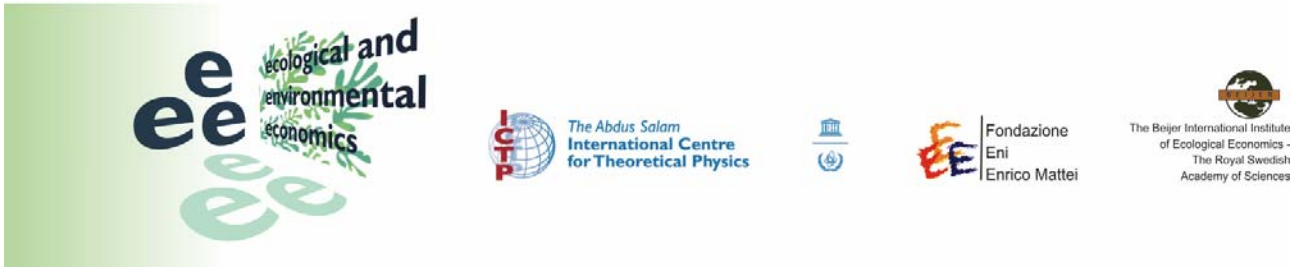


Climate Change Mitigation Measures in

the Agro-Forestry Sector and Biodiversity Futures

16 - 17 October 2006 - ICTP, Trieste, Italy

Reducing emissions from deforestation and forest degradation: latest developments

B. SCHLAMADINGER and T. JOHNS

Joanneum Research, Graz, Austria

SMR 1811 - 9

Reducing emissions from deforestation and forest degradation: latest developments

JOANNEUM RESEARCH

WORKSHOP:
CLIMATE MITIGATION MEASURES
IN THE AGRO-FORESTRY SECTOR
AND BIODIVERSITY FUTURES

Trieste, Italy
16-17 October 2006

B. Schlamadinger and T. Johns
JOANNEUM RESEARCH, Graz/Austria
bernhard.schlamadinger@joanneum.at

Outline

- LULUCF in the Kyoto Protocol
- Reasons for exclusion of REDD
- What has changed since then?
- COP11 mandate
- Methodological issues
- Policy incentives
- Conclusions

LULUCF in the Kyoto Protocol

- Art 3.3
  - Afforestation, reforestaitn
  - Deforestation
- Art 3.4
  - Revegetation (net-net)
  - Forest management (gross-net, cap)
  - Cropland / Grazing Land management (net-net)
- Art. 6, 12: Project-based mechanisms

➔ LULUCF activities focus on *slow in / fast out*

REDD: Concerns leading to exclusion to date

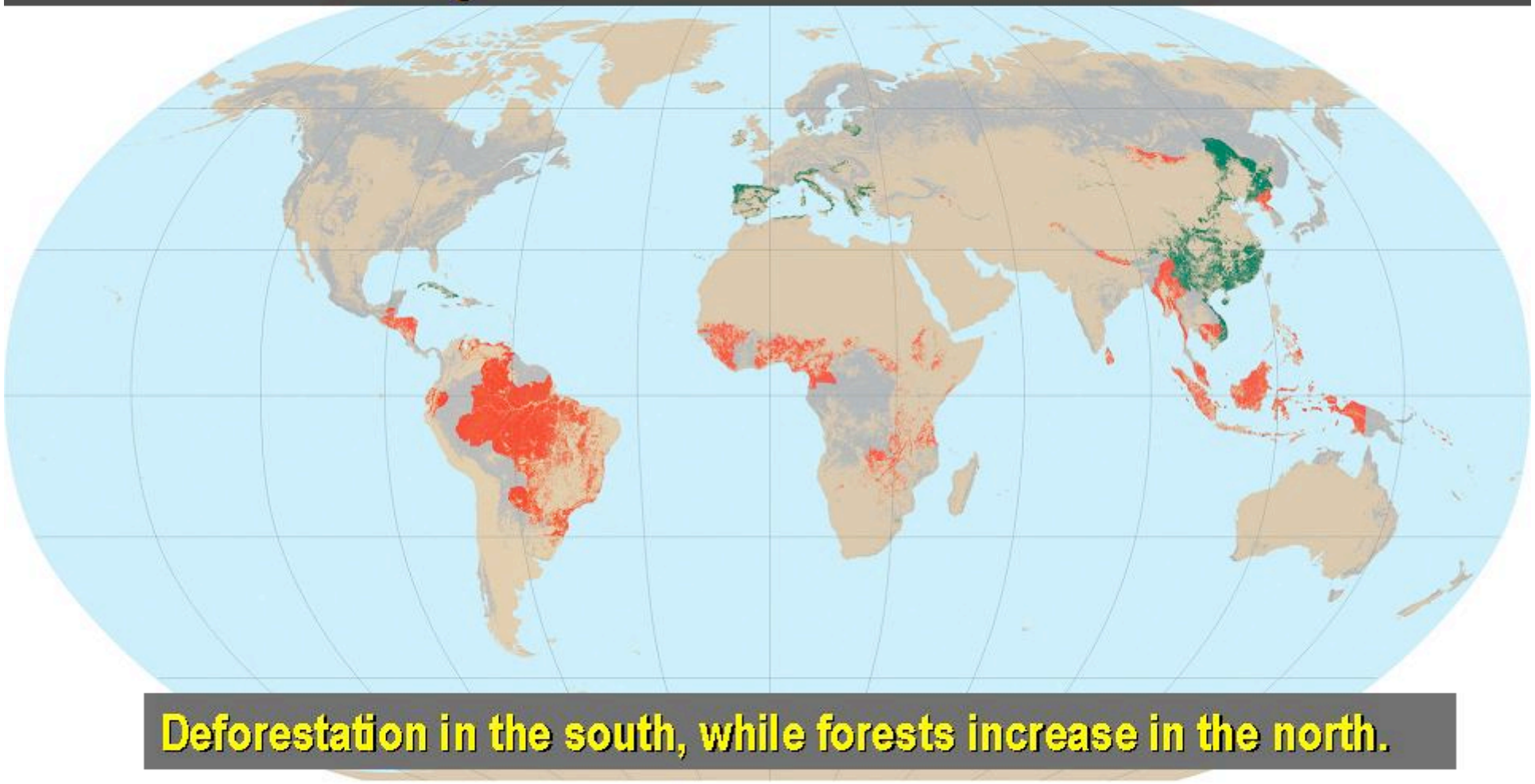
- Targets were negotiated first, then mechanisms
- Scale
- Uncertainties
- Leakage
- Permanence

What has changed since

- Recognition that stabilizing CO2 impossible w/o addressing DD
- Recognition of key emissions source; new inventories available
  - E.g., Brazil 75% of emissions from deforestation
- GPG 2003, IPCC 2006 GL, CDM AR Methodologies available
- Sectoral CDM discussed
- Post 2012: chance to discuss targets and mechanisms in an integrated way
- Initiative by developing countries (Papua New Guinea, Costa Rica and others)
- Political will

I. Context:

Dynamic in forested areas 2000-2005: hotspots of deforestation and forestation



Deforestation in the south, while forests increase in the north.

> 0.5 % Decrease per year

> 0.5 % Increase per year

Change rate below 0.5 % per year

Source: FAO, 2006

COP11 mandate

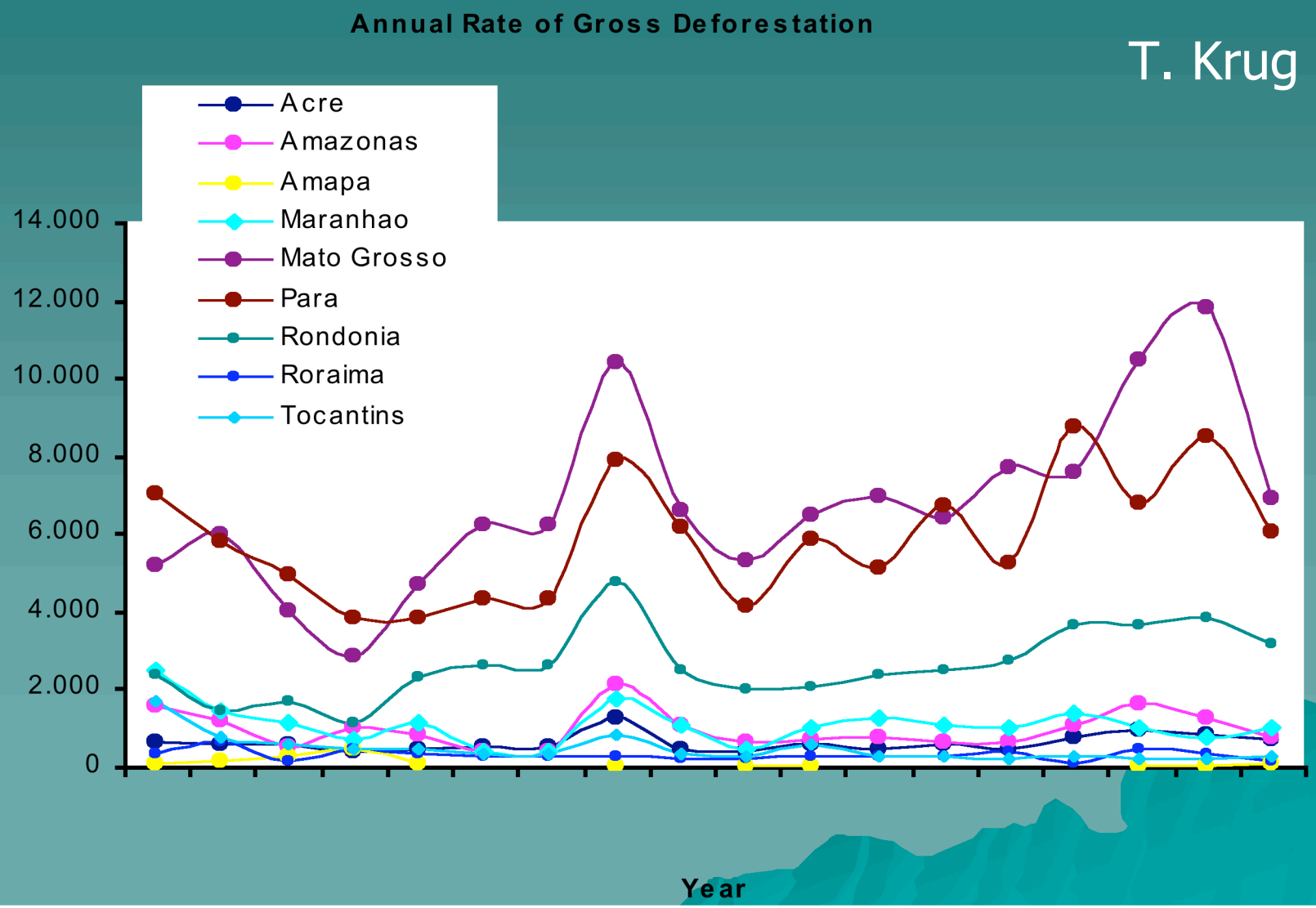
- Reducing emissions from deforestation in developing countries: approaches to stimulate action
- 2-year process
- Elaborate policy and methodological approaches for reducing emissions from deforestation
- Country submissions (31 March)
- SBSTA Workshop Rome, 30 August – 1 September
  - www.unfccc.int/methods_and_science/lulucf/items/3745.php
- Policy approaches proposed by several countries

Three methodological challenges for quantitative approaches to address D

- "Ex-ante" methodological issues
  - Historical emissions
  - Reference emissions level / baseline / target
- Estimation over time
- Accounting, based on 1. and 2.
  - Inter-annual variability of D rates
  - Permanence
  - Incentives (e.g., early crediting)

Evolution of the Deforestation Rate by State – 1988 – 2005* (INPE, 2005)

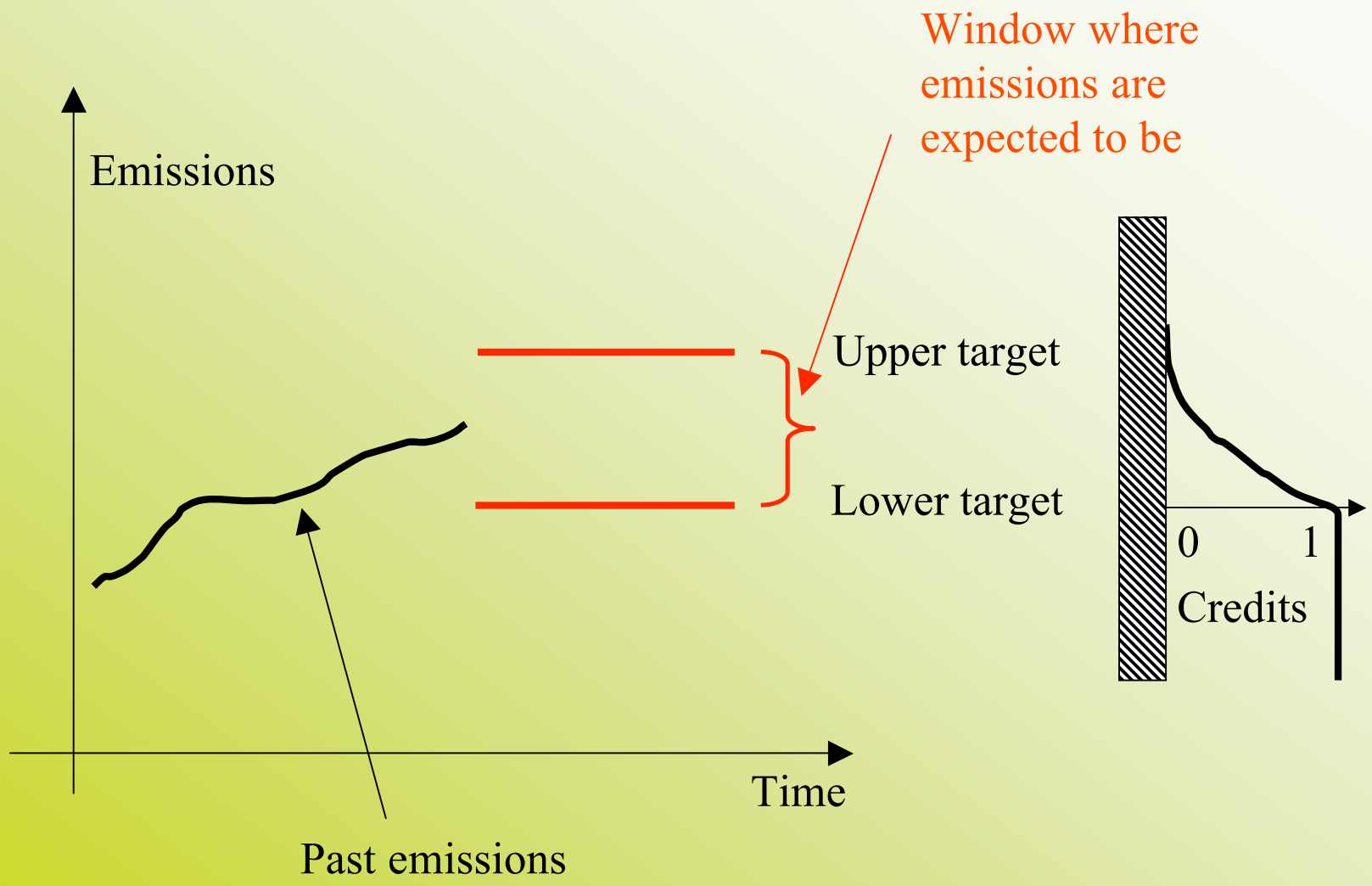
T. Krug



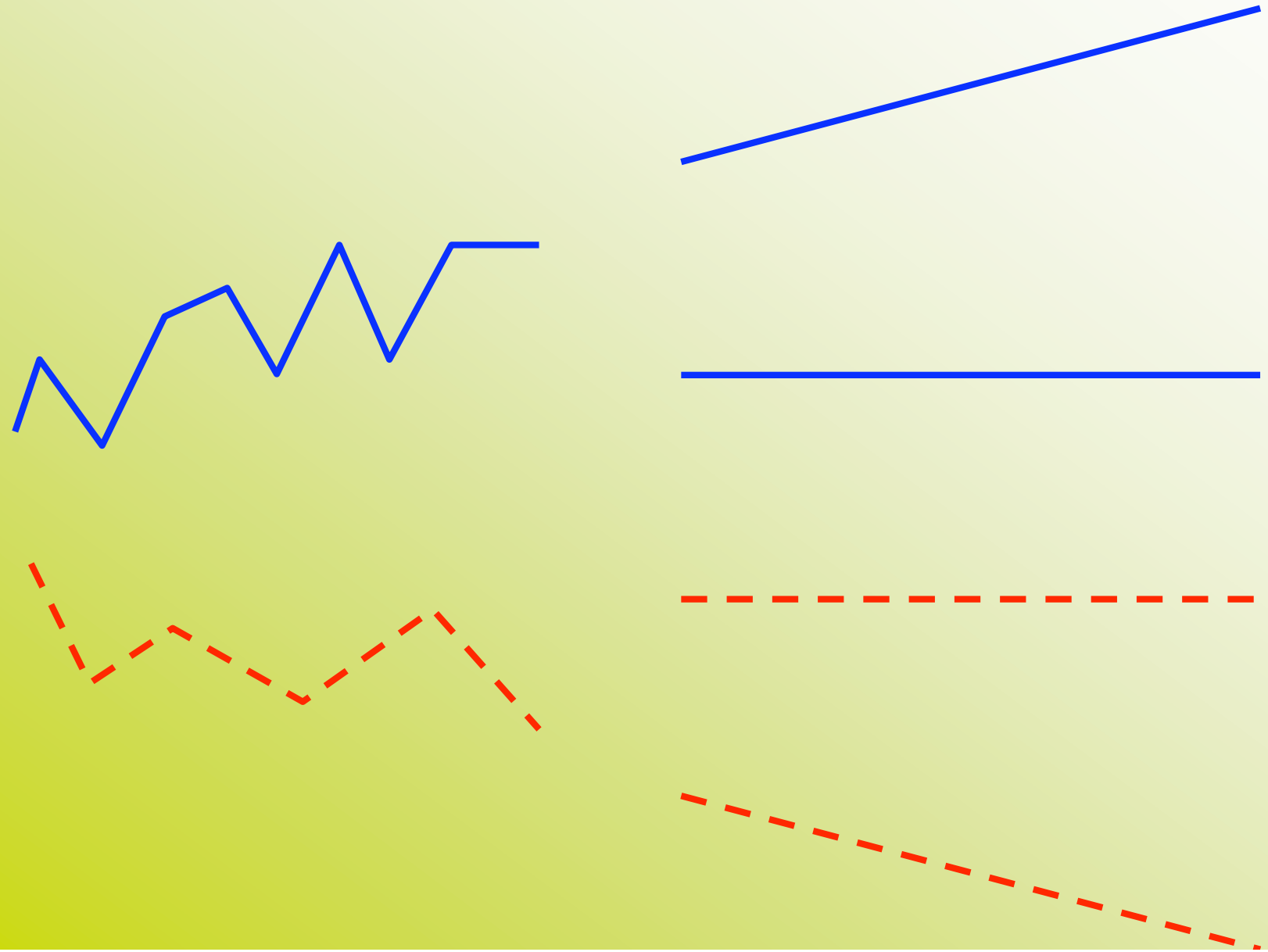
1. Reference emissions level / Baseline / target

- Baselines /projections, must consider past emissions and trends
- Ambitious target: participation?
- Weak target: Windfall credits?

How to set a reference level?



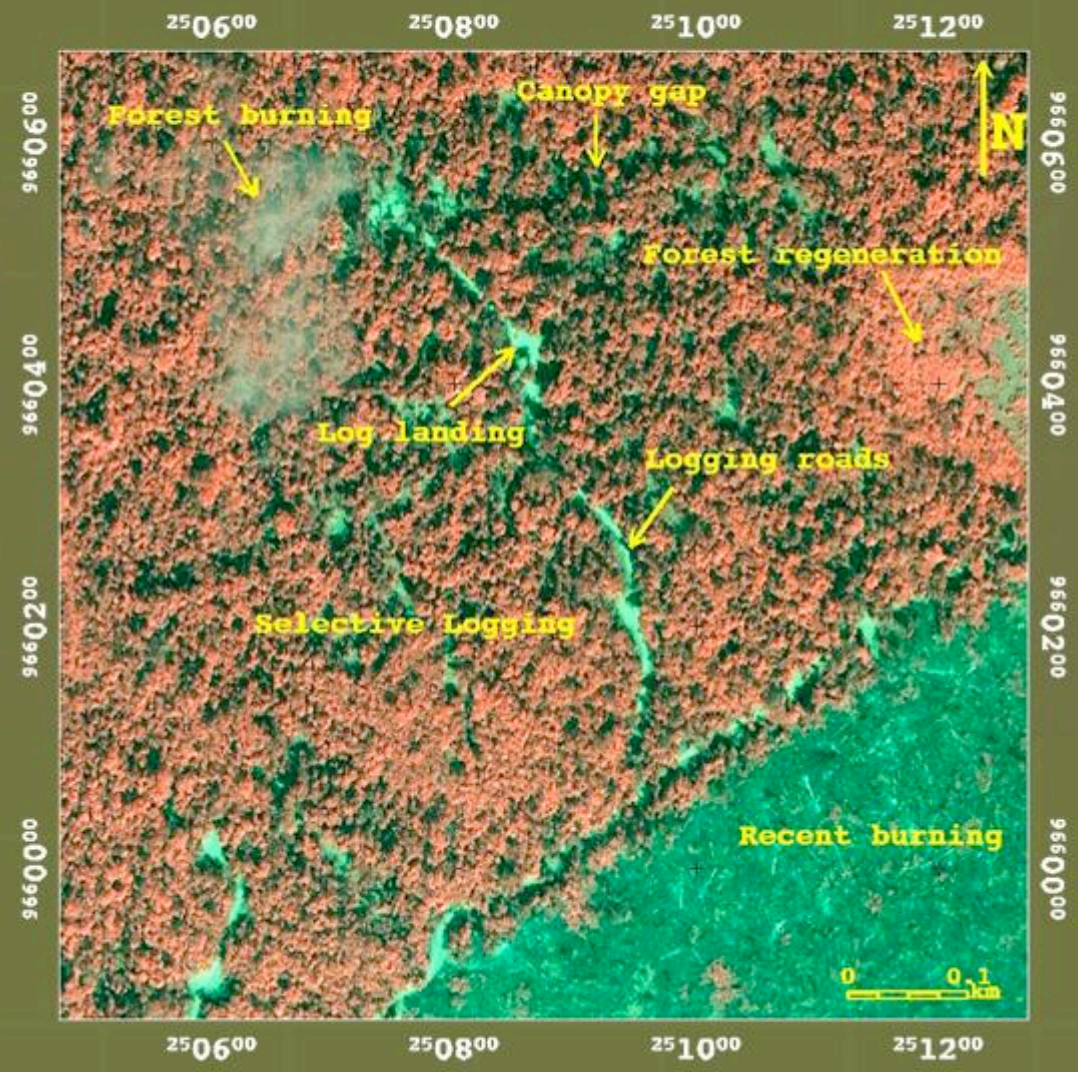
Corridor could have many forms



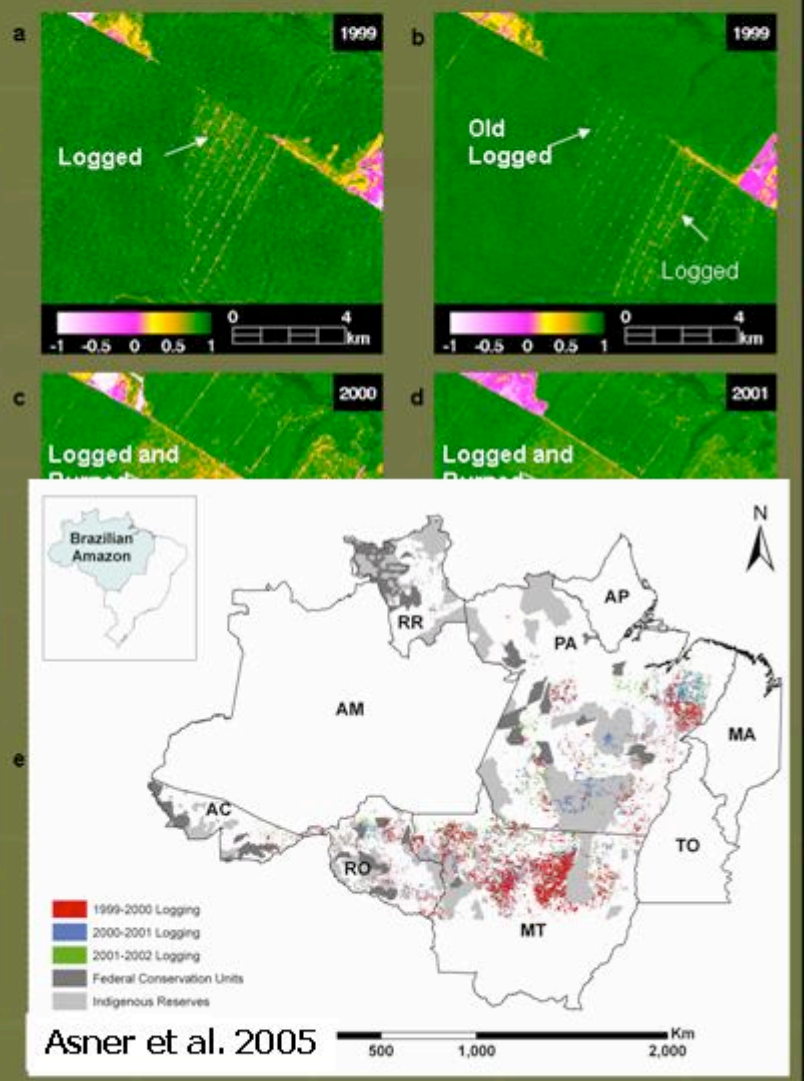
2. Estimation over time

- IPCC GPG 2003 for LULUCF:
  - STEP 1. Make natl. choices (definitions, other choices that may exist)
  - STEP 2. Identify lands subject to DDD – ACTIVITY DATA
  - STEP 3. Estimate C changes and non-CO2 GHGs – EMISSION FACTORS
- IPCC 2006 AFOLU Guidelines
  - www.ipcc-nggip.iges.or.jp/public/2006gl/ppd.htm
- RS capabilities exist for monitoring land conversions

Monitoring forest degradation



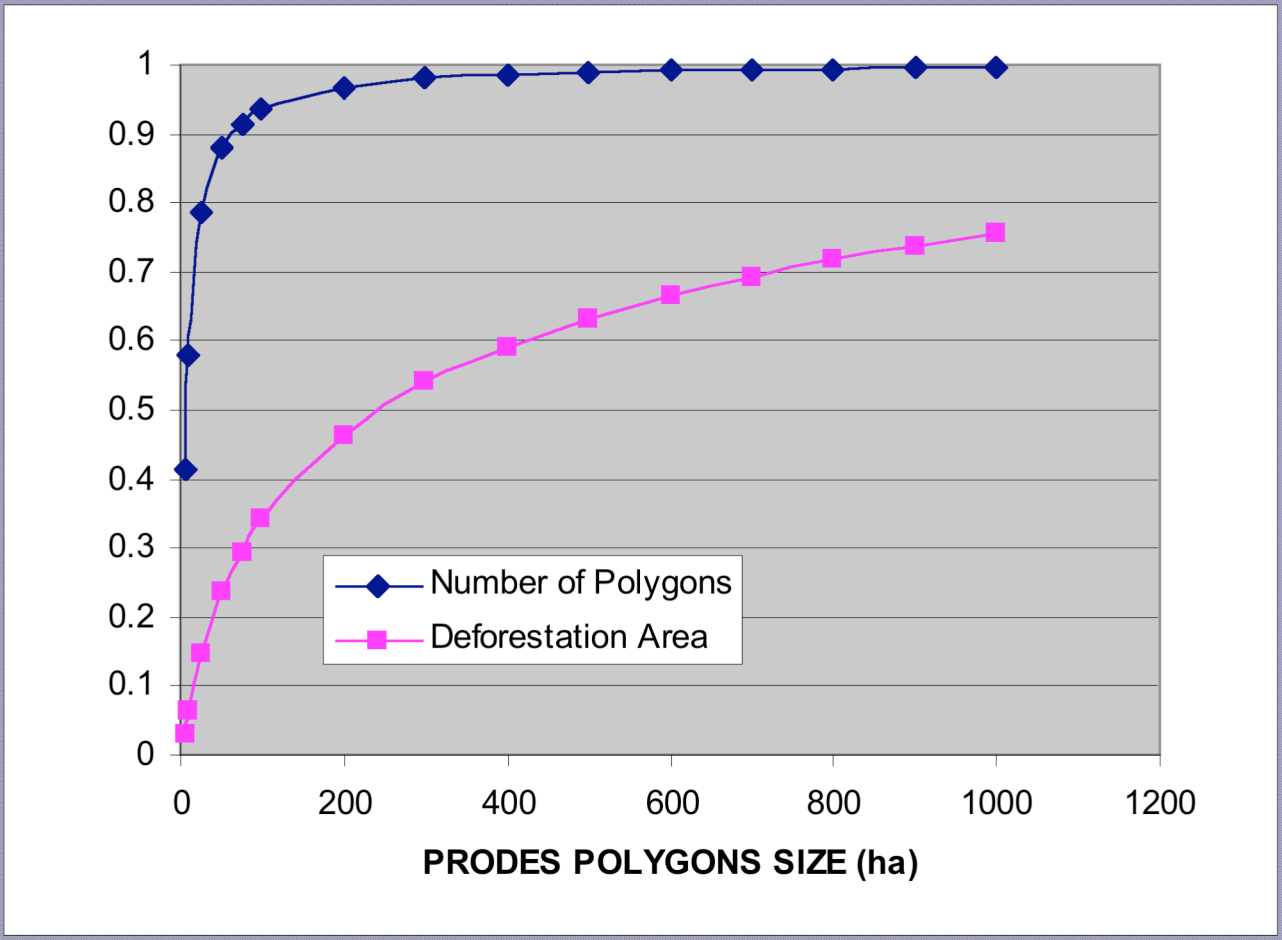
Source: De Souza and Roberts, 2005



GOFC-GOLD

Importance of large clearings

- Only 20% of deforested polygons are greater than 25 ha but account for 80% of deforested area
- But this does not include clearings ≤ 6 ha or any logging



Amazon deforestation polygons merged from Brazil INPE PRODES 2001-04

GOFC-GOLD

Enabling conditions for effective policy intervention

- Adequate and empowered institutions
- Awareness of drivers of deforestation
- Forest inventory, including identification of threatened forests / hot spots
- Monitoring system - remote sensing and ground-based
- Ability to establish a national-level deforestation baseline (critical for most policy mechanisms proposed)

I. Context:
Deforestation in the tropics

China, SE-Asia:

Agroindustry (Oil palm), Pulp (China)

West Africa:

- Shifting cultiviation, conflicts, timber extraction

Congo Basin:

- Timber extraction, roads, shifting cultivation

Central America:

- Shifting cultiviation, land speculation

Amazonas Basin:

- Land speculation, Agroindustry (Soja, livestock), shifting cultiviation, conflicts, planned and unplanned colonisation

Key features of negotiated policy solutions

- Promote participation by countries
- Incentives for improvements within countries
- Practicality

… has lead to the following conclusions:

- National level preferable to project level
- Voluntary, flexible, step-wise approach
- Two policy approaches:
  - Quantitative (GHGs), with or w/o connection to markets
  - Qualitative, not connected – New ODA sources, P&Ms

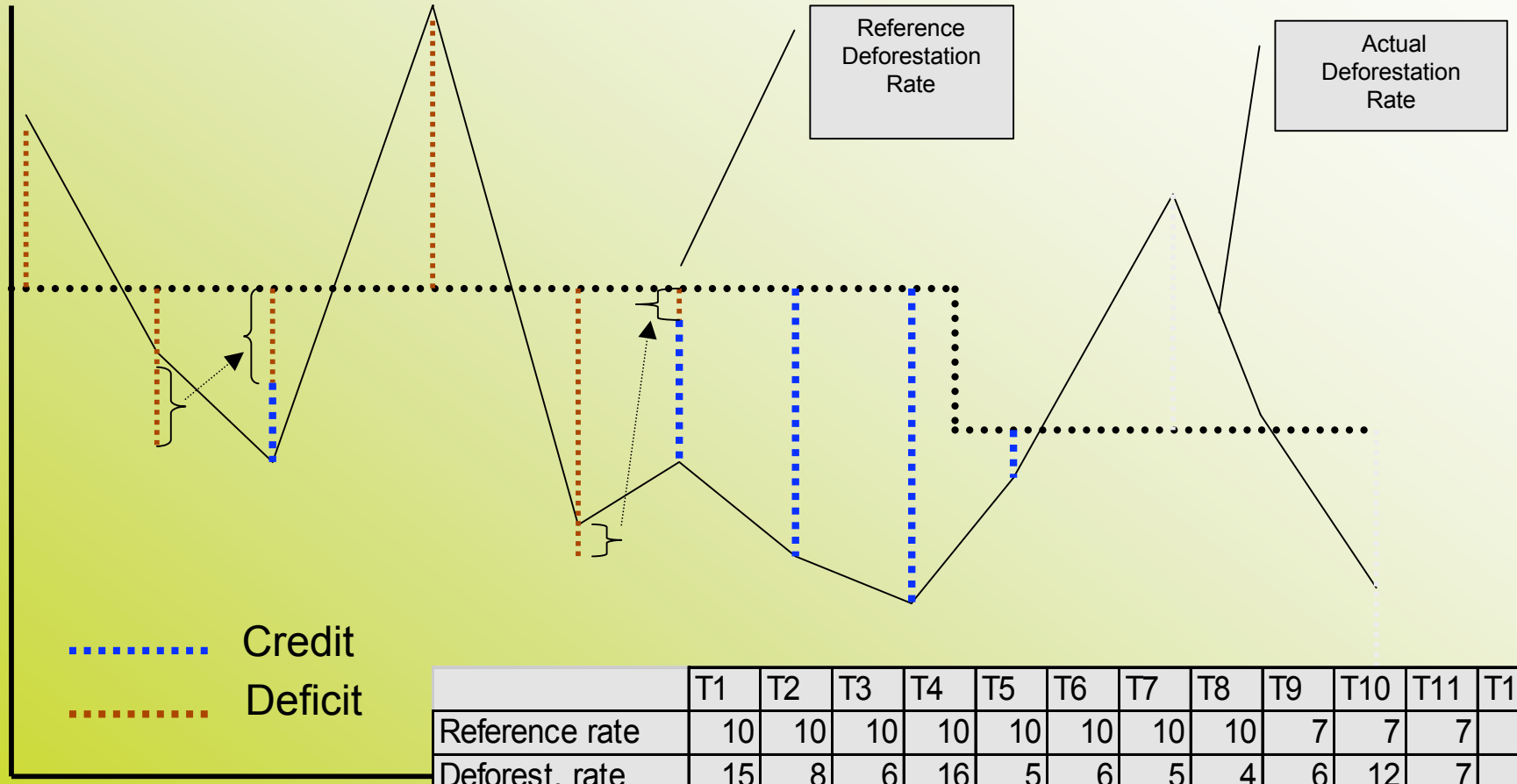
Brazilian Proposal

- First proposed sectoral approach for non-Annex I countries
- Voluntary arrangement in context of UNFCCC
  - voluntary for host country
  - voluntary for buyer country
- Quantification of results (tons of GHG reduced)
- Does not generate future obligations
- Does not count towards commitments of Annex I countries

Brazilian Proposal: Concept – Quantifying the Incentive

- Define reference emission rate
  - Average rate of deforestation in the country in a time period to be defined; periodically updated
  - Agreed carbon density per hectare per biome or vegetation type
- Assess annual / periodical emissions, for comparison with the reference
- If emissions have decreased, difference is converted to financial incentive (credit).
- If emissions have increased, difference is subtracted (debit) from future financial incentives.
  - $ amount per ton is agreed in advance and reviewed periodically.

Brazilian Proposal: Concept – Quantifying the Incentive



	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
Reference rate	10	10	10	10	10	10	10	10	7	7	7	7
Deforest. rate	15	8	6	16	5	6	5	4	6	12	7	5
Credit/Deficit	-5	2	4	-6	5	4	5	6	1	-5	0	2
Balance	-5	-3	1	-6	-1	3	5	6	1	-5	-5	-3
Incentive	0	0	1	0	0	3	5	6	1	0	0	0

A "bottom-up approach" based on broadly defined international principles

- Allow deforestation and/or forest degradation
- Allow full GHG accounting like in Annex I countries
- Provide flexibility in selecting base period
- Provide flexibility: forest definition and other thresholds
- Choice between project-level with leakage assessment or national level with reviewed inventory (see JI track 1)
- Methodologies proposed by countries / experts, evaluated by a UNFCCC panel

Conclusions

- Atmospheric stabilization requires REDD
- While there was much resistance during Kyoto negotiations, this has changed
- Methodological issues appear to be manageable
- Bottom-up, flexible, voluntary approach may lead to broad participation
- Whether or not linked to carbon markets remains to be seen
- Capacity building and early crediting are critical