

Afforestation, reforestation and reduced deforestation to sequester carbon and reduce emissions

Bernhard SCHLAMADINGER

Joanneum Research, Austria
bernhard.schlamadinger@joanneum.at

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Why are land-use activities desirable?

- LULUCF is part of the problem, thus must be part of solution
- Agriculture/forestry: largest economic sector in many developing countries
- SD benefits in host countries
 - Socio-economic (jobs, timber, biomass energy, ...)
 - Environmental (soil erosion, desertification, water, CC adaptation ...)
- AR projects of today provide biomass fuels of tomorrow

A/R CDM baseline and monitoring methodologies so far

- Started with delay (COP9 and COP10 decisions)
- More than 30 submissions
 - 4 x A
 - 6 x B
- 1 AR small scale methodology

CDM AR Methodology AR-AM0001

Reforestation of degraded land

Joanneum Research and
Chinese Academy of Forestry

Approved November 2005



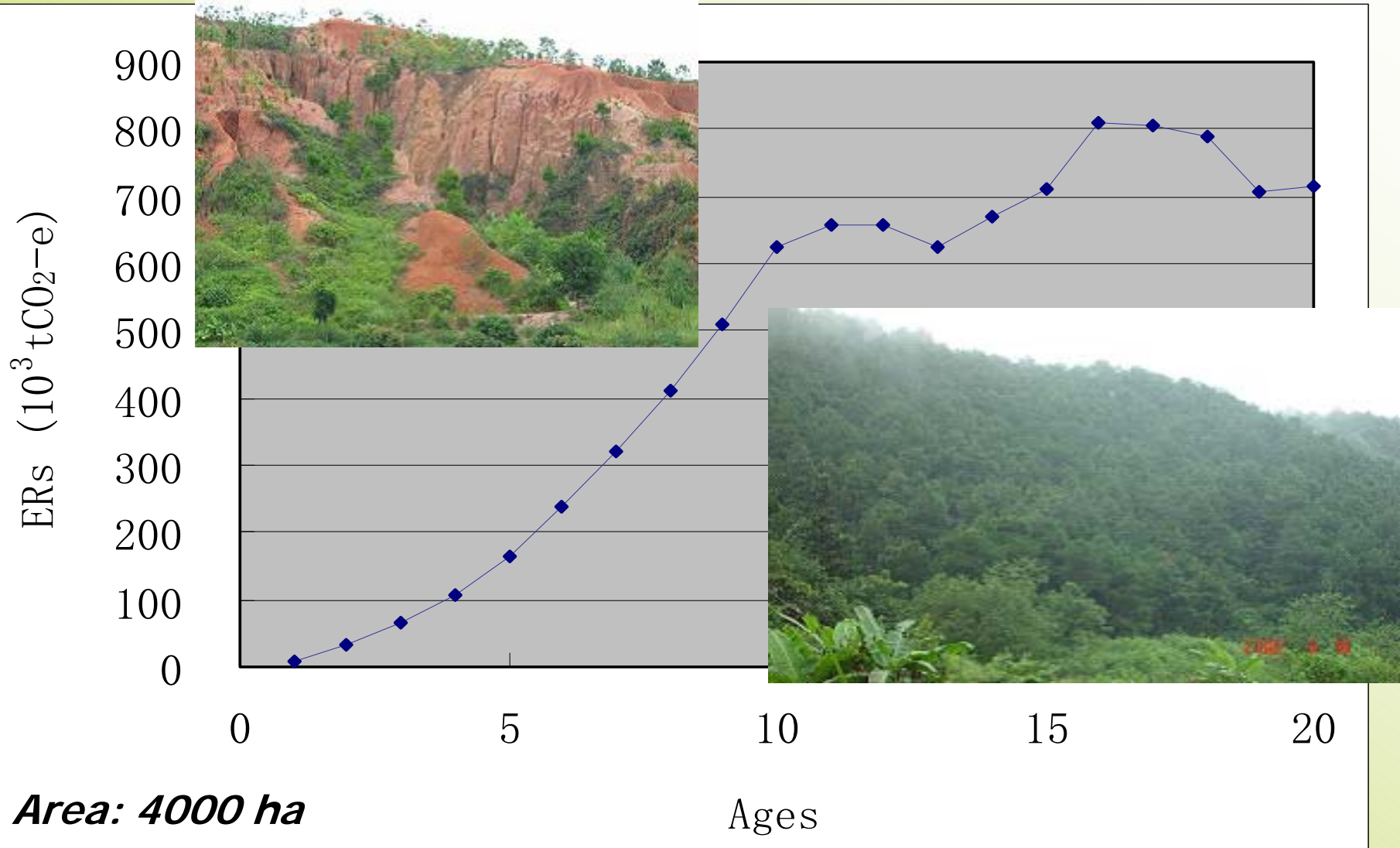
Eligibility conditions

- Degraded lands
- No significant site preparation
- Only aboveground and belowground biomass
- Other pools omitted in conservative way
- No shifting of pre-project activities

Other methodologies

- Many building on this approved methodology
- Expand, using a modular approach, e.g.:
 - Soil, dead wood, and/or litter
 - Activity displacement (leakage)
 - Fuelwood, charcoal
 - Grazing
 - Account for leakage or reduce it

China: Pearl River Basin Reforestation





Industrie Service

Validation Report

World Bank

Validation of the “Facilitating Reforestation for
Guangxi Watershed Management in Pearl River
Basin” project in China

Validation Report No. 756176, Revision 02

2006, July 24

中华人民共和国国家发展和改革委员会

THE NATIONAL DEVELOPMENT AND REFORM
COMMISSION OF THE PEOPLE'S REPUBLIC OF CHINA

No.38, Yuetan Nanjie, Beijing 100824

May 15, 2006

Letter of Approval for Project of Facilitating Reforestation for Guangxi
Watershed Management in Pearl River Basin As a Clean Development
Mechanism Project by National Development and Reform Commission of the
People's Republic of China

No. 030

CDM A/R projects, examples

- Biocarbon Fund: 20+ projects
- POSCO: 5 large-scale projects (plantations)
- FORMA (Spain): funding project preparation
- South Korea – Indonesia MOU on large-scale reforestation
- Window of opportunity for 2012 projects will close within the next year.

Biocarbon Fund projects with ERPAs

Country/Project Name	BioCF ERPA Emission Reductions tCO ₂ e**	Total Project Emission Reductions Generation tCO ₂ e
China: Pearl River Watershed Management	462,014	462,014
Costa Rica: Coopeagri Forestry	557,940	613,733
Honduras: Pico Bonito Forest Restoration	450,000	630,000
Moldova: Soil Conservation (BioCF)	600,000	2,227,024
Nicaragua: Precious Woods	174,796	1,206,883
Philippines: Watershed Rehabilitation	32,323	53,333
Uganda: Nile Basin Reforestation	261,211	295,050

Biocarbon Fund projects no ERPAs yet

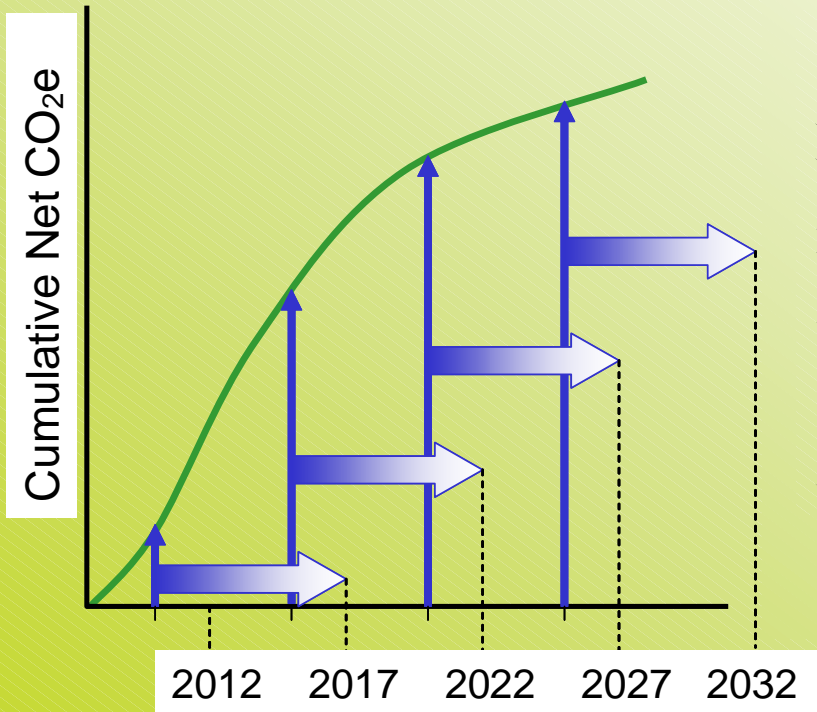
Country/Project Name	BioCF ERPA Emission Reductions tCO ₂ e**	Total Project Emission Reductions Generation tCO ₂ e
Albania: Assisted Natural Regeneration	*	257,180
Brazil: Reforestation Around Hydro Reservoirs	*	1,668,096
Colombia: San Nicolás Agroforestry	*	994,134
Colombia: Silvopastoral Rehabilitation	*	327,341
Dominican Republic: Rio Blanco Watershed	*	255,256
DR Congo: Bateke Fuelwood and Timber Plantation	*	2,809,662
Ethiopia: Humbo Assisted Regeneration	*	396,000

Biocarbon Fund projects no ERPAs yet

Country/Project Name	BioCF ERPA Emission Reductions tCO ₂ e**	Total Project Emission Reductions Generation tCO ₂ e
India: India Improving Rural Livelihoods	*	534,760
Kenya: Green Belt Movement	*	791,825
Madagascar: Andasibe-Mantadia Biodiversity Corridor	*	315,572
Mali: Acacia Comm. Plantations	*	1,068,375
Mexico: Seawater Agroforestry	*	1,746,391
Niger: Acacia Community Plantations	*	694,650
Trinidad and Tobago: Nariva Wetland Restoration	*	401,171
Uganda: Small Group and Tree Planting (TIST)	*	4,919,277

Temporary credits

tCERs



End of subsequent
commitment period

End of trading period

Source: L. Pedroni

Future prospects for A/R CDM

- Up-front financing is main hurdle, especially if timber not a co-product
- Temporary credits still a challenge, but arbitrage opportunities exist
- Increase 8000 tons threshold for small-scale
- Include revegetation in the CDM? (Africa)

LULUCF / Joint Implementation

- Permanent credits (liability is with host country)
- Other project types possible
- Only “front-loaded” projects will succeed
 - Low-impact harvesting
 - Fire and pest management
 - Forest protection, avoided deforestation

Deforestation in developing countries: COP11 mandate

- Reducing emissions from deforestation in developing countries: approaches to stimulate action
- Target: COP13 (2007)
- Elaborate policy and methodological approaches
- Country submissions (March 2006)
- SBSTA Workshop Rome, August 2006
 - 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

1. "Ex-ante" methodological issues

- Historical emissions
- Reference emissions level / baseline / target

2. Estimation over time

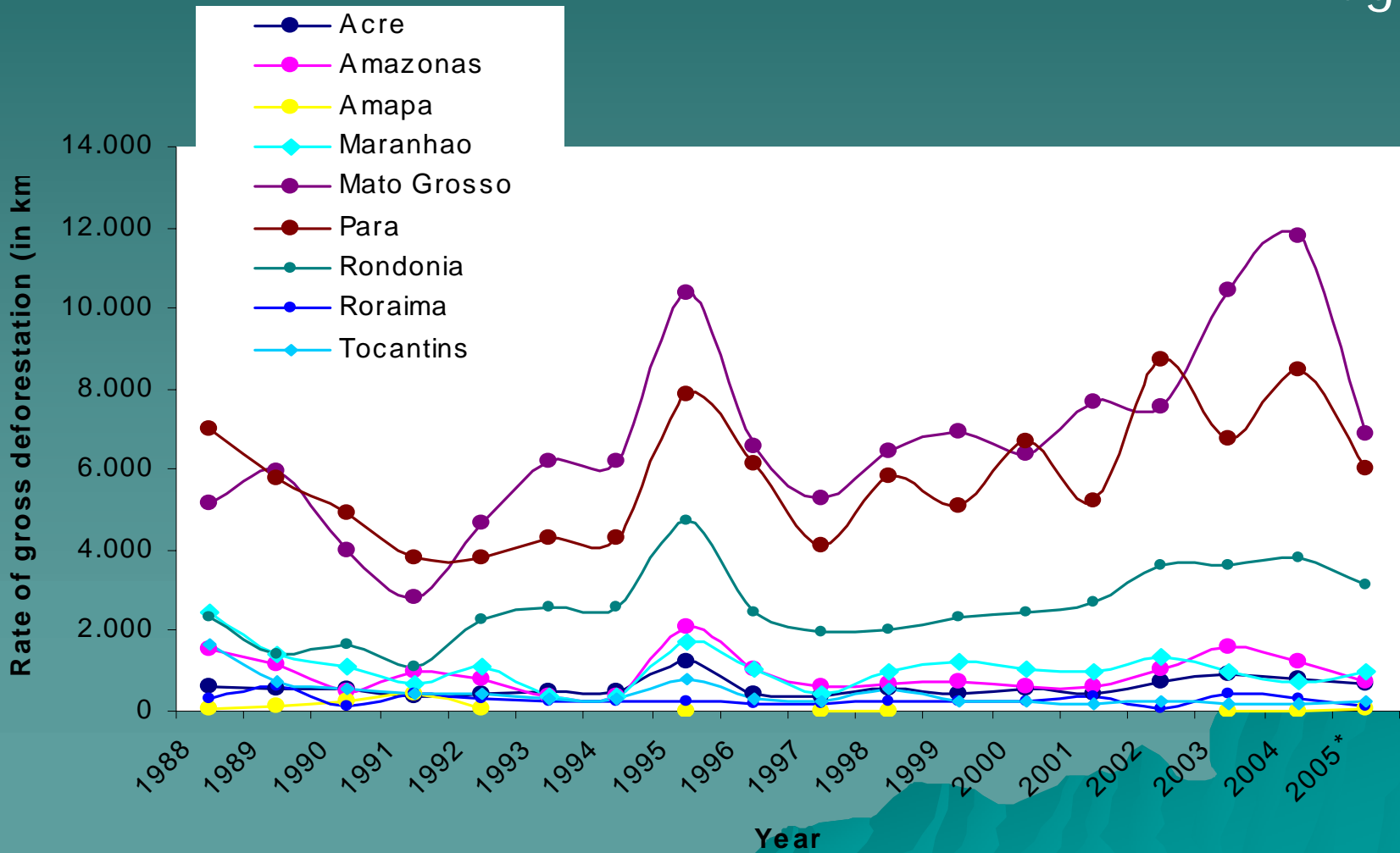
3. Accounting, based on 1. and 2.

- Inter-annual variability of D rates
- Permanence
- Incentives (e.g., early crediting)

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

Annual Rate of Gross Deforestation

T. Krug



Key features of policy solutions

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

... may require:

- Nation-wide rather than project level reporting
- Voluntary, flexible, step-wise mechanism
- Two possible policy approaches:
 - Quantitative: with or w/o connection to markets
 - Qualitative: ODA, P&Ms

Brazilian Proposal

- Voluntary sectoral approach under UNFCCC
- Quantification of results (tons GHG reduced)
- Does not generate future obligations
- Does not count towards commitments of Annex I countries

Brazilian Proposal:

Concept – Quantifying the Incentive

1. 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

2. Assess actual emissions, compare with reference

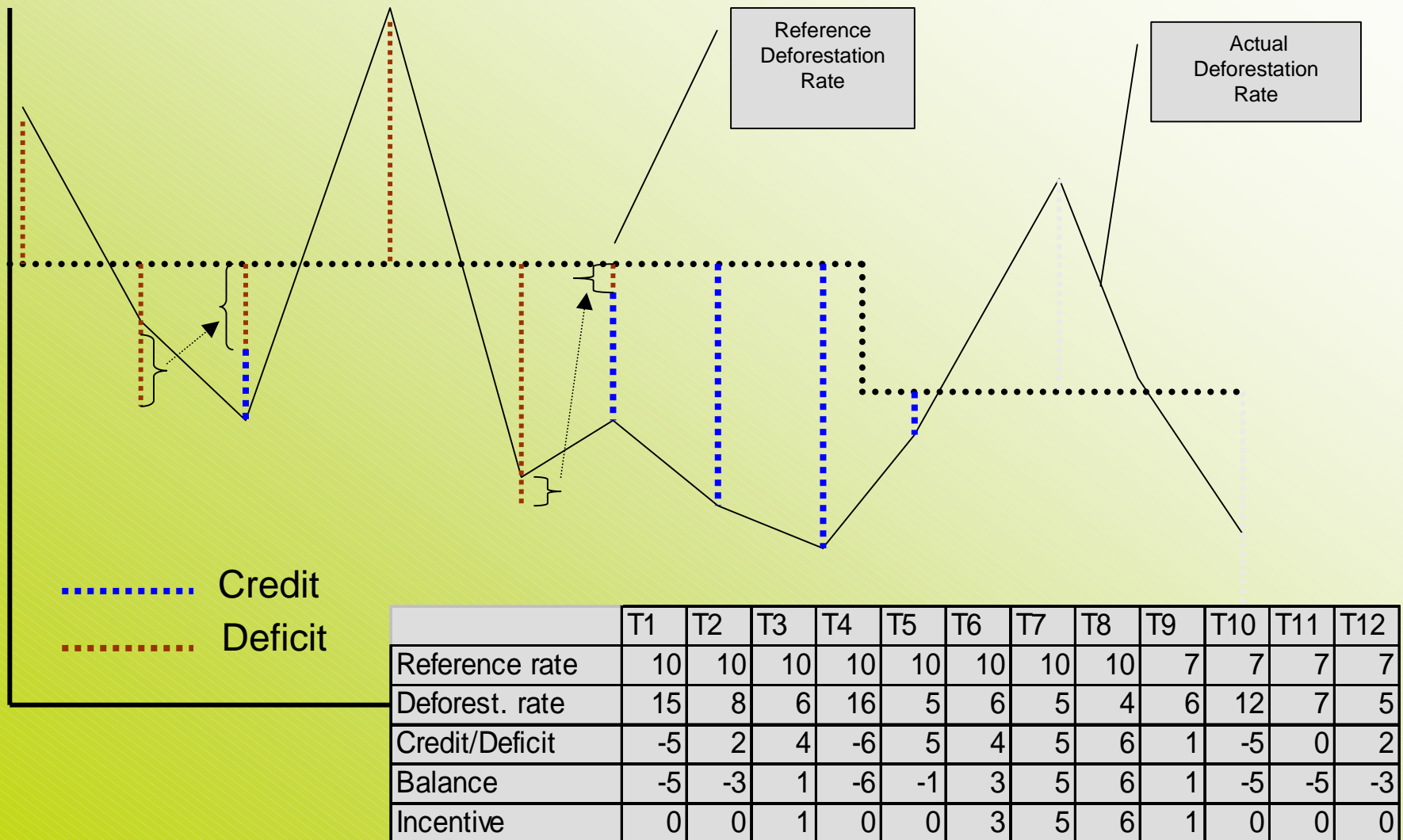
3. If emissions decreased, financial incentive (credit).

4. If emissions increased, debit subtracted from future financial incentives

- \$ per ton agreed in advance and reviewed periodically.

Brazilian Proposal:

Concept – Quantifying the Incentive



COP12 decision, Nairobi

- Second workshop in March 2007
 - policy approaches and positive incentives, and tech + meth requirements for their implementation;
 - assessment of results and their reliability;
 - improve understanding of reducing emissions from deforestation in developing countries.
- Submissions Feb. 2007, including provisions of other conventions, and new data

Conclusions

- AR / CDM making progress, but results limited (1% of 1% of Annex I emissions)
- Atmospheric stabilization requires REDD
- Methodological issues seem manageable
- Bottom-up, flexible, voluntary policy approach to achieve broad participation
- Linkage to GHG markets remains controversial
- Capacity building and trial programs