Forest Carbon Partnership Facility

Global Dialogues on R-PP Preparation

World Bank Team

Forest Carbon Partnership Facility

Introduction to the FCPF

Benoît Bosquet

R-PP Resource Session

January 27, 2010

Main Achievements to Date

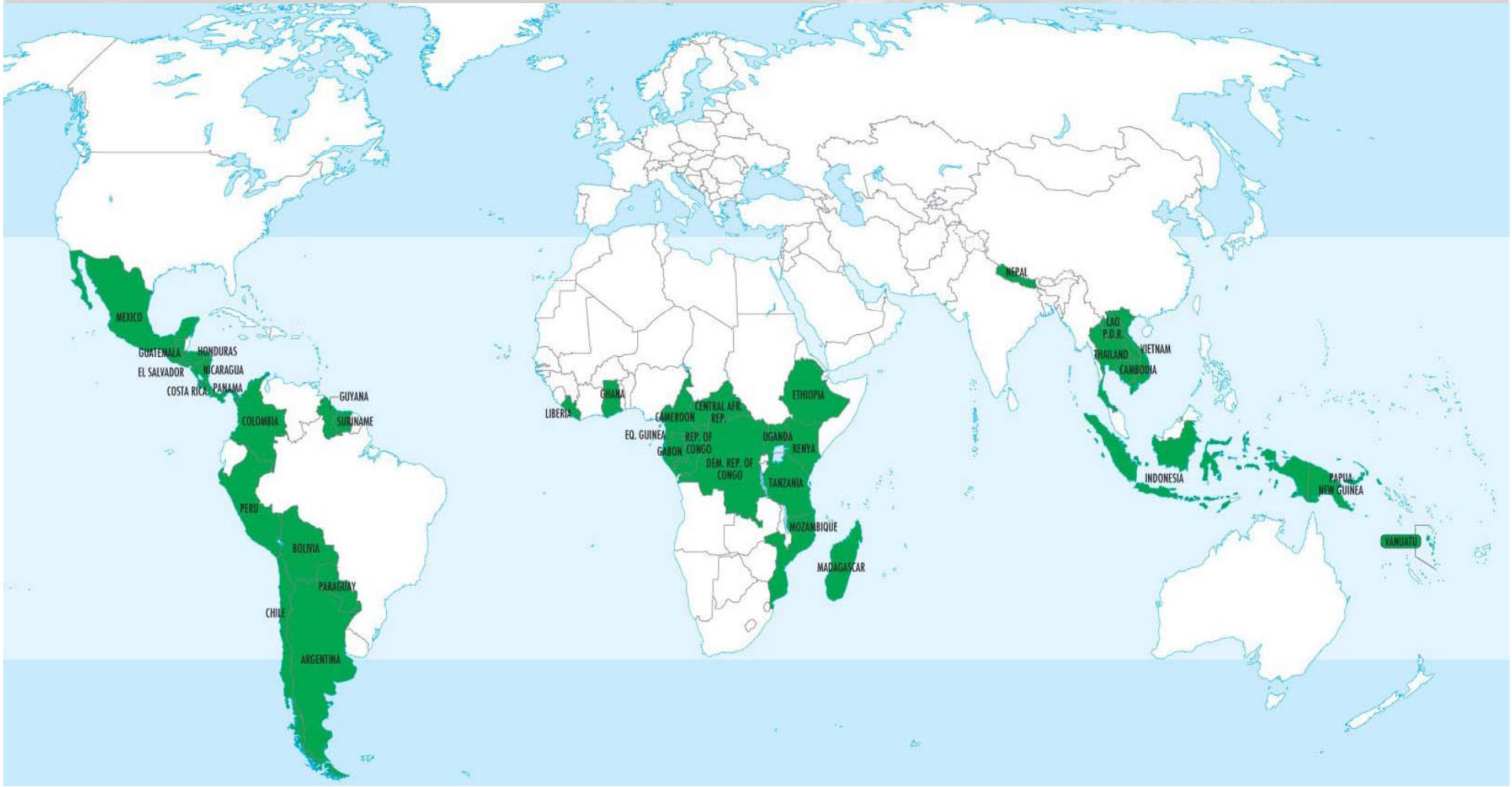
FCPF established collaborative partnership & transparent platform for meaningful exchanges on REDD+

- Pioneered REDD readiness preparation process: R-PINs, R-PPs, technical review
- Most countries now actively preparing for readiness
- Due to high demand, REDD Country participation increased from 0 to 20 to 37

- 37 REDD Country Participants
- 11 Donor Participants
- 5 Carbon Fund Participants
- 6 Observers
- Readiness fund : $112 m
- Carbon Fund: $55 m

www.forestcarbonpartnership.org

37 REDD Country Participants Selected



Second Participants Committee (2009-2010)

REDD COUNTRIES

Argentina
Colombia
Costa Rica
DRC
Gabon
Ghana
Kenya
Mexico
Nepal
Panama
Papua New Guinea
Suriname
Tanzania
Vietnam

OBSERVERS

Forest-Dependent Indigenous Peoples,
Private Sector,
International Organizations,
NGOs,
UNFCCC Secretariat,
UN-REDD Programme

CONTRIBUTORS

AFD
Australia
Denmark
European Commission
Finland
Germany
Japan
Netherlands
Norway
Spain
Switzerland
The Nature Conservancy
United Kingdom
United States

Readiness Organization

- What does it mean to 'do REDD'?
- Created templates/processes to facilitate Readiness:
  - Process of country submissions and reviews:
    - Readiness Preparation Idea Note (R-PIN)
    - Readiness Preparation Proposal (R-PP)
    - Readiness Package (R-Package)
  - Reviews by
    - Technical Advisory Panel
    - World Bank team
    - Participants Committee + Observers
  - Application of environmental and social due diligence framework
    - Strategic Environmental and Social Assessment (SESA)
  - Consultation and participation guidance

Readiness Activities in the FCPF (1)

- Readiness activities under Readiness Fund are limited to early planning, mostly analytical work and system design
- Two phases:
  1. Formulation of Readiness Preparation Proposal (R-PP)
  2. Readiness Preparation (Readiness Package preparation)

Readiness Activities in the FCPF (2)

- Phase 1: Formulation of R-PP
- Contents of R-PP:
  - Organizational arrangements for REDD
  - Consultation and Participation Plan
  - Diagnostic of causes of deforestation and forest degradation
  - Terms of reference for:
    - REDD strategy & implementation framework
    - Reference scenario
    - MRV design
  - Budget & timeline
- R-PP template available at www.forestcarbonpartnership.org

Readiness Activities in the FCPF (3)

- Phase 2: Readiness Package preparation
- Contents of Readiness Package:
  - REDD+ strategy & implementation framework
  - Reference scenario
  - MRV system
  - National REDD+ management arrangements

The TAP's Role

- Assesses if certain criteria and standards are being met; not to assess appropriateness of standards and criteria nor make recommendations about funding
- Recommendations are meant to assist the countries to meet the criteria and standards set
- Plays a supportive role in the process towards Readiness and functions in a collaborative manner
- Recognizes the difficulties (for the countries and the TAP) inherent in the process (e.g., to identify precisely what is needed to deliver at this stage)
- Recognizes that some of the issues are much broader than can be fully solved in an R-PP

The World Bank's Role

- World Bank fulfills several roles:
  1. Trustee
  2. Secretariat through Facility Management Team
  3. Implementing Entity through WB Regional operations (provision of Readiness services)
- This may evolve in the future

FCPF: Readiness Services

- As implementing entity, Bank provides two types of support:
  - Readiness preparation support: advice, feedback
  - Fiduciary and safeguard support
    - Procurement
    - Financial management
    - Environmental and social safeguards

THANK YOU

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www.carbonfinance.org

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Overview of R-PP components

1a: National Readiness Management Arrangements

Neeta Hooda

R-PP Resource Session

January 27, 2010

Key Components of R-PP

1. Organize and Consult
   - National Readiness Management Arrangements
   - Stakeholder consultation and Participation
2. Prepare the REDD Strategy
   - Assessment of Land use, Forest policy and Governance
   - REDD Strategy Options
   - REDD Implementation Framework
   - Social and Environmental Impacts
3. Develop a Reference Scenario
4. Design a Monitoring System
   - Emissions and Removals
   - Other Benefits and Impacts
5. Budget and Schedule
6. Design a Program Monitoring and Evaluation Framework

1a:National Readiness Management Arrangements

Purpose:

- Manage and co-ordinate the REDD readiness activities whilst mainstreaming REDD into broader strategies such as national development and low carbon strategies, country assistance strategies and poverty reduction strategy
- The management arrangements should feed into overarching national climate change mitigation agenda

What to consider in Readiness Management?

- The co-ordination and management of :
  - Readiness Process
  - Technical aspects of readiness
  - REDD Implementation
- Strengths & comparative advantages of various organizations and agencies
- Representation of key stakeholders (civil society organizations, forest dependent people and Indigenous peoples)
- Decision making power

Design of REDD Working Group

Consider the following:

- Composition of the group
  - Cross-sectoral and key stakeholder representation
- Clear and formal mandate
- Ensure it is endorsed by the highest body in the Government
- Division of work i.e. roles and responsibilities for achieving the objectives of the R-PP
- ToRs for the working group and sub groups, if any
- Reporting back mechanisms

Lessons Learnt

- Representation of all relevant stakeholder groups is essential
- Legitimacy of decisions of the REDD WG depends on its constitution
- Clear TORs for REDD Steering Committees (legal underpinning, concurrence of all stakeholders)
- Interdisciplinary working groups seems to be a good way develop Readiness ownership

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1b: Stakeholder Consultation and Participation

Haddy Jatou Sey

R-PP Resource Session

January 27, 2010

1b Stakeholder Consultation & Participation
Why the importance of Inclusion?

- Role of forest peoples in developing sustainable REDD strategies and policies
- Historically stewards of the forest
- Customary land tenure rights
- Participation of forest peoples in REDD
- Indigenous knowledge systems
- Need for sustainability
- Equitable benefit sharing

Component Ib: Stakeholder Consultation and Participation

Specific objectives:

- Establish a channel through which beneficiaries can access information and participate in the design and implementation of REDD activities
- Improve the quality of decision-making processes by giving voice to and capturing the experiences of civil society organizations, Private Sector, forest-dependent indigenous peoples and other forest dweller communities
- Encourage the development of REDD Management Frameworks that are socially inclusive, transparent
- Strive towards equitable outcomes of REDD policies and activities, and increase the chances that forest-dependent IPs & other forest dwellers benefit from the revenues from REDD
- Support improvements in forest governance

Principles of Consultation & Participation

Principles of Effective Consultations and Participation

- Consultations should be premised on and facilitate access to information
- Consultations should facilitate meaningful participation
- Consultations should facilitate dialogue, exchange of information and consensus building
- Recognizing diverse stakeholders and strengthen the voice of vulnerable groups especially IPs and forest dwellers
- Mechanisms for grievance, conflict resolution and redress must be established and accessible during the consultation process, and throughout the implementation of REDD policies and measures.
- Linking consultation processes to planning and decision-making processes
- Avoid Expectation

Organization of the Consultation & Participation Outreach Plan

Readiness Mechanism

1st Phase (Preparation of the R- PP

REDD countries develop a Consultation Participation and Outreach Plan

- Preparation of Plan
- Identification of stakeholders
- Initial consultations on the R-Plan

2nd Phase (Implement. of the R-PP

REDD countries implement the Consultation and Outreach Plan

- Carry out continued consultations
- Stakeholder analysis
- Implement communications strategy
- Results dissemination

Implementation of the Consultation and Outreach Plan would be one of requirements of the Readiness Package

Organization of the Consultation &participation Outreach Plan

Stages in Consultation & Participation:

Formulation Phase of RPP:

- Consultation is a phased approach, requiring targeted consultation with key stakeholders on certain activities within the RPP
- Initial consultation with relevant stakeholders on the Activities outlined in the RPP with the aim of seeking broad community support for the plan (technical aspects of REDD, policy & institution
- Identify processes and systems in place for effective and inclusive consultation and participation
- Importance of setting up REDD National Committee (coordination)
- Consultation on key environmental and social issues pertaining to REDD and the RPP
- Setting up communication channels, feedback loop
- Setting up conflict resolution mechanisms at national and local level to redess grievances

Implementation Phase: implementing the work proposed in RPP

- Countries implement the consultation and participation plan with relevant stakeholder
- Countries implement the strategic environmental and social assessment

1b: Stakeholder Consultation and Participation Steps to C&P

Step 1: Define desired outcome of consultation

Step 2: Develop a Consultation and Participation Plan and request endorsement through a national stakeholder workshop

Step 3: Select consultation methods

Step 4: Define issues to consult on

Step 5: Stakeholder Identification/Analysis

Step 6: Establish grievance and redress mechanism

Step 7 : Conduct the consultations

Step 8: Communicate and reach out

Step 9: Feedback and dissemination

Lessons learned from country R-PPs

- Consultation should be build on existing consultation processes such as VPA FLEGT where it exist in country
- Consultations should start early and allocate sufficient time and resources to reach out to forest dependent communities
- Methods used for consultation needs to be culturally appropriate with the right language and medium of communication especially with IPs and other forest groups
- Need for government to contract out consultations to a local NGO in collaboration with government/National REDD Working Groups. This builds credibility, transparency and accountability
- Need to identify existing participatory structures to enhance consultations and encourage active engagement of forest dependent people
- Dissemination and public disclosure of outcomes of consultation is critical

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2a & b: Prepare the REDD Strategy

Werner Kornexl

R-PP Resource Session

January 27, 2010

What is the REDD strategy?

- RPP and REDD Strategy should address systematically the Drivers of deforestation and degradation *(e.g. case: R-PPs needed more focus, at least in the preliminary identification & assessment of D&U causes that would allow improving R-PP design & preparation of ToRs)*
- Important to link Direct causes with the respective Underlying causes to ensure effective REDD options to reduce emissions *(e.g. case: Unsound past experiences in selecting interventions and priority areas to prevent forest loss, ICDP cases)*

What is the REDD strategy?

- Identify options to reduce emissions, or tackle potential drivers
  - **…in the best cost-effective way**
  - **…in the most sustainable (long term) way possible**
  - **… which takes into account additional benefits, and**
  - **… which identifies and discusses potential environmental and social risks associated with the different options.**
- REDD Strategy would build on existing strategies (Forest Strategies, Infra-structure etc.)
- REDD Strategy would analyze the trade-offs between different options and identify the priorities
  - **Identify investments**
  - **Priority interventions**
  - **Priority areas (highest threat, highest carbon, high poverty, highest biodiversity, etc.)**

How to approach a REDD Strategy?

- Analyze the different strategies available
  - **Forest Strategy**
  - **Infra-structure Plans**
  - **Economic development plans, etc.**
- Analyze existing strategies as to their impacts on DD and identify analytical gaps
- Identify different strategy options and analyze their effectiveness, costs, feasibility, co-benefits and environmental and social impacts –

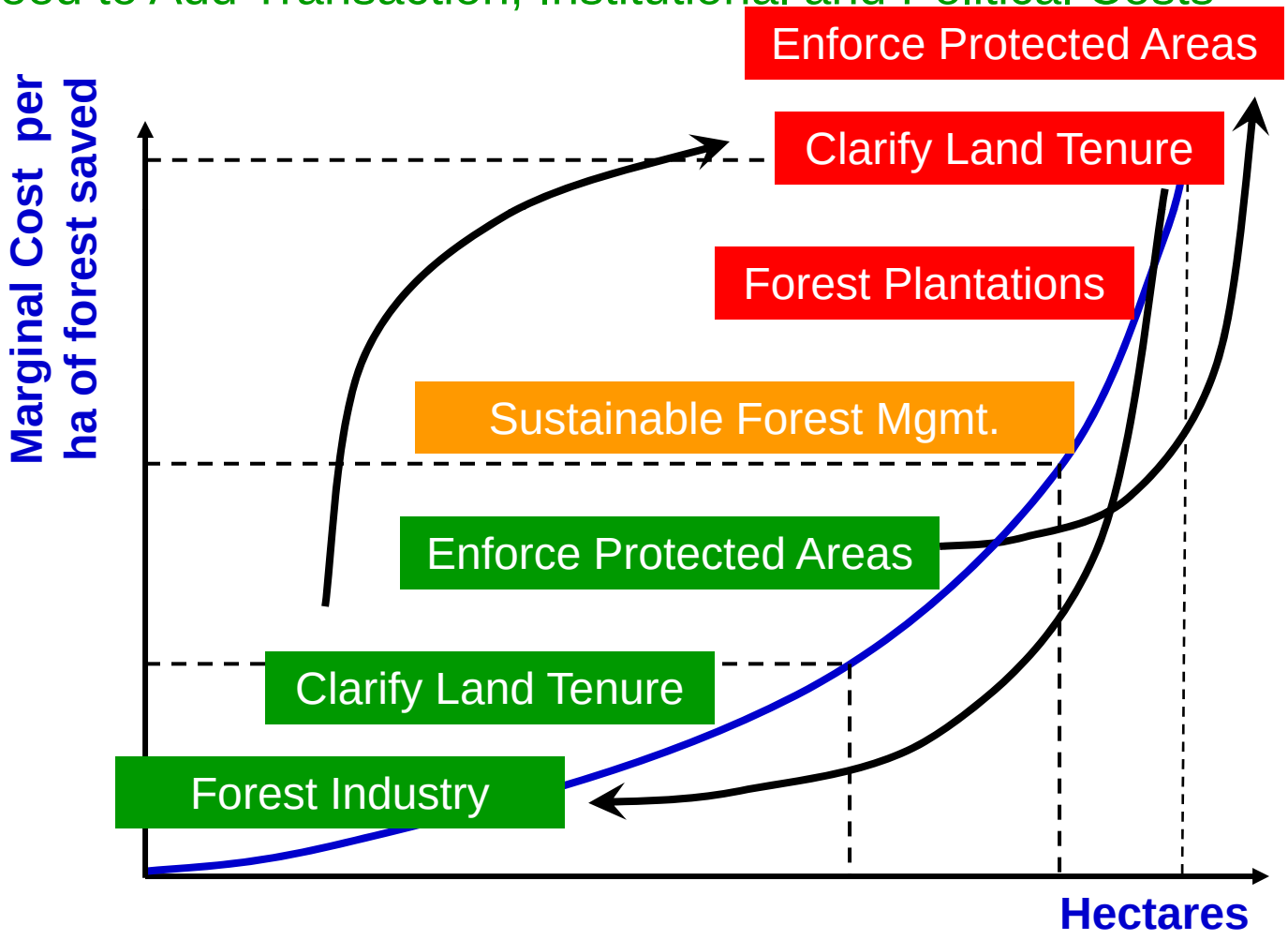
Example: Brazilian Deforestation Plan

- Promoted by the Presidency with the participation of all relevant Ministries and sub-national entities

Economic Analysis of the Drivers of Deforestation

⇒ Identification of **Priority areas** for achieving REDD (e.g. infrastructure, agriculture, energy, etc.)

⇒ Need to Add Transaction, Institutional and Political Costs



Global REDD Opportunity Cost & Potential

Approach	Average	Range
Regional	$3.51	$1.84–5.18
Stern Review	$6.52	$3.76–9.28
Global models	$12.26	$7.77–18.86

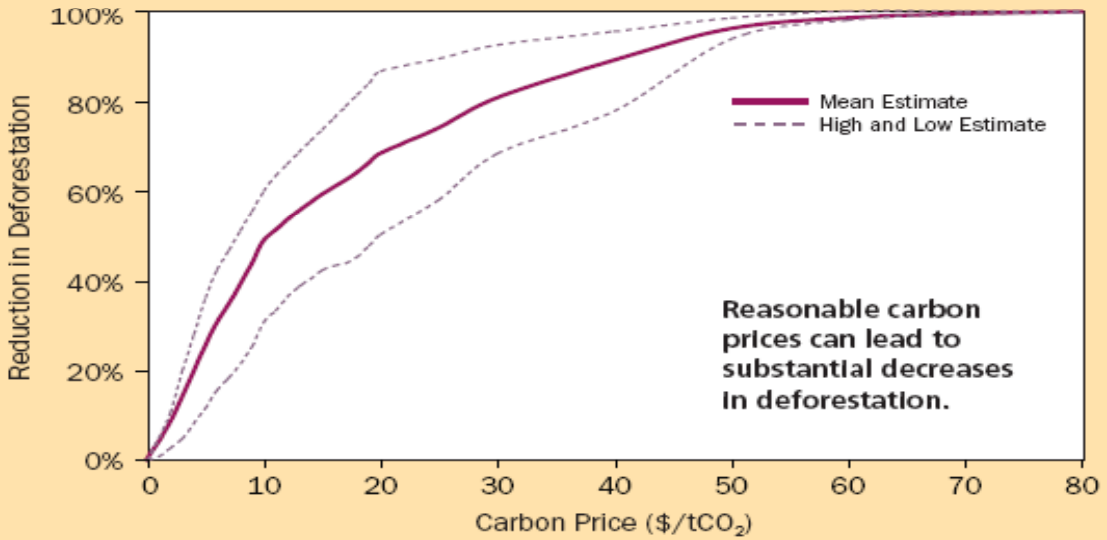
*Cost (in 2005 dollars) to reduce one ton CO_2 if overall there is a 46 percent reduction in global deforestation.

Estimate: Global model estimations based on DIMA, GTM and GCOMAP

Source: Kinderman et al, 2008; Union of Concerned Scientists. www.ucsusa.org

Almost 50% reduction possible for mean estimate price of $10 per ton of CO2

Figure 2. Reduction in Deforestation Emissions as a Function of Carbon Price for 2020



How much does it cost to reach Readiness?

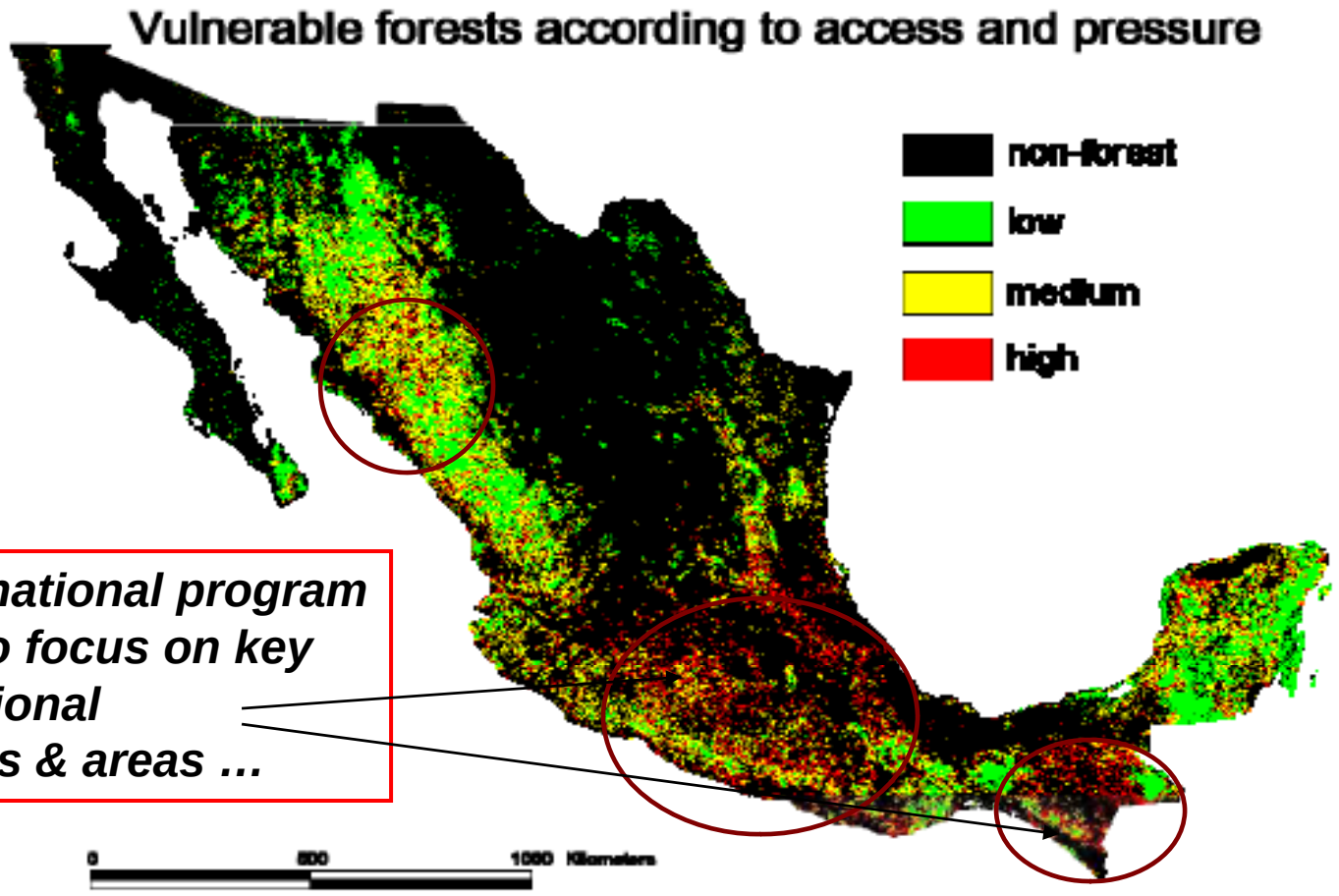
Costs include:

- **Opportunity costs**
- **Implementation costs**
- **Transaction costs**
- **Political costs**

Investment and Maintenance costs will depend on:

- How a country defines Readiness:
  - Capacity building, governance improvements and carbon assessment are expandable terms
- Size of the country and the overall challenge
- Existing institutions and technical challenges:
  - Existing strategies?
  - Existing monitoring capacity?
  - Inventories and carbon assessments
  - Governance challenges
- Accuracy of monitoring and reporting desired

Deforestation Risk



Note: national program likely to focus on key subnational Projects & areas …

Challenge: REDD Will Need to Address Dynamic Land Use Change, Cost, & Governance Issues

- **REDD Opportunities Vary by Opportunity Cost (OC) of Land, Carbon Density, and Threat of Deforestation**

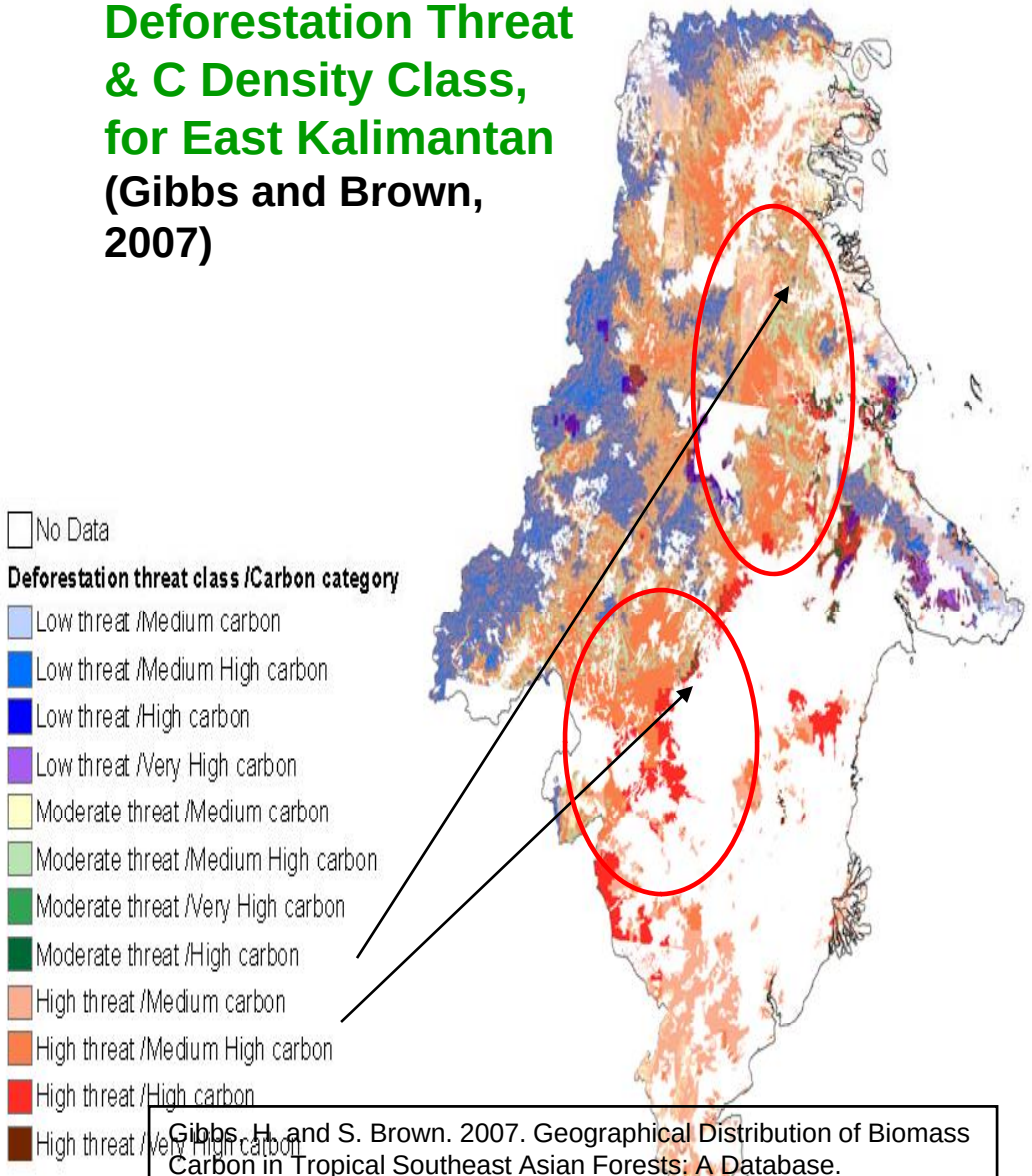
- **Can we identify high priority interventions, with low barriers to implementation?**

- **What are priority governance concerns with these targeted lands and REDD strategies?**

- **What are the capacity building and investment needs?**

- **What are the potential risks, environmental and social, and economic?**

Deforestation Threat & C Density Class, for East Kalimantan (Gibbs and Brown, 2007)



Gibbs, H. and S. Brown. 2007. Geographical Distribution of Biomass Carbon in Tropical Southeast Asian Forests: A Database. ORNL/CDIAC.

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2c: REDD Implementation Framework

André Aquino

R-PP Resource Session

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Main Issues to be considered

- Carbon ownership
- Benefit sharing mechanisms for potential REDD revenues
- Scale of REDD Implementation (national x sub-national x hybrid implementation)

Many questions for which we do not have answers at present!

The FCPF does not expect a country to have these arrangements and issues fully understood at this time, but to indicate the process to reach decision on these topics.

Carbon ownership

- Issues to be considered:
  - Who owns the carbon / emission reductions?
    - Most countries do not have specific legislation on Ecosystem Services, such as carbon.
    - What kind of policy / institutional reform is necessary to clarify carbon / emission reduction ownership? What analytical work is needed?
  - What is the relation between carbon ownership and land and tree tenure
    - How would carbon ownership vary across different types of land tenure (state land, community land, private land)
    - Carbon rights do not necessarily have to be linked to land tenure. Key is that the country puts in place a national system for distribution of revenues based on principles of equity and fairness.

Carbon ownership (2)

- Issues to be considered:
  - What are the main risks in defining carbon ownership?
    - How to make sure communities' rights (including Indigenous Peoples) are safeguarded?
    - How to avoid conflicts between communities when defining ownership?
  - How can pilot projects support the clarification over carbon ownership?
    - Pilot projects (including A/R) may have gathered information useful for the establishing the national framework
- This issue should also be explored in the "Strategic Environmental and Social Assessment"

Benefit sharing schemes

- Issues to be considered:
  - How would the REDD revenues generated by these transactions be shared?
    - This is one of the key questions in REDD – how to make sure the benefit sharing scheme is equitable, efficient, effective and transparent?
  - How to make sure the resources are equitably shared?
  - How to avoid the risks of elite capture? What are the main risks?
  - What are the lessons learned from existing benefit sharing schemes in other natural resources sectors?
    - Mining
    - Oil / gas
    - Forestry (forest concessions, protected areas, etc.)
    - Creating new institutions is extremely complex. Countries should consider working within the existing frameworks (adapted as needed)

Benefit sharing schemes (2)

- Issues to be considered:
  - In what form would resources be shared?
    - Local development projects, payment for ecosystem services, direct budget of the state, etc?
  - What mechanisms would the country have to put in place to manage a revenue sharing mechanism?
    - A " REDD foundation", Central Bank, private banks, etc?
  - The process to make these decisions will be key!
    - Process should be transparent and participatory
    - However, countries need to be very careful in managing expectations and communicating appropriately!
      - The international REDD architecture is not defined yet, making it difficult to assess what the benefits of REDD to a determined country could be.

Early example of benefit sharing – Indonesia regulations on REDD projects

No.	Type of forest permit	Government	Community	Project Developer
1.	Permit to use products from timber and natural forests	20%	20%	60%
2.	Permit to use products from planted forests	20%	20%	60%
3.	Permit to use products from forests: Ecosystem restoration in natural forests	20%	20%	60%
4.	Permit to use products from Community Planted forests	20%	50%	30%
5.	Community-owned forest	10%	70%	20%
6.	Community-managed forest	20%	50%	30%
7.	Customary forest	10%	70%	20%
8.	Village forest	20%	50%	30%
9.	Forest management units	30%	20%	50%
10.	Forests for special uses (KHDTK)	50%	20%	30%
11.	Protected forest	50%	20%	30%

Fund for Protection and Conservation of the Brazilian Amazon:

- Hosted and managed by BNDES (Brazilian Economic and Social Development Bank)
- Fund to foster the conservation and sustainable use of forests
- Intends to cover non-reimbursable loans for actions taken towards the prevention and monitoring of deforestation
- Donations may be made by governments, companies and individuals (US$1 Billion is by 2015). US$5 = diploma from the Brazilian government for 1 tCO2.
- BNDES has grouped project lines into four categories:

  (i) Protected Areas (Environmental Management and Services)

  (ii) Sustainable Production Activities

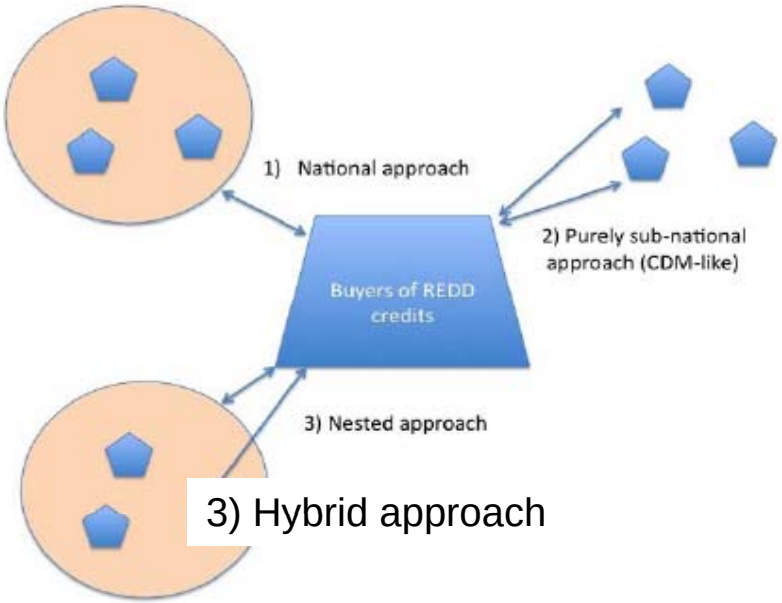
  (iii) Scientific and Technological Development Applied to the Sustainable Use of Biodiversity

  (iv) Institutional Development and Enhancement of Forest Management Systems
- The average deforestation rate used for the Fund as a reference level is a conservative measure of 1,95 million (based on average from 1996 to 2005). The ADR will be revisited every 5 years.
- Calculations: **[Reference Year(ha) - 1,95 million ha] * 100tonC/ha= ER**, compensations will be paid only if deforestation is lower than the ADR.

REDD Implementation Scale

- **REDD Implementation scale refers to the level at which REDD activities would be implemented and credited. Three main approaches are currently in discussion:**
  - **National Approach:** all relevant REDD actions and activities are centralized through the national government that accounts for emissions from deforestation and forest degradation, implements REDD actions, monitors results and receives international incentives for it (Annex I parties - Kyoto Protocol).
  - **Project Approach:** all REDD activities are carried out through site specific activities, in most cases sponsored by private entities. GHG accounting takes place at the project level, and project sponsors are rewarded for reductions (CDM).
  - **Hybrid Approach:** this approach allows accounting and crediting for GHG reductions of REDD projects operating within a national or sub-national accounting system.

REDD Implementation Scale



3) Hybrid approach

Key questions for pilot projects

- Pilot projects can contribute to REDD Readiness:
  - Many issues (legal, institutional, financial) will only be identified when concrete activities on the ground are promoted
  - Region-specific issues could be better tackled through projects; they could target deforestation ‘ hotspots’
  - Create confidence on the possibilities of REDD among decision-makers, market players, etc.
  - Generate revenues for local initiatives, reaching local communities
  - Allow “early movers” to initiate actions on the ground
- However, there are important points to keep in mind regarding pilot projects:
  - How they fit into a national accounting of GHG
  - How project reference scenarios relate to the national baseline
  - How the MRV systems of project relate to the national MRV
  - What institutional framework should be put in place to regulate REDD projects
  - Nobody knows how this will play out!

Indonesia's Regulations for REDD projects

- Procedures for Reducing Emissions from Deforestation and Forest Degradation → signed by Minister of Forestry in May 2009.
- First national legal regime for REDD projects and the issuance and trading of emission reductions.
- Eligible areas. Lists the different types of Indonesian forest areas that are eligible to host REDD projects (according to tenure).
- Project proponents. Both a national entity and an international entity are required to act as proponent.
- Approval of projects. REDD project proposals must include a REDD implementation plan to be submitted to the Minister of Forestry for approval. Assessment by REDD Commission. MF issues REDD implementation license.
- Indonesia expects REDD credits from national projects to be eligible for compliance under an international trading system.
- Benefit sharing has been clarified in later regulation.

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3: Reference Scenario

Werner Kornexl

R-PP Resource Session

January 27, 2010

Overview

– What is a reference scenario?

- **Basis to compare the actual reality under a REDD+ policy, with a scenario of business-as-usual if no REDD+ policy occurred**
- **Objective is to have a basis for estimating emissions reductions and REDD payments : Difference between reference scenario and measured performance**

Overview

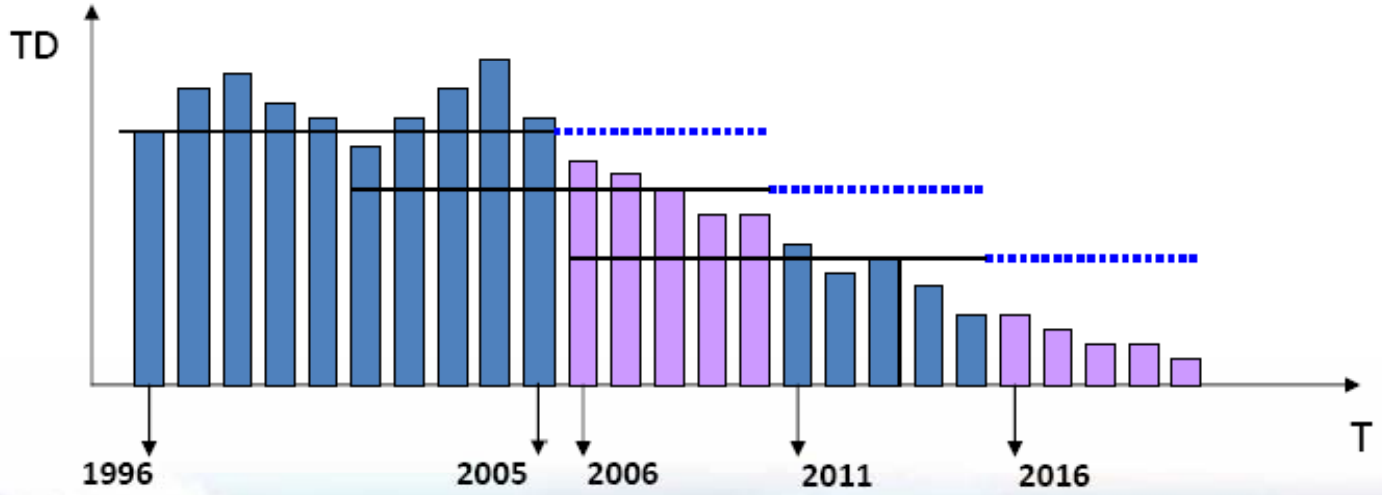
- General Policy and Planning Issues:
  1. Scope: Deforestation? Degradation? REDD+?
  2. Terminology: UNFCCC negotiations uses "reference levels" and "reference emission levels". FCPF is a pilot program and uses "reference scenario", to avoid any implication for UNFCCC process
  3. Scale: national only, or scenarios for sub-national regions?
  4. Methods: UNFCCC methods not clear yet.

Brazil: Amazon Fund

Example of One Approach for a Historic Reference Scenario

AVERAGE DEFORESTATION RATE

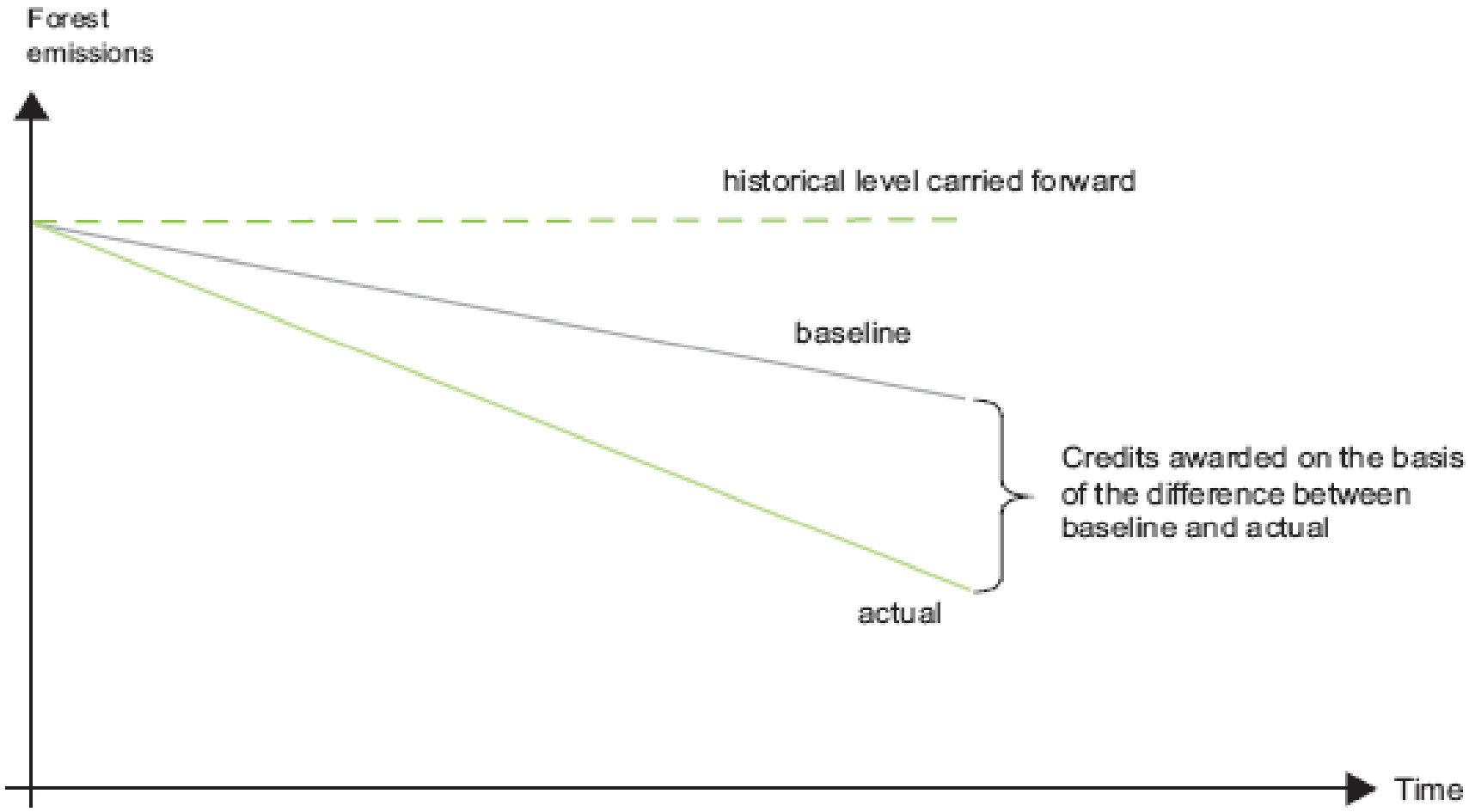
- Using 10 years average
- ADR revised every 5 years



Year of Reference	Period for ADF calculation	ADF
2006 to 2010	1996 to 2005	1,95 million ha

We usually think of a historic approach …but Reference Scenarios might look different

Figure 9.1: Illustration of a baseline-credit system



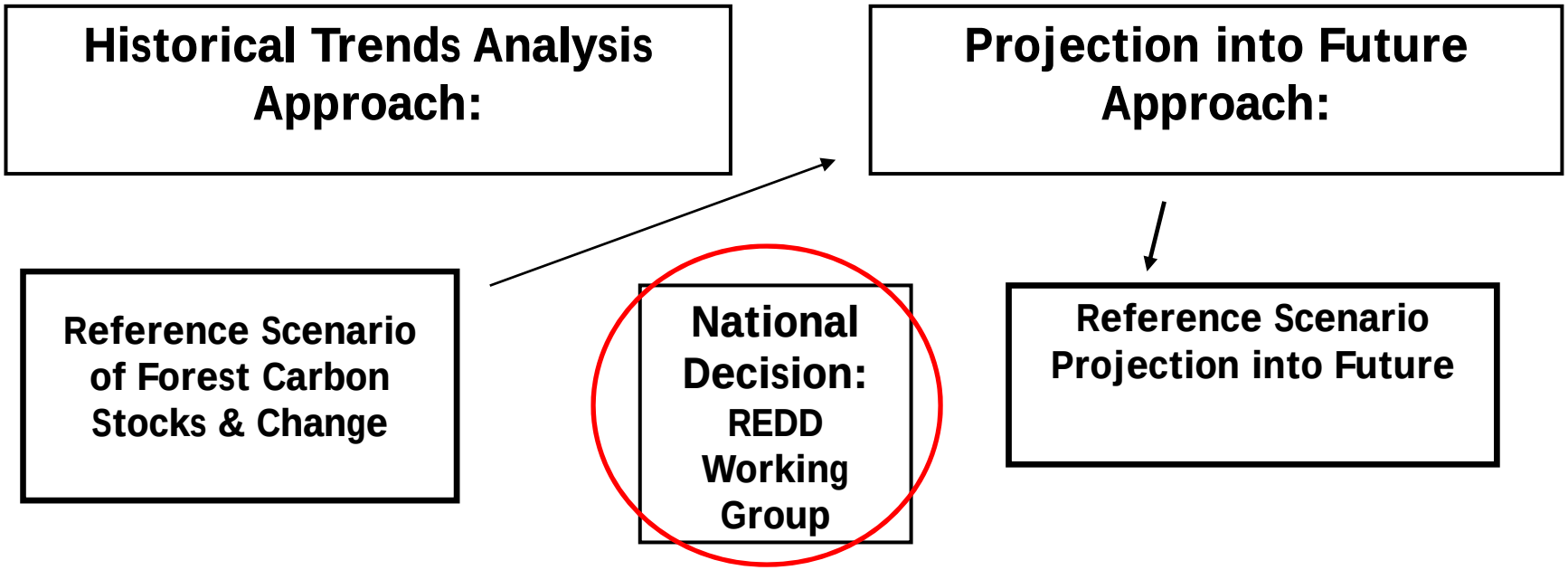
Source: Eliasch Report

First steps

- **Why define a Reference scenario now, as there is not sufficient guidance available? What can be done before UNFCCC provides guidance/methods:**
  - **Advance analytical work:**
    - gather relevant historic information
    - Analyze historic trends of land cover change
    - Understand deforestation causes and drivers and relevance for the future, to make projections
  - **Country can compare methods and results of preliminary reference scenarios, for use in demonstration projects (eg. Brazil) and for informing the eventual decision on a national reference scenario**
- **Important:**
  - **Reference scenarios might need revision when UNFCCC guidance is available: which might be several years**
  - **For the purpose of credibility, consider conservative approaches**

R-PP – Develop a Reference Scenario

- Assess Data available: Forest Area, land cover changes, carbon density maps, inventories,
- Identify gaps in data
- Analyze historic trends in land cover change & forest carbon
- Develop historic trends, and/or projection forward in time



What Approach? – Berau Methods and Information

1) Gather Deforestation & Degradation data in the past:

- Analyze data on historic land cover (e.g., forest) trends, from forest inventory and remote sensing data
- 10 to 15 years back usually adequate (when)
- Develop baseline forest cover map for a date (year): to provide geospatial resolution (i.e., where deforestation occurs)
- Assemble forest inventory or literature data on biomass density of forests, to estimate carbon stocking per hectare.

2) Identify "driver" data layers (e.g., roads, sawmills, elevations, proximity to rivers), & which best explain deforestation (to locate deforestation and allow eventual projections into future).

- 3) Convert area deforested into CO_2 emissions and locations using carbon density data → Reference Scenario of Change in Forest Carbon Stocks over time.

Simplified steps to analyze historic trends

1) Start with historic trends reference scenario

- 2) Develop historical trends extrapolation methods:
- Review "driver" data layers (e.g., roads, sawmills, proximity to rivers) and determine which have the most potential to predict location of future deforestation.

3) Assess: - National development plans

- - Economic and population trend analysis & forecast
- - Macroeconomic trends (global agriculture commodity, wood ,and biofuel demand & supply projections)

4) Simulate deforestation from historic scenario to future dates using various "driver" variables & maps

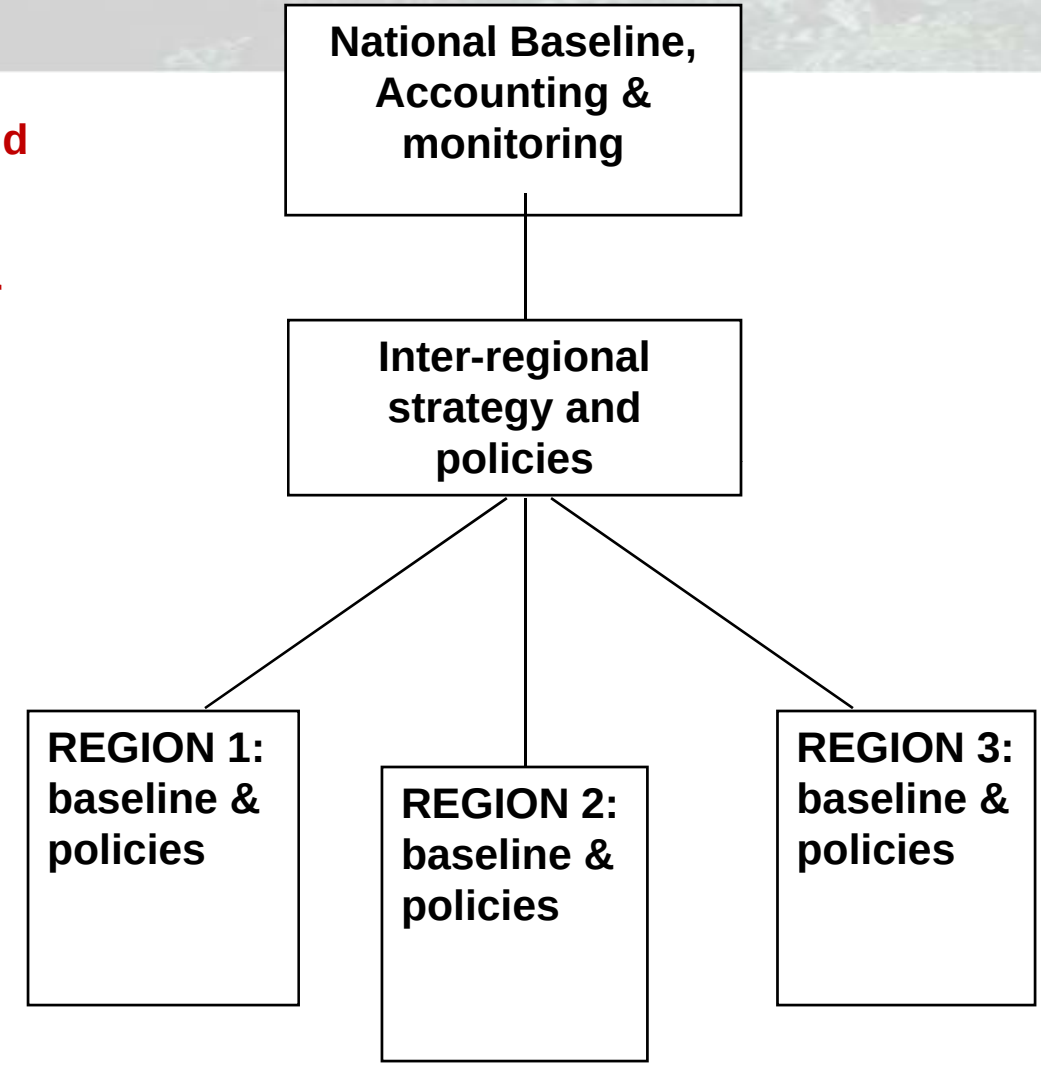
5) Convert area deforested into CO_2 emissions using carbon density data and estimates of future density.

Analytic considerations:

- Which approach to use depends on country land use and policy situation to be reflected:
  - e.g., expected changes in drivers of deforestation, major new infra-structure projects, commodity crop expansion, demographic patterns, etc.
- What assumptions should be made about incorporating national development plans and programs in the reference case?
- How should managed/unmanaged forests, planned and unplanned deforestation be handled?
- How to align methods and estimation results for REDD or other projects or sub-national activities? How can national & project reference cases be consistent, or comparable?
  - IPCC does not address sub-national reference scenarios
  - VCS does not address national reference scenarios…

Reference scenarios could be set at:

- **National scale, or also**
- **Subnational regions, or RED projects.**
- **But, need to be harmonized.**



Adapted from: Andrea Cattaneo, Woods Hole Research Center

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4: Design a Monitoring System or MRV (Measurement, Reporting, and Verification)

Ken Andrasko

R-PP Resource Session

January 27, 2010

MRV Integrates the Major Elements of REDD

Identify major causes and drivers of deforestation and degradation

Develop a reference scenario of GHG emissions

Measure the change in forest cover, & impact of your REDD strategy & policies on drivers of Deforestation and Degradation. Report.

Component 4: Design a Monitoring System

- " The purpose of the component is to design a monitoring system for:

(a) measurable, reportable and verifiable (MRV) emissions and removals of greenhouse gases, and

(b) other benefits and impacts over time, in relation to a country's reference scenario.

. . . The system design should include early ideas . . . to monitor :

- rural livelihoods,
- conservation of biodiversity,
- key governance factors directly pertinent to REDD implementation
- to assess the impacts of the REDD strategy in the forest sector. "

.

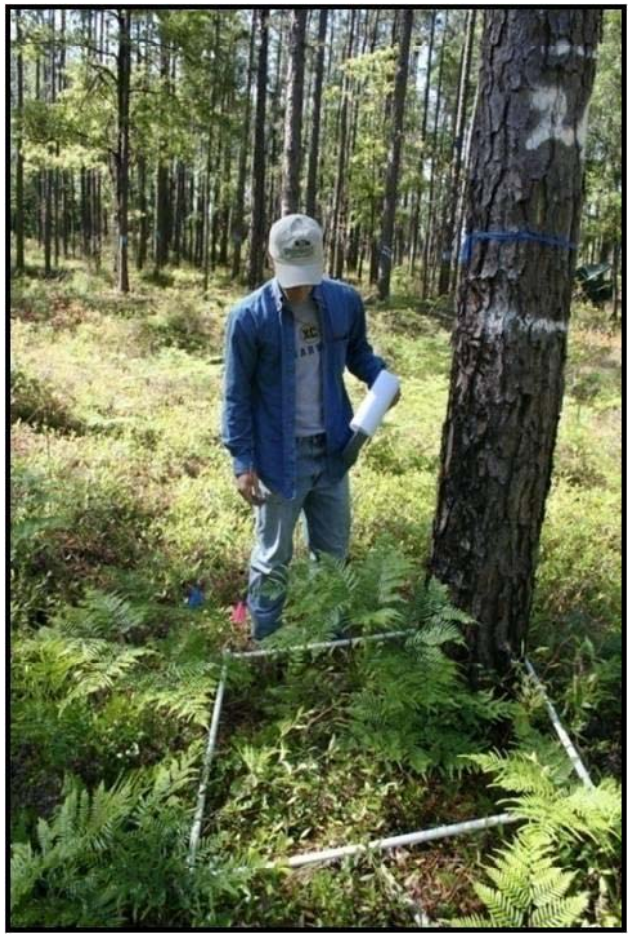
FCPF: Template Component 4a. Emissions and Removals

" Guidelines: Please consider using the following steps:

1. What will the monitoring system be designed for, i.e., deforestation, degradation or both deforestation and forest degradation, other 'REDD plus' elements?

2. How will the emission reductions or removals be measured, reported and verified? . . .

- 6. Assess existing capacities and future capacities required: define … responsibilities for design and implementation … national institutions; define capacity for … training "



Template 4b. MRV of Other Benefits and Impacts

"How will the monitoring system address key governance factors pertinent to REDD implementation?

2. How will it monitor social and environmental impacts, and how does it build on the existing environmental and social monitoring systems of the country?

3. How does it provide for establishing independent monitoring and review, involving civil society and other stakeholders and enabling feedback of findings to improve REDD implementation? . . .

6. Assess the scope and role for local communities, NGOs, various government agencies or institutes, and the private sector in the MRV system."

Why is High Quality MRV System Important?

- MRV system needs to build directly on analysis of key drivers of deforestation and degradation -- or not track changing reference case: against which REDD benefits are measured.
- System needs to monitor REDD policy options and programs, to allow evaluation of your REDD program's effectiveness.
- Properly implemented national MRV may allow nation to compete in global carbon markets.
- High quality MRV may avoid discounts in carbon prices. Even small discounts can lead to large loss of income.

Design of REDD+ MRV System Needs to Integrate Many Tools and Requirements

- The system technical core:
  - Forest inventory for land use change & carbon density estimation
  - Remote sensing, for forest area change
  - Geospatial (GIS) mapping of data.
- Build on IPCC GPG methods
- System needs to represent reference scenario and its changes over time.
- Address degradation?: decision needed.
- Decision support tools: to guide policy makers through MRV system choices.
- National institutional strengthening .
- Begin to address key institutional governance issues: transparency, etc.

Overview of Measurement & Reporting

Important components	*Practical considerations*
FOREST AREA CHANGE	Primary source: Landsat-type satellite data
Deforestation	Starting point for historical assessment 1990-2005 (3 time steps minimum) Build basic satellite data proc. capabilities
Monitoring of forest degradation Forest fire and burned area	Relevance and characteristics for human-induced carbon emissions Definition of suitable monitoring system
Accuracy assessment	Using best/transparent methods and efforts for continuous improvement Prepare for statistically robust approach
CHANGE in CARBON STOCKS	Primary source: ground/inventory data
Existing stratifications and forest carbon estimates	Inventory of available data Decide on carbon pool/TIER level to report
Towards improved carbon stock change estimations	New inventory including other carbon pools Stratification in relevant areas/forest types
ACCOUNTING & REPORTING	Use conservative estimates, as required

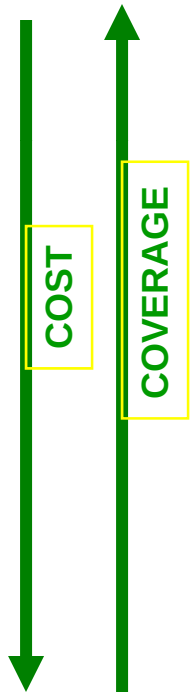
Monitoring deforestation at national scale

- Satellite monitoring: National examples from Brazil, India and several national REDD case studies
- Starting point to develop more detailed monitoring system:
  - Motivation to use more detailed data than 1990-00-05
  - Identify hot spots of forest loss
  - Stratified approach to estimate area change in future or for monitoring degradation
  - Establish or enhance national capacities
  - Develop understanding of historical (spatial) processes
  - Remote sensing data output to guide further field work related to carbon accounting (i.e. stratification)

Potential Data Sources for Remote Sensing Data: For Land Cover Change Analysis

Table 3.1. Utility of optical sensors* at multiple resolutions for deforestation monitoring

Sensor & resolution	Examples of current sensors	Minimum mapping unit (change)	Cost	Utility for monitoring
Coarse (250-1000m)	SPOT-VGT (1998-) Terra-MODIS (2000-) Envisat-MERIS (2004 -)	~ 100 ha ~ 10-20 ha	Low or free	Consistent pan-tropical annual monitoring to identify large clearings and locate "hotspots" for further analysis with mid resolution
Medium (10-60m)	Landsat TM or ETM+, SPOT HRV IRS AWiFs or LISS III CBERS HRCCD	0.5 - 5 ha	<$0.001/km^2 for historical data $0.02/km^2 to $0.5/km^2 for recent data	Primary tool to map deforestation and estimate area change
Fine (<5m)	IKONOS QuickBird Aerial photos	< 0.1 ha	High to very high $2 -30 /km^2	Validation of results from coarser resolution analysis, and training of algorithms



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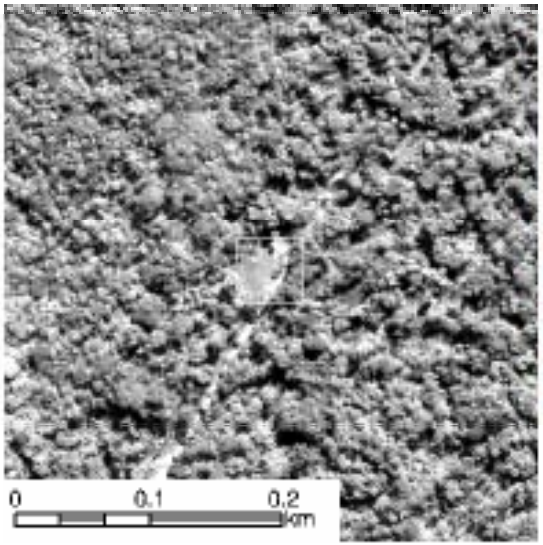
Design of REDD+ MRV System Needs to Integrate Many Tools and Requirements

Guyana Decision to Monitor Forest Degradation and C Stock Changes: Offers Technical Challenges

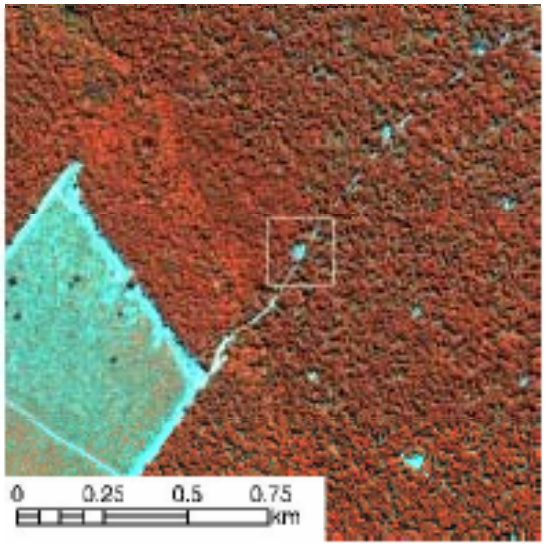
- **Monitoring forest degradation requires documenting forest disturbance history (recurrent degradation events, and time since last disturbance).**
- **Optical remote sensing techniques often cannot be applied in regions with intense clouds**
- **High spatial variability of forest biomass requires site-specific calibration of remote sensing and above-ground biomass**
- **Monitoring degradation requires annual acquisition of satellite images, due to rapid changes in degraded forests: cost implications vs. carbon benefits?**
    - **Potential Solution: Fund quick field assessment of remote sensing technologies + pick best performer?.**

Monitoring Forest Degradation

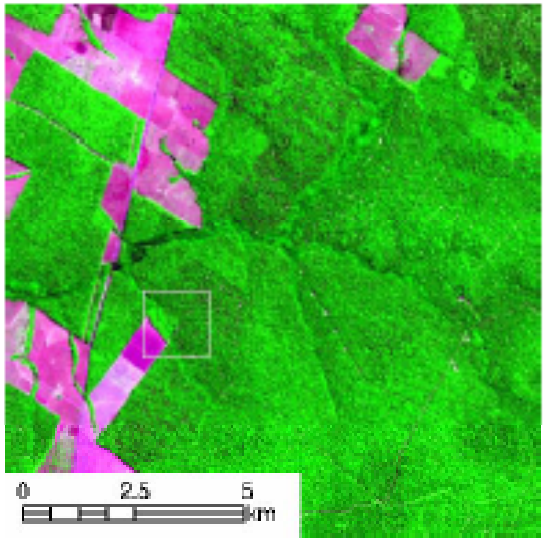
Ikonos – 1 m



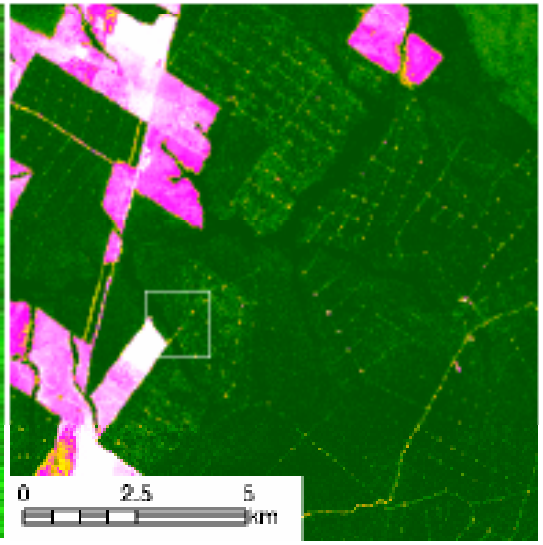
Ikonos – 4 m



Landsat - 30 m



Landsat – 30 m



Souza Jr. (2007)

- More challenge than monitoring deforestation.
- There are several methods to detect and monitor forest degradation (GOFC-GOLD REDD Sourcebook).
- Methods:
  - Visual interpretation can easily detect canopy damage areas in very high spatial resolution imagery.
  - Spectral enhancement is required at lager pixel sizes.

Practical Considerations in Design of MRV System

1. What is the current system capacities and what are the gaps?
2. Describe what monitoring system will be designed to accomplish:
    1. What specific data will it collect and report? (forest cover change, carbon?)
    2. Biodiversity conservation? rural livelihood variables? Etc.)
    3. Linkage to national GHG inventory
    4. Linkage to REDD national registry and tracking?
    5. What level of resolution is needed: for national & sub-national activities?
2. Who will be responsible for design and development?
3. What technical assistance and training will be required?
4. Implementation costs & timeline.

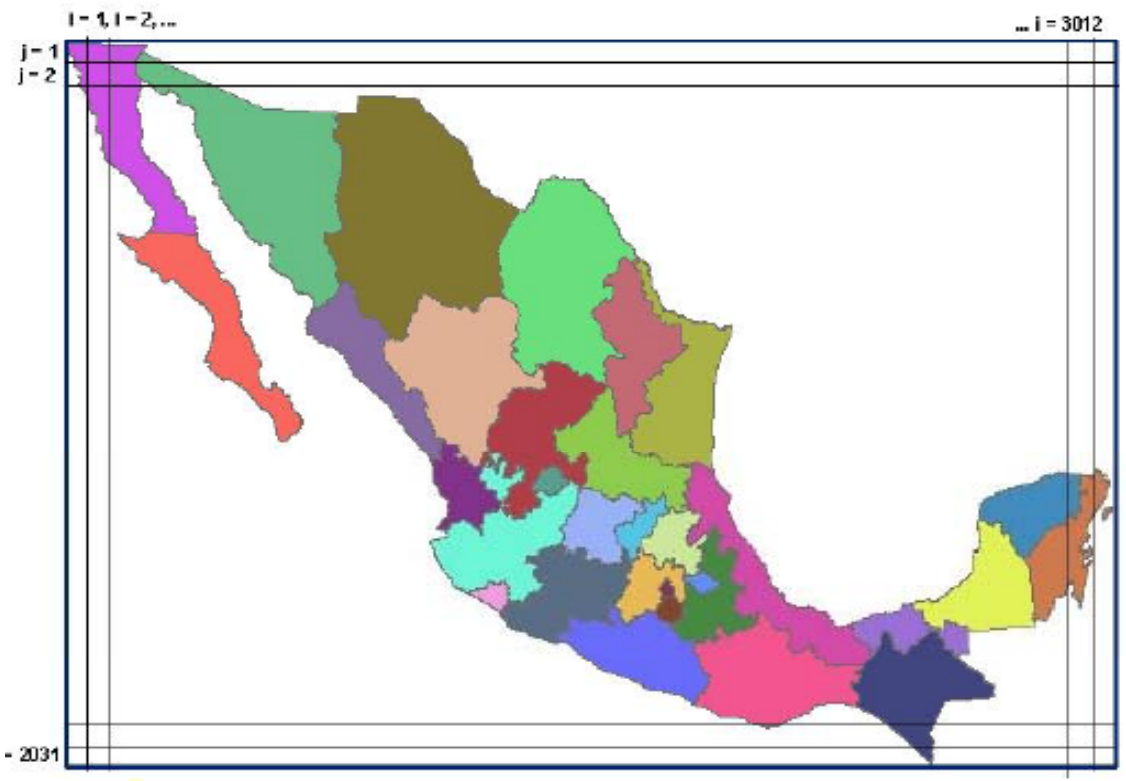
MRV national REDD Planning Process – Example 1: Road Map for PNG

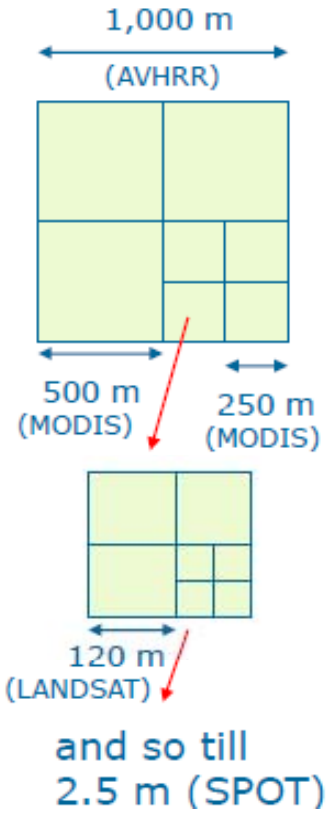
Forest Land Monitoring	National Carbon Forest Inventory	National GHG Inventory
Operational wall-to-wall system based on RS. Historical data from AUS. Data distribution on web GIS system	Continuous national field sampling system to assess forest carbon stocks for all the carbon pools	National inventory for the AFOLU sector as per Annex-I Parties under UNFCCC
One year to be operative – two years to deliver outputs	Partially already operative – two years to be completed	Two years to prepare the first inventory (2011)
US$ 1 M up to 2011	US$ 2 M up to 2011	US$ 500,000 up to 2011
Training: In country (AUS – FAO)	Training: FAO-ITTO-AUS	Training: At regional level (UN REDD)
Responsible; OCCES	Responsible: Forest Research Institute	Responsible: OCCES

Evolving Mexico MRV: Combines forest inventory + higher resolution remote sensing + national forest ecological process model

NATIONAL INTEGRATED MULTI-SCALE FRAMEWORK

(REMOTE SENSING AND *IN SITU* SAMPLING NETWORK)

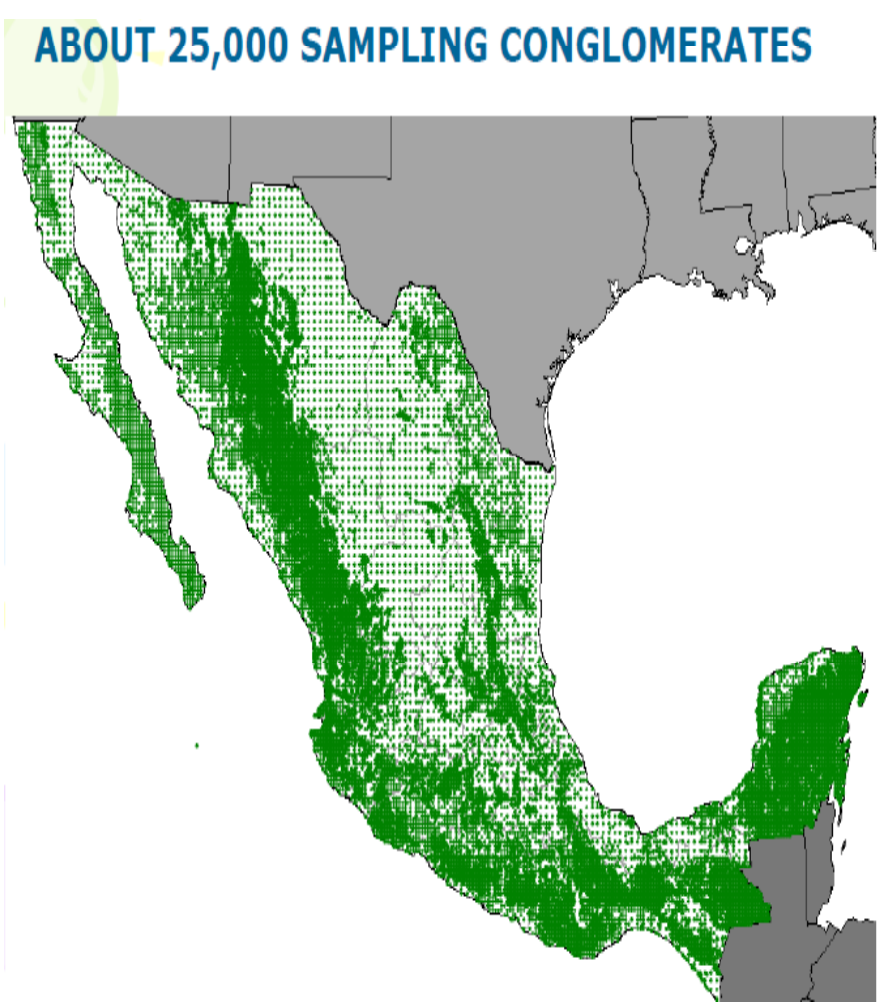


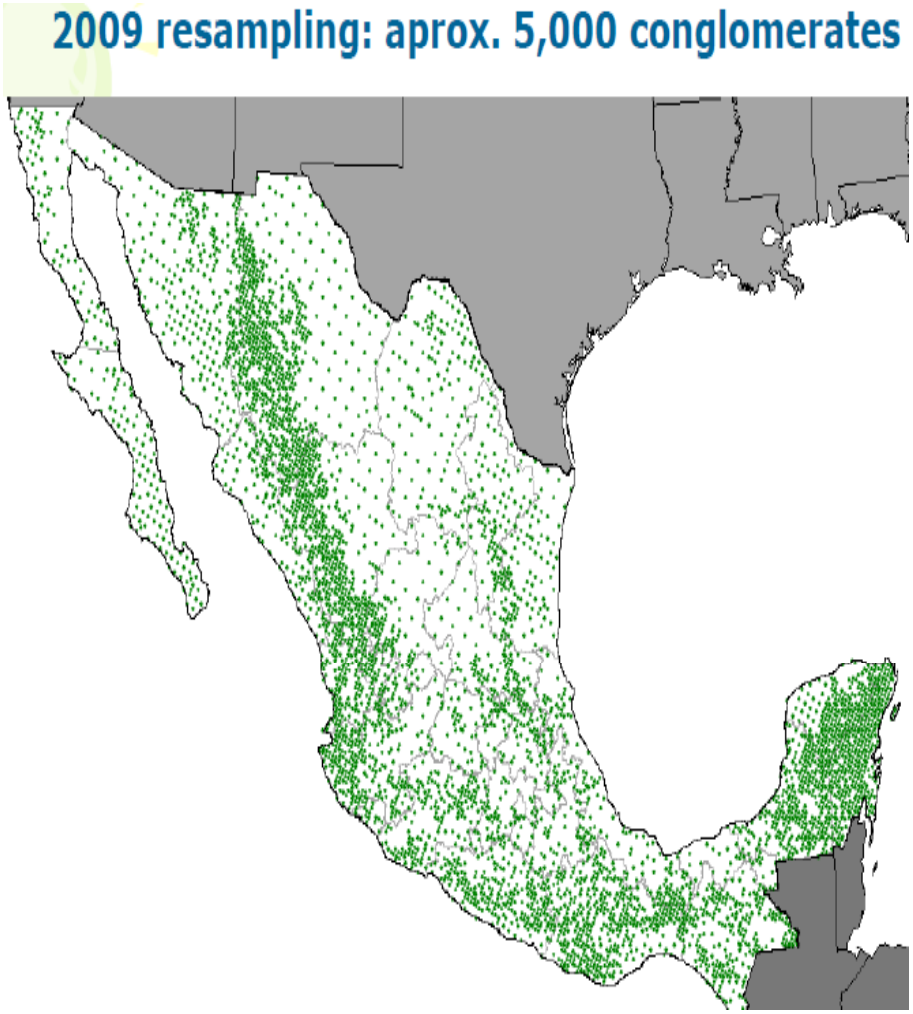


- **Forest Inventory**
- **Landsat**
- **AVHRR**
- **MODIS**
- **SPOT**

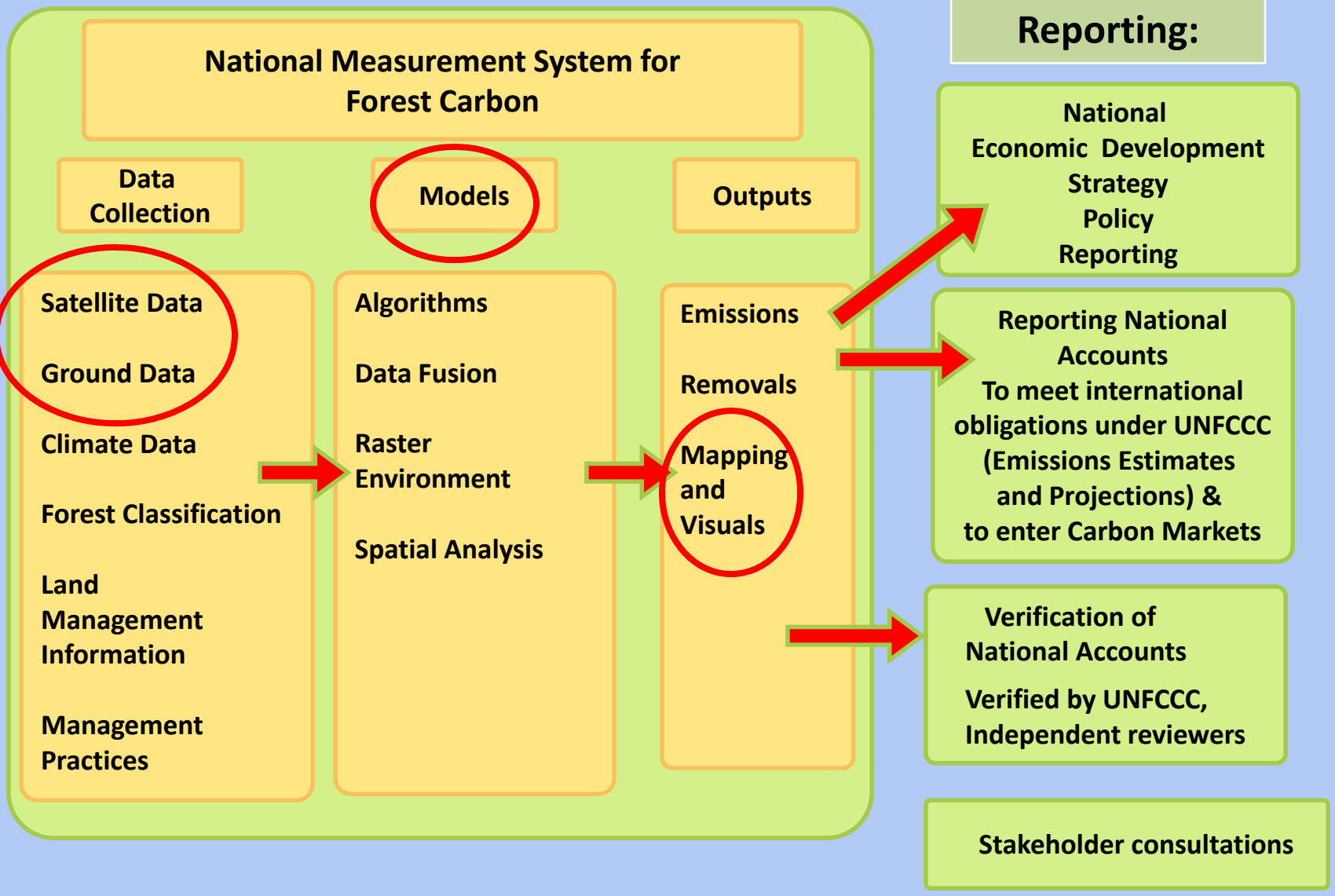
Mexico: Multi-time, Multi-scale intensive sampling for new forest inventory, in 5 years:

C change Biomass + Soils via resampling old plots

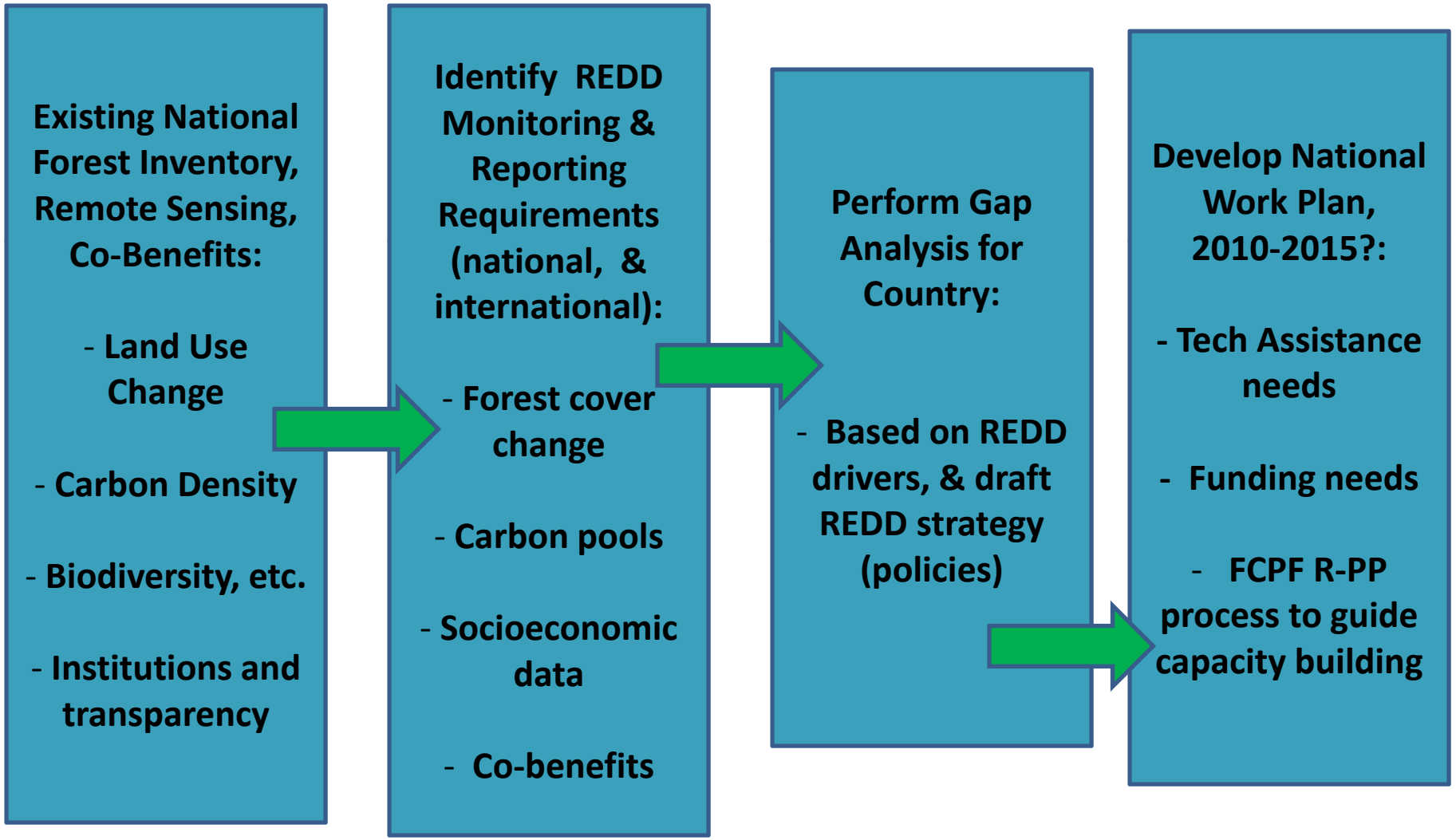




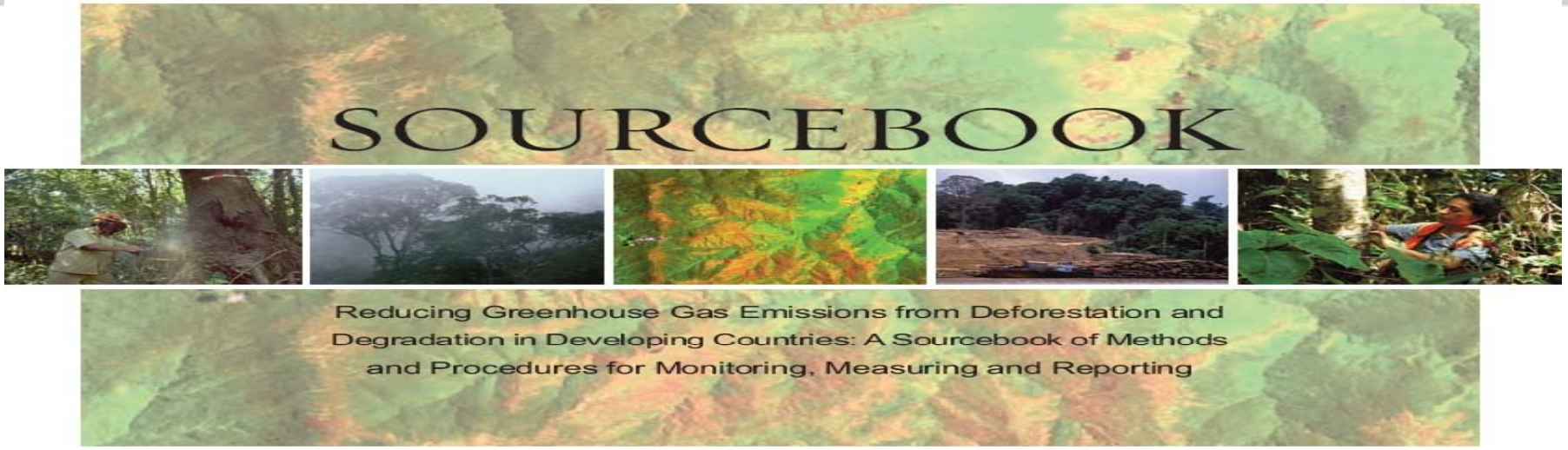
CCI Guyana Proposal: Transparent, Nationally Sustainable, And Internationally Acceptable MRV System



MRV design: Defining Next Steps via Gap Analysis -- Current Capacity vs. REDD Requirements



GOLFC-GOLD Sourcebook & IPCC Good Practice Guidance 2006 are Key References



Web resources:

GOFC-GOLD REDD sourcebook:

http://www.gofc-gold.uni-jena.de/redd

Global Terrestrial Observing System (GTOS):

http://www.fao.org/gtos/

GOFC-GOLD:

http://www.fao.org/gtos/gofc-gold/

GOFC-GOLD land cover project office:

http://www.gofc-gold.uni-jena.de/

Forest Carbon Partnership Facility

5: Budget and Schedule

Neeta Hooda

R-PP Resource Session

January 27, 2010

Developing a Budget for each Component

A Budget for EACH Component?
Yes, because it:

- Assists a country to clearly identify its estimated costs for readiness
- Prevents duplication of efforts and promotes complementarities
- Helps to identify funding gaps

Developing a Budget for each Component
Hypothetical example

Table 1a: Summary of National Readiness Management Arrangements Activities and Budget (and hypothetical example)						
Main Activity	**Sub-Activity**	**Estimated Cost (in thousands US$)**				
		2010	**2011**	**2012**	**2013**	**Total**
	(HYPOTHETICAL EXAMPLE)					
REDD Working Group management	Meetings (e.g., travel for stakeholders on WG)	$30	$30	$ etc.	$	**$**
	Dissemination of reports	$20	$20	$	$	**$**
Hire 2 staff for working Group	Hire information specialist	$30	$30	$	$	**$**
	Hire economist	$30	$30	$	$	**$**
		$	$	$	$	**$**
		$	$	$	$	**$**
Total		**$110**	**$110**	**$**	**$**	**$**
Domestic Government		$30	$40	$	$	**$**
FCPF		**$80**	**$70**	$	$	**$**
UN-REDD Programme (if applicable)		$	$	$	$	**$**
Other Development Partner 1 (name)		$	$	$	$	**$**
Other Development Partner 2 (name)		$	$	$	$	**$**
Other Development Partner 3 (name)		$	$	$	$	**$**

Thank You for your attention