (A/R) & forest conservation projects in D-ing countiries have long been implemented in the context of development & environment protection and supported by the ODA
- Recently, the function of Carbon sequestration is focused
- Those activities are implemented in the context of climate change mitigation as forest carbon projects

1.7 Definition: forest land, non-forest land and process of land cover change



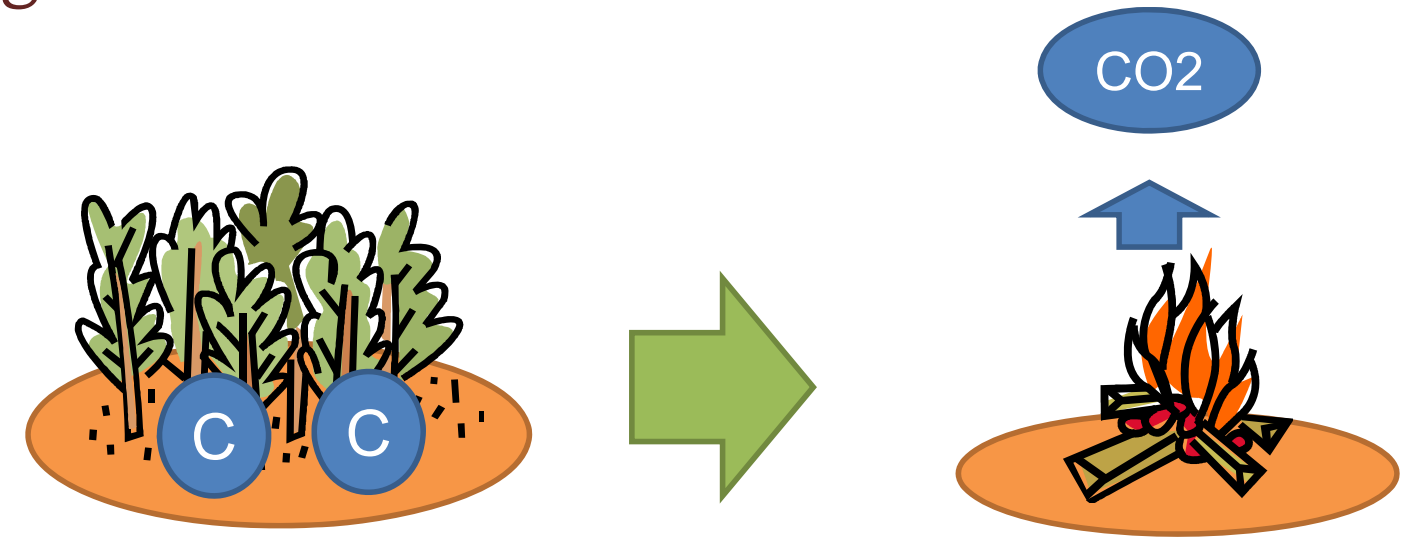
Afforestation and Reforestation

- Expansion of the forest area by planting trees = expansion of Carbon sink
- Contributing to reduce CO2 in the atmosphere and store Carbon as long as the plantation exists



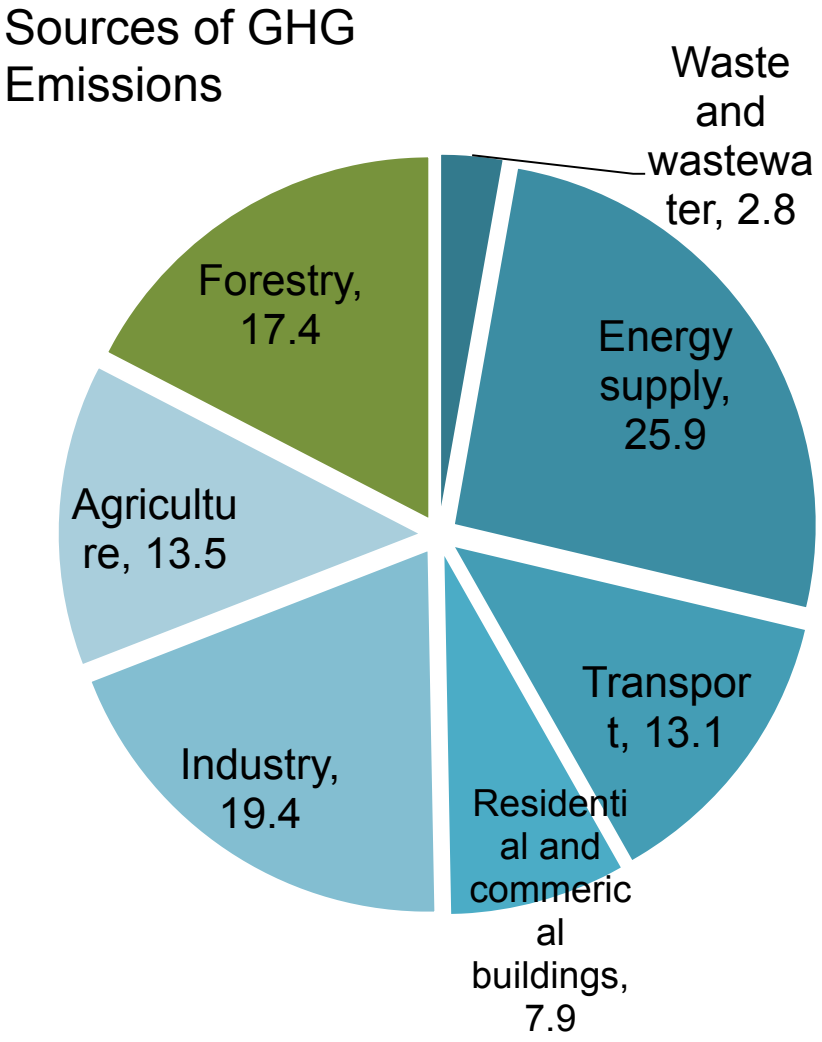
Deforestation and forest degradation

- Clearing the existing natural forests = loss of Carbon sink and emitting Carbon in the forest to the atmosphere
- Reducing deforestation and forest degradation by forest conservation contributes to the climate mitigation



1.8 Why tropical forests need to be better managed for climate change mitigation

- Forestry is the third largest source of greenhouse gas emissions– larger than the entire global transport sector (Eliasch 2008) = huge mitigation potential.
- About 96 per cent of deforestation emissions comes from developing countries in the tropics (Eliasch 2008).
- *Huge mitigation potential*
  Emission from deforestation in tropical regions: 3 billion tCO2/yr (Total emission from Japan = 1.3 billion tCO2/yr)



Source: IPCC, 2007

1.9 Climate mitigation measures in forest sector under the UNFCCC

Some mitigation measures in forest sector in developing countries were agreed at United Nation Framework Convention on Climate Change

- A/R CDM (Afforestation/Reforestation Clean Development Mechanism
  - During the 1st commitment period of the Kyoto Protocol (2008-2012), only afforestation and reforestation was accepted in the CDM (the Carbon market mechanism)
- REDD+ (Reducing Emission from Deforestation and forest Degradation)
  - COP13 at Bali, it was agreed to develop REDD+ as future mitigation measures and the negotiation to develop modalities is on-going.

2. REDD+

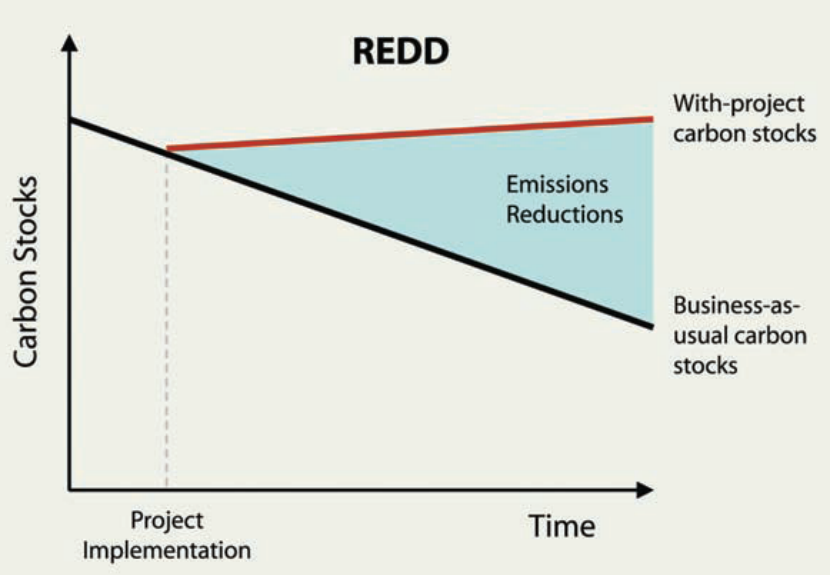
What is REDD+?

Current negotiation

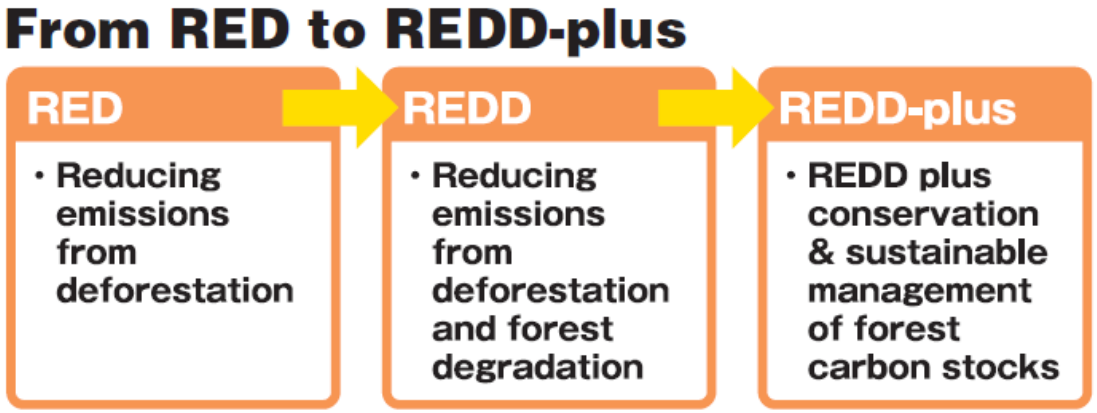
Basic rules

2.1 What is REDD+?

- REDD+ is a mitigation concept being negotiated by Parties to the UNFCCC.
- REDD+ puts a value on forests for the services they provide as carbon sinks and stores.
- REDD+ provides financial incentives for measurable / verifiable reductions in GHG emission from deforestation & forest degradation and/or increases in GHG removals by standing forests
- REDD+ will be financed based on performance

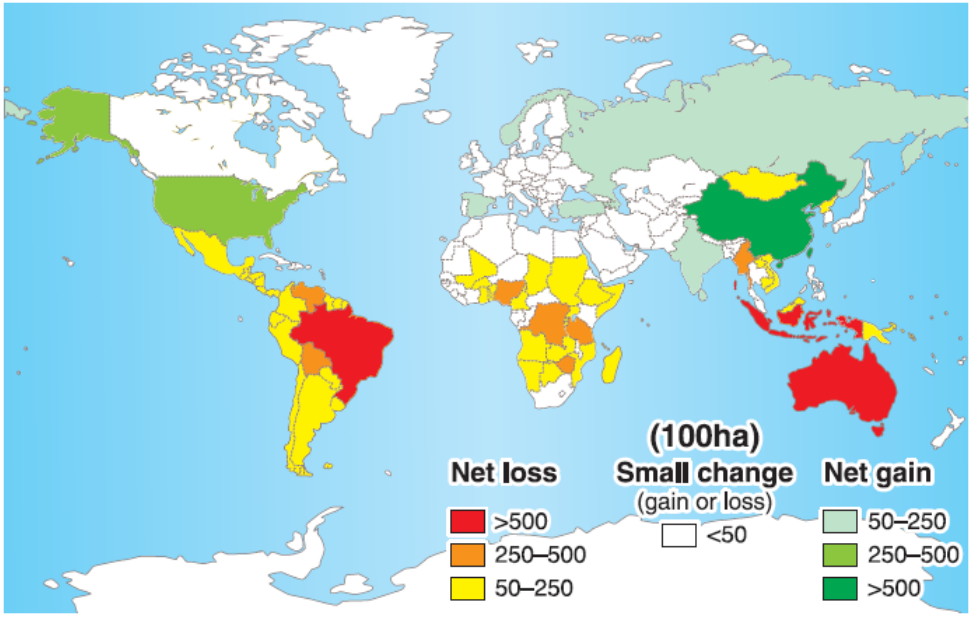


- REDD = reduced emissions from deforestation and degradation
- What is “+”
  - conservation of forest carbon stocks
  - enhancement of forest carbon stocks
  - sustainable management of forests
- Can be policies and measures, e.g. regulating best practices for timber harvesting, or projects in a specific geographic area



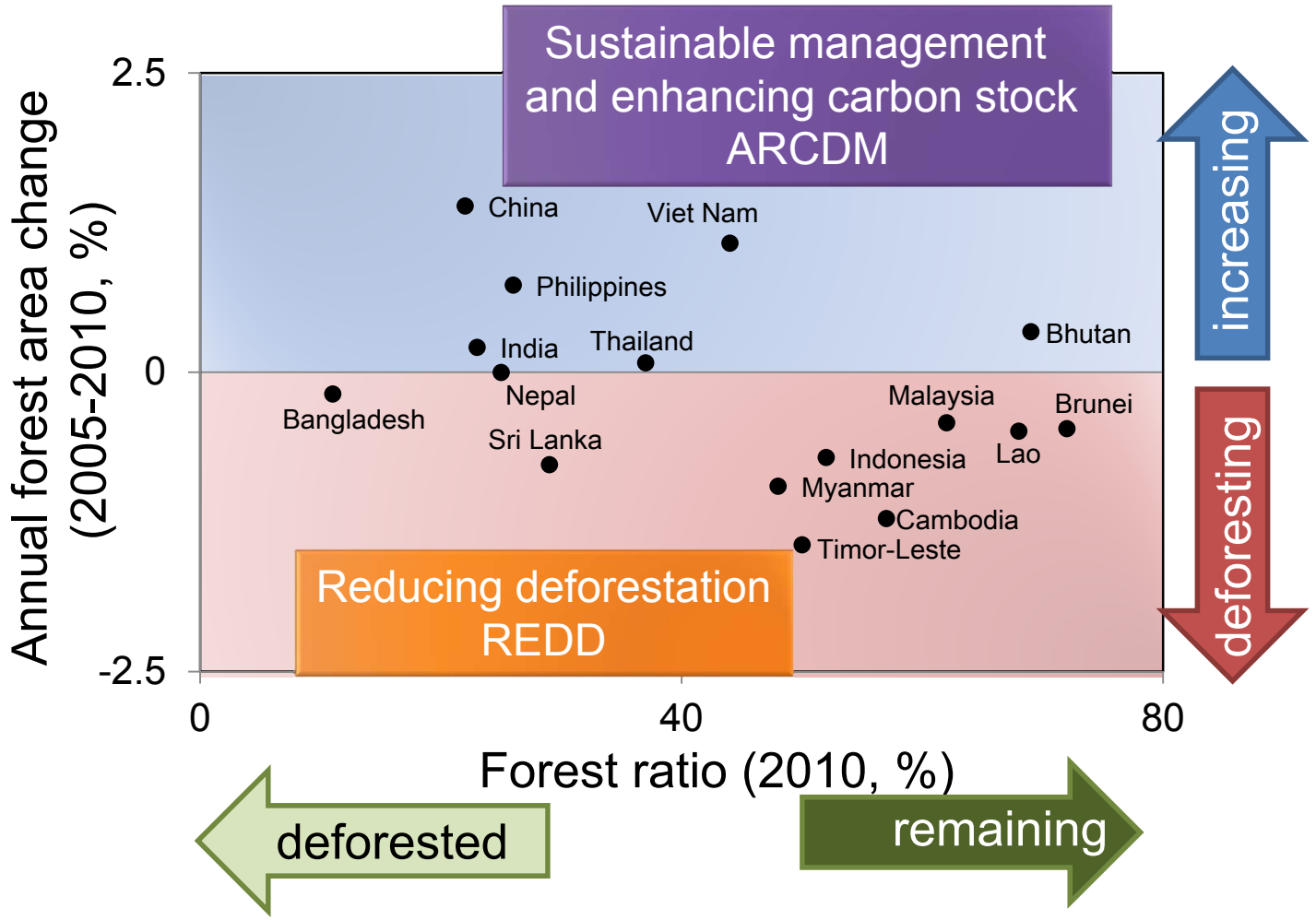
2.2 REDD+ is designed to be equitable: All forested developing countries should be able to participate

Annual change in forest area by country, 2005–2010

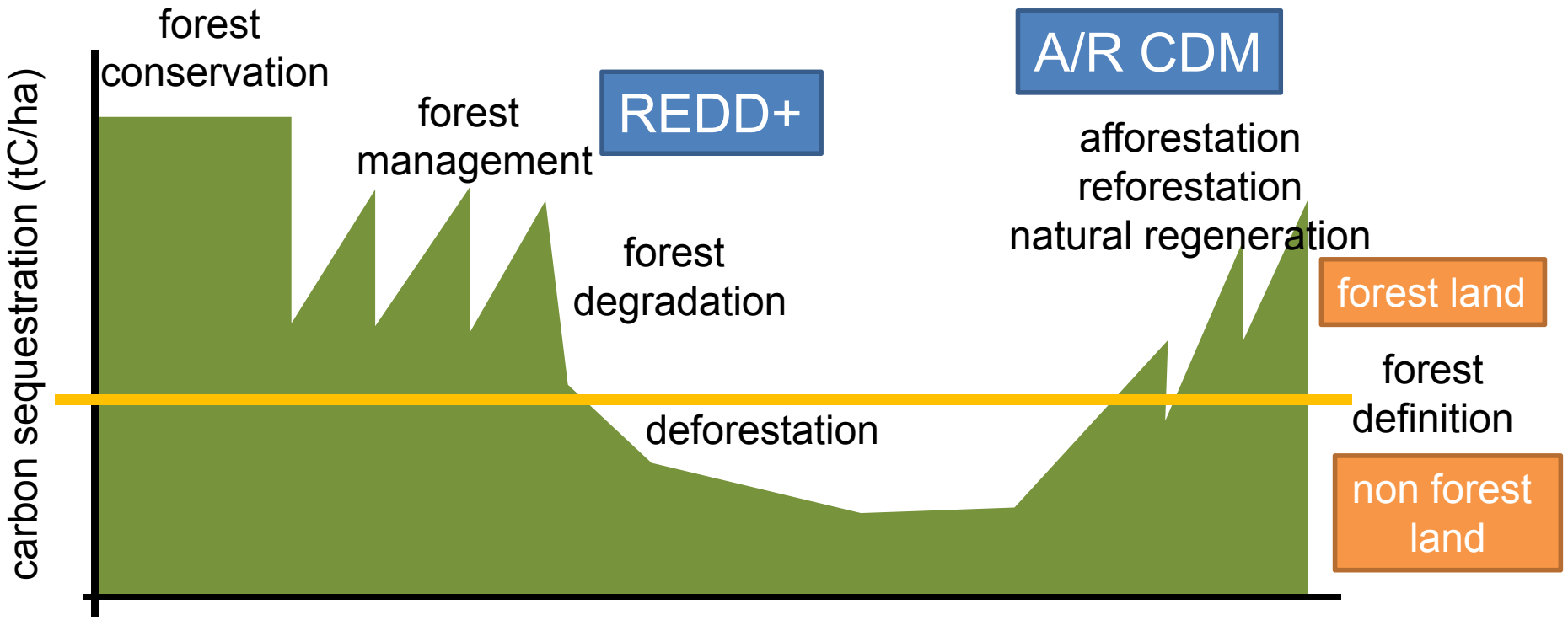


Source: Forest Resources Assessment 2010

- "+"included as some countries losing and some increasing their forest area
- Participation of all countries important to avoid international leakage

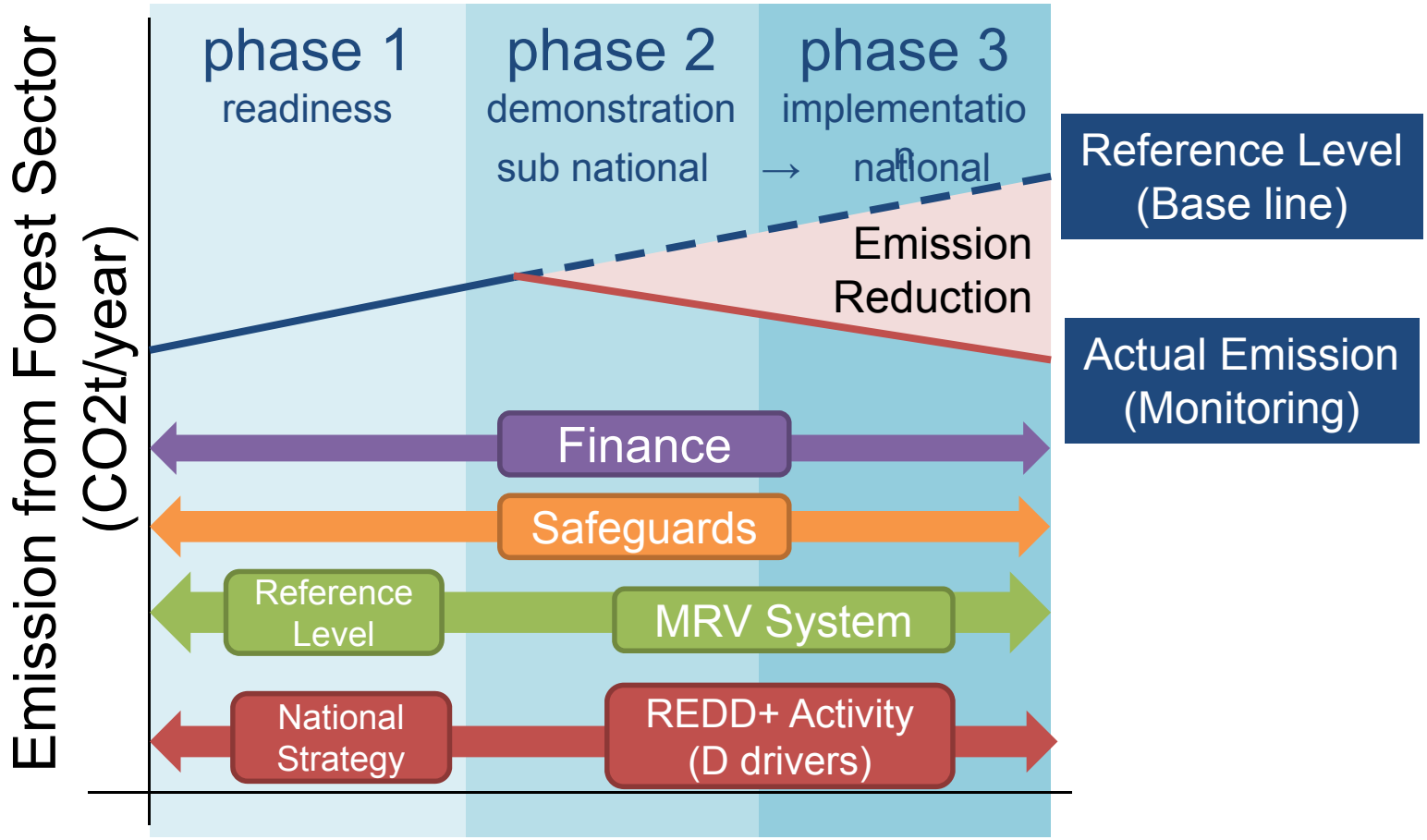


- Participation of all countries is important to avoid international leakage
- Reducing Emission from Deforestation and forest Degradation (REDD)
- “+”: conservation of forest C, sustainable forest management and enhancement of forest Carbon


forest
conservation
forest
management
REDD+
forest
degradation
deforestation
A/R CDM
afforestation
reforestation
natural regeneration
forest land
forest
definition
non forest
land
carbon sequestration (tC/ha)

2.3 Elements to develop for REDD+

(COP16)

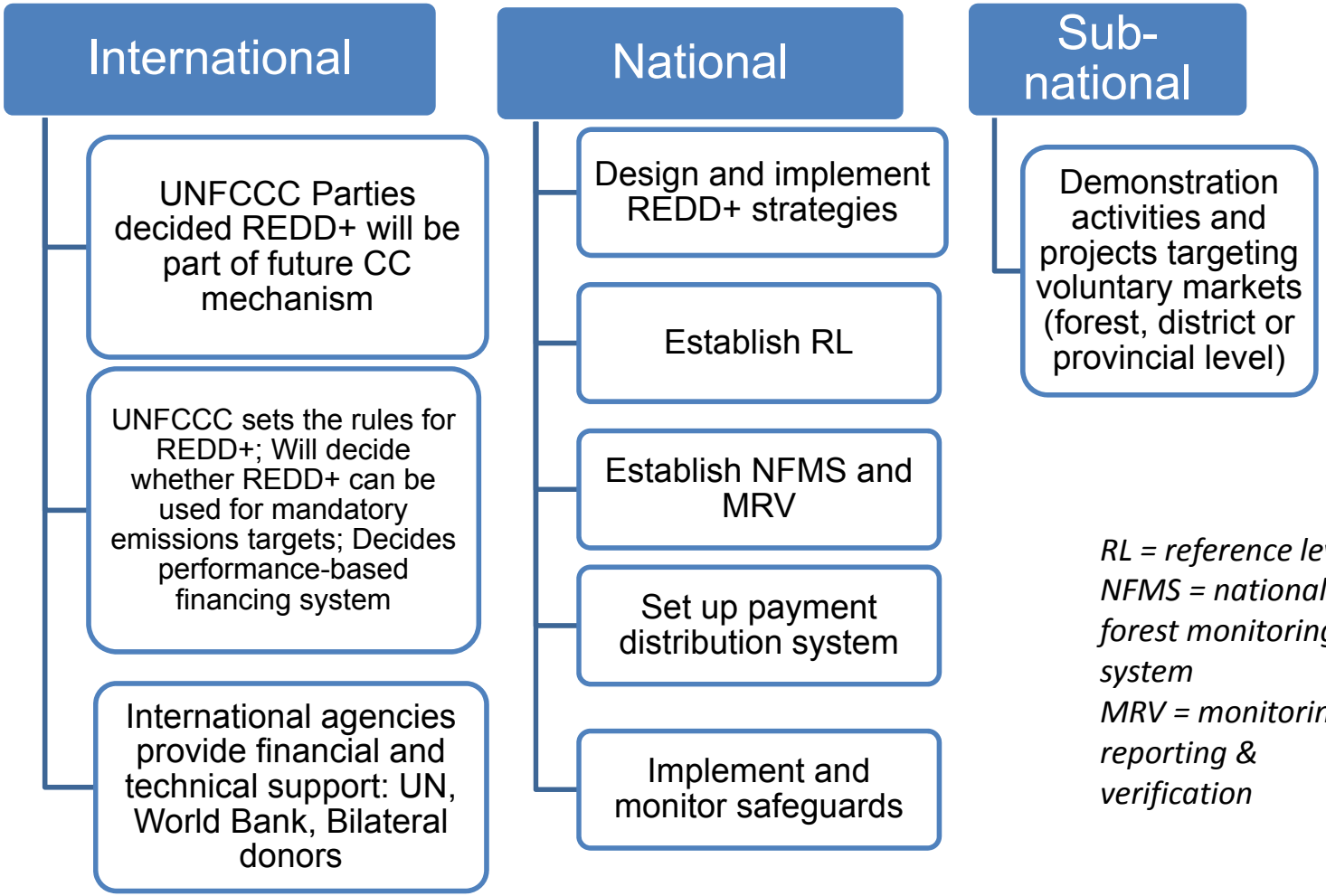


4 pillars of REDD+ negotiation

2.4 REDD+ is intended to (ultimately) be a national approach but can be implemented in phases (Decision 1/CP.16)

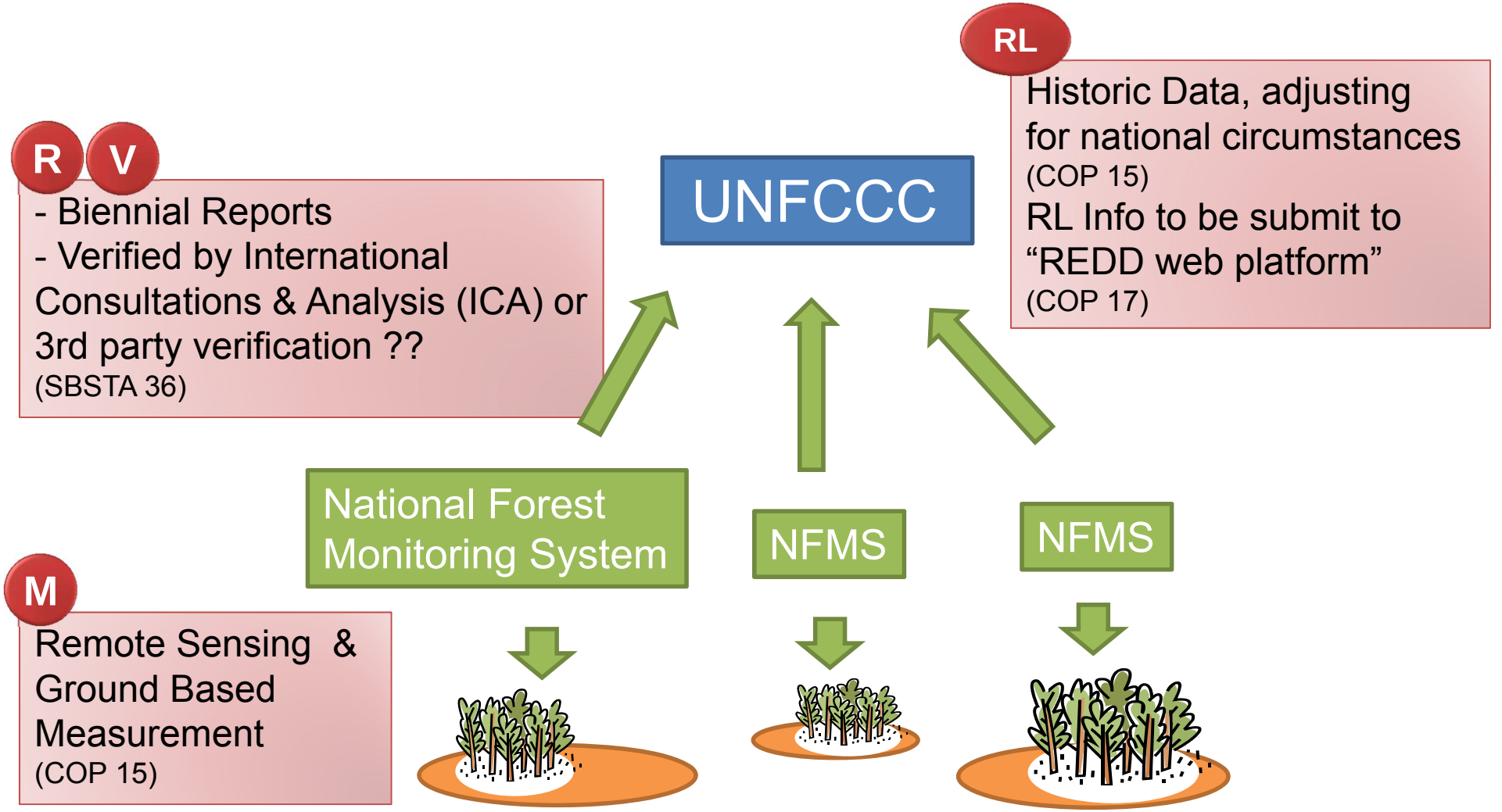
Countries are involved in elements of phase one. No country is close to phase three

2.5 REDD+ development is taking place at 3 levels



RL = reference level
NFMS = national forest monitoring system
MRV = monitoring, reporting & verification

2.6 MRV for REDD+: Progress in the negotiation



2.7 Forest Carbon Monitoring for REDD+

Emission from forest (CO2t/year/country)

Identifying the forest area change by periodic monitoring (±ha/year)

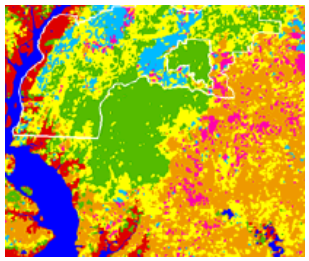
Ground Based Measurement
- Carbon density (CO2t/ha)
- "Uncertainty"
  - adequate sampling
  - increase n of sample plots
  - repeat measurement

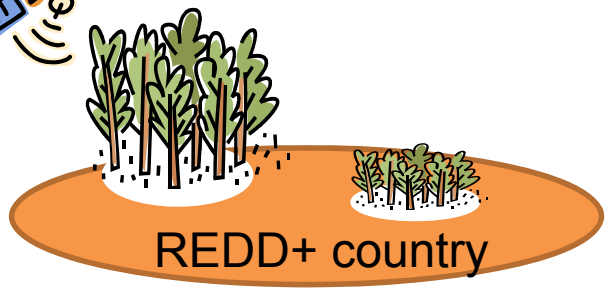
Remote Sensing
- Forest area (ha) by types
- RS can't accurately detect carbon density
- Forest carbon density varies among the forest types

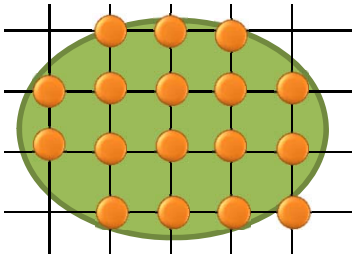
Forest map

dense forest

degraded







2.8 REDD+ has a set of safeguards (Decision 1/CP.16)

- Consistent with the objectives of national forest programmes and relevant international conventions and agreements
- Transparent and effective national forest governance structures, taking into account national legislation and sovereignty
- Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the UN General Assembly has adopted the UN Declaration on the Rights of Indigenous Peoples
- The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities
- Consistent with the conservation of natural forests and biological diversity, ensuring REDD+ does not lead to the conversion of natural forests, but are instead incentivizes the protection and conservation of natural forests and their ecosystem services, and enhances other social and environmental benefits
- Actions to address the risks of reversals
- Actions to reduce displacement of emissions (leakage)

3. COMMUNITY CARBON ACCOUNTING PROJECT

IGES Project

3.1 IGES Community Carbon Accounting (CCA) project

- To develop and test approaches to engage local communities in monitoring their forest carbon stocks

Laos (Sangthong District)
Partner: National University of Laos

Vietnam (Cao Phong District)
Partner: Vietnam Forestry University

Cambodia (Mondol Kiri)
Partners: RECOFTC, WCS, Forestry Administration

PNG (Madang)
Partner: FPCD

Indonesia (Central Java)
Partners DKN, ARuPA

3.2 Local participation is key to REDD+

Why local participation?

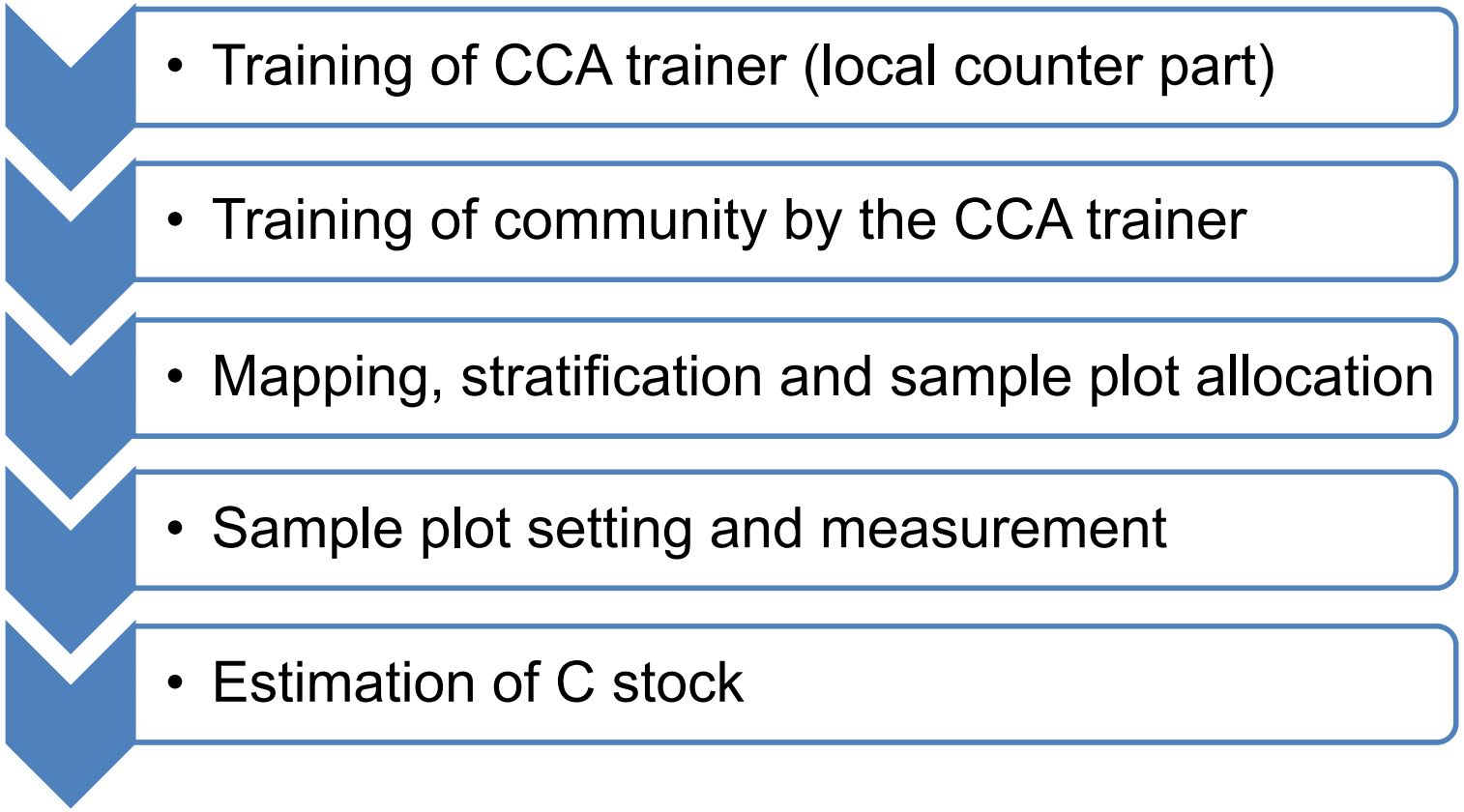
- Main stakeholder
  - 1.3 billion poor people living in and depending their livelihood on the forest
- Rights issues
  - human, land, resources…
- Sustainability of REDD+ activity
  - To address the deforestation drivers, the livelihood of the community should be improved
  - Participation increases the sense of ownership
  - Preventing leakage

3.3 “Local participation” in UNFCCC docs

- Monitoring & Reporting (COP15)
  - full and effective engagement of indigenous peoples and local communities
  - potential contribution of their knowledge
- Safeguards to be promoted in REDD+ (COP16)
  - Respect knowledge & rights of indigenous peoples & local communities
  - Full & effective participation of relevant stakeholders
  - Transparent & effective governance

3.4 Our approach

- Project level
- Each step, the role of community is identify
  - not only as labor



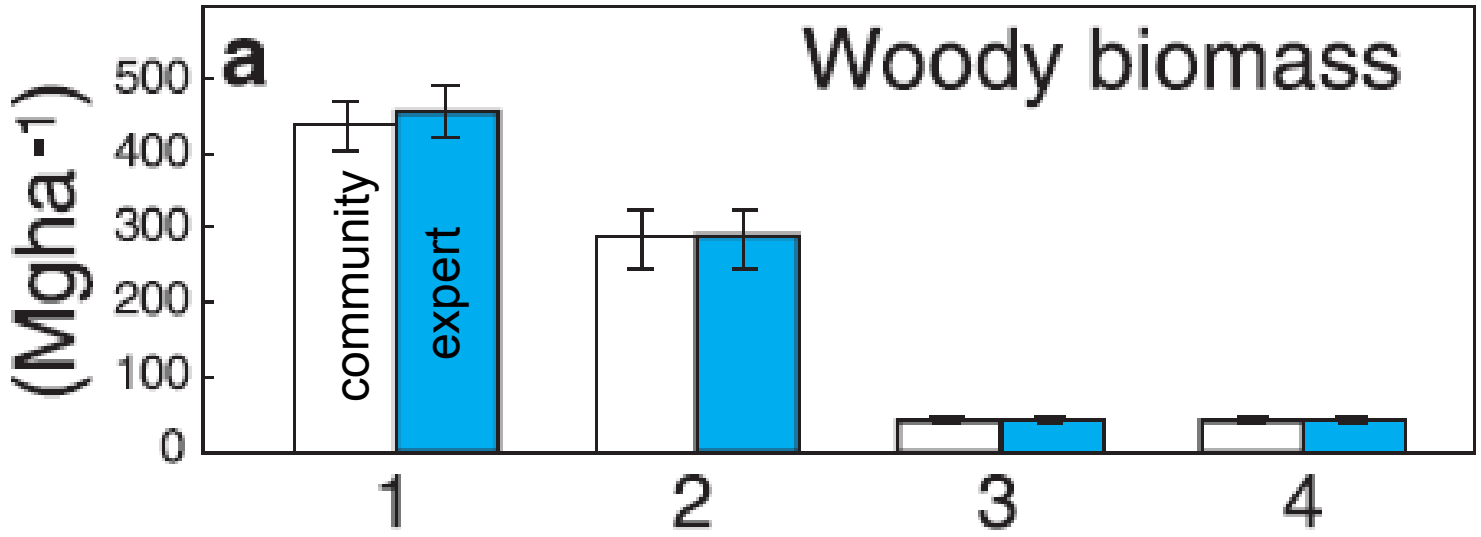
3.5 Our experience

- Community can adequately take and record forest measurement
  - Following the methods of IPCC GPG guidance
    - DBH, height, deadwood
    - Using the tools and equipment
  - Local knowledge on tree spp identification
- Community can do more than is often assumed
  - Sample plot setting
  - Using GPS
  - Data entry using PC

- Training of community trainers and well prepared training programs for the community is critical
  - Capacity building of the trainer for the necessary skills (measuring, mapping, data processing, teaching local people)
  - “Community participation workshop” was held for the partner in Vietnam to improve their understanding on the concept of “meaningful” participation
  - We are developing the manual of CCA training

Reliability in monitoring

- The result of forest monitoring by community and experts are not different
- Forest monitoring by trained community is reliable



Cost effectiveness

- Even considering the cost of training, community forest monitoring has advantage in cost

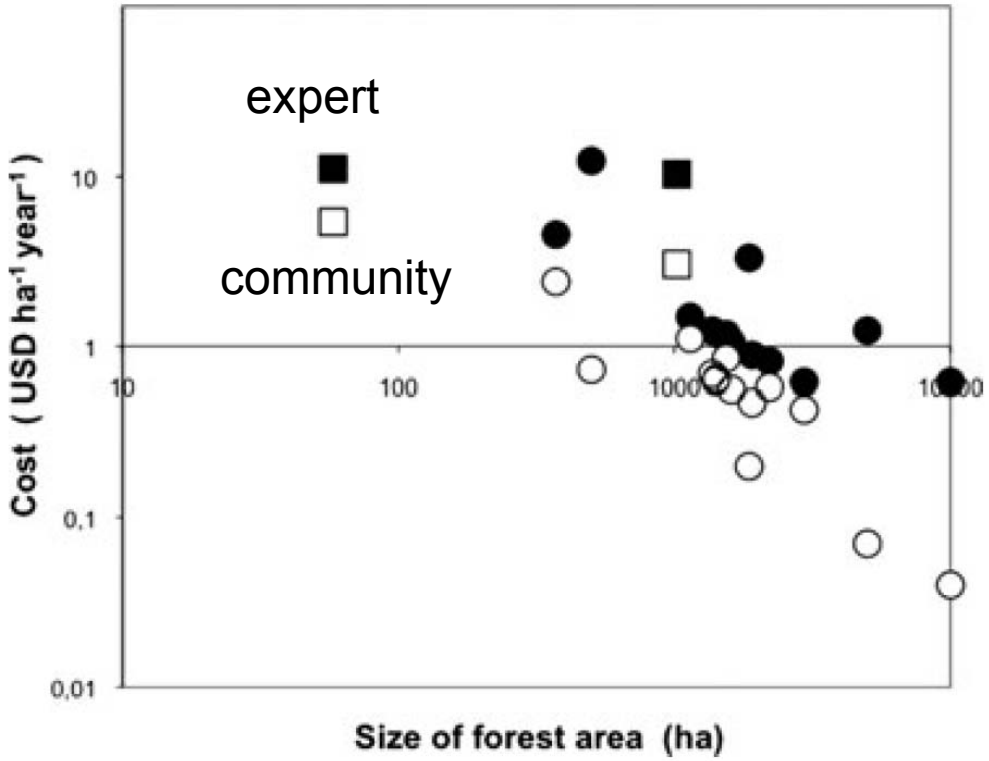
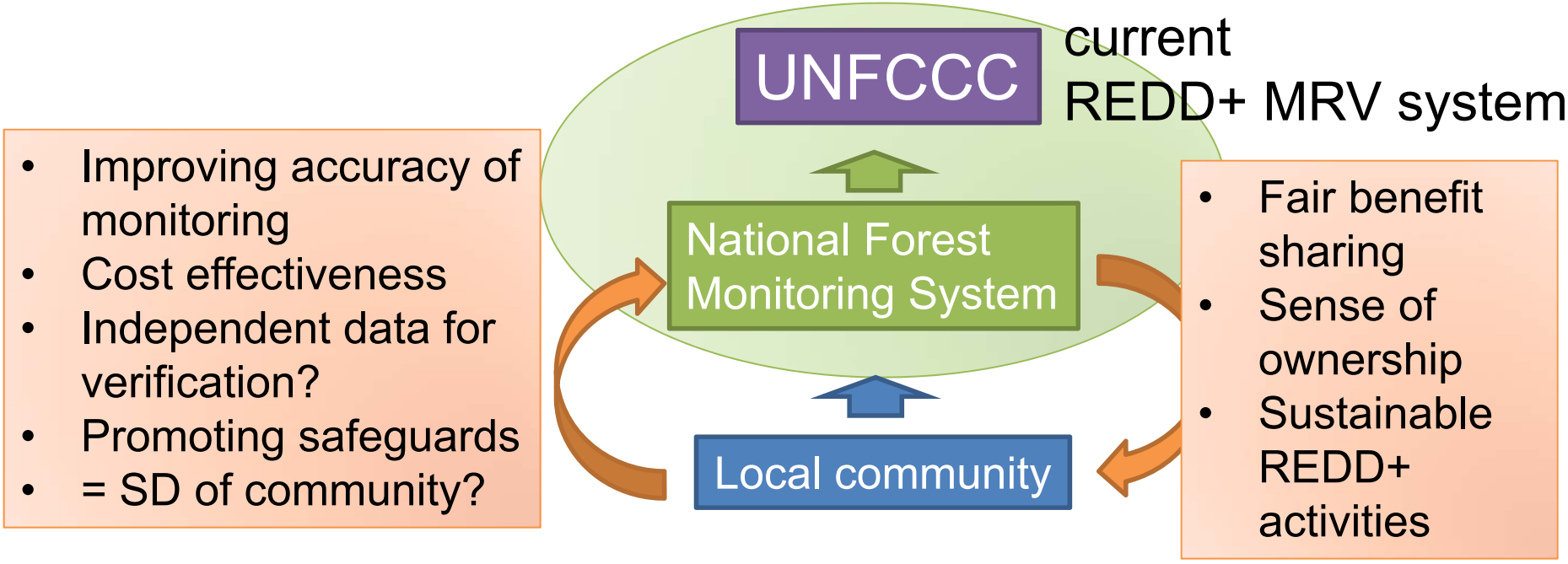


Figure 2 Comparison of the cost of monitoring the condition of forests by local people and trained scientists. Cost of measurements of woody biomass by community members (□) and professional experts (■) and of cut trees by community members (○) and professional experts (●) ($\log_{10}$ scales).

3.6 Next step

- Community monitoring would provide benefit to the REDD+ project
- What is the benefit for the community to conduct forest monitoring?
  - Information from the monitoring can be applied to their forest management
  - Important for the faire trading of carbon and timber
- How to feedback the monitoring result to the community?

- How can the community involve in REDD+ MRV at national level ?
  - REDD+ will be implemented at national level
  - Current NFMS doesn't consider community participation
  - Benefit exists
  - Need standards & guidelines of forest monitoring which local people can understand and implement
  - IGES: developing a guidebook for CCA



THANK YOU

Institute for Global Environmental Strategies (IGES)

- Forest Conservation Team, Natural Resources Management Group
- Main focus; REDD+, community forest management, illegal logging issues
  - REDD+ database
  - Community Carbon Accounting
  - Training manual for FPIC trainer

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