
Market-Based Innovations for Environment Conservation in Brazil

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BRAZILIAN AMAZONIA

- ◆ $\cong 5\text{M Km}^2 > \text{Western Europe}$
- ◆ $\cong 4\text{M Km}^2 \text{ Tropical Forest}$
- ◆ $\cong 20\text{M People} \cong \text{Sweden} + \text{Norway} + \text{Finland} + \text{Denmark}$
- ◆ $\cong 15 - 20\% \text{ of the world biodiversity}$
- ◆ $\cong 12\% \text{ of all the planet fresh water stock}$

BRAZILIAN AMAZONIA

Comand & Control

$\cong 600\text{K Km}^2$ deforested = > France

$\cong 17\text{K Km}^2$ every year $\cong \frac{1}{2}$ Belgium

BRAZIL

- ◆ Solution: Incentive Based Regulation
 - Amplifying the role of economic instruments in public policies
 - Promoting participatory instruments
 - involving groups in the civil society

∴ Changing the incentives that drive micro-level behaviors

BRAZIL

◆ Initiatives

- “RPPN” – PRIVATE NATURAL HERITAGE RESERVE
- “ICMS ECOLÓGICO” – ECOLOGICAL VALUE-ADDED TAX
- LEGAL RESERVE TRADEBLE RIGHTS
- CERTIFIED FOREST PRODUCTS BUYERS GROUP
- OTHERS



“RPPN” Private Natural Heritage Reserve



- ◆ Law 1.922, June 5th 1996
 - basis: personal desire to preserve
- ◆ Private area
- ◆ Specially protected, by the initiative of its owner
- ◆ Recognized by the Government
- ◆ Considered relevant due to its biodiversity, scenic aspect, or to its environmental characteristics

“RPPN”

Private Natural Heritage Reserve

- ◆ Objective:
 - To protect the environmental resources in the region
- ◆ Characteristics:
 - They are forever, meaning FOREVER
 - Only allowed the development of scientific, cultural, educational, and recreational activities
- ◆ Obligations:
 - Guarantee the maintenance of the env´tal attributes of the area
 - Submit the zoning and the utilization plan for approval
 - Report annually the RPPN status and activities developed

“RPPN”

Private Natural Heritage Reserve

- ◆ Advantages:
 - Rural Territory Tax Exemption
 - Priority in the analysis to resources to projects at the National Environmental Fund
 - Preferences in credit analysis for agriculture activities
- ◆ Results:
 - > 100 RPPN's created Brazilwide
 - > 250K hectares of protected area

“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

- ◆ 25% of ICMS (tax on sale of goods and services) in Brazil is reallocated to local government - each state may determine redistribution criteria
- ◆ “Ecological” criterion adopted in 1990 (Paraná)
- ◆ Now operative in 6 states (PR, SP, MG, RO, RS e MS)
- ◆ Legislation under discussion in other states

“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

- ◆ Acts as a fiscal compensation mechanism: the “Protector-Receives” principle
- ◆ Encourage municipalities to support the creation of conservation areas and to adopt sustainable development policies
- ◆ Rewards municipalities that have protected areas on their territory and thus cannot carry out traditional economic activities

“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

◆ **Criteria:**

- **Territorial Restriction** = Protected Area / Total municipal area
 - **Conservation Factor** = Level of Protection (weighting based on management categories)
 - **Quality Factor** = Physical and Biological quality of area, water resources, implementation and management plan, articulation with the community, monitoring...
- ◆ Amount received = % Total ICMS x Territorial Restriction x Conservation Factor x Quality Factor

“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

◆ Results:

- Increase in the # and size of protected areas and recuperation of degraded forestlands
- Improvement in the quality of conservation: local infrastructure and services (electrification, roads, water..)
- Public dissemination of the debate
 - Introduction of a municipal environmental agenda
 - Institutional improvement of the use of economic instruments for environmental regulation
- Promoting fiscal justice
- Incentive to eco- and rural-tourism

“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

- ◆ Paraná:
 - 2,5% to Conservation + 2,5% headwaters
 - Total protected area increased 143%, or 1,133,176 additional hectares (1992-99)
 - Many private landowners have committed forestlands to permanent easements (RPPN)
 - R\$ 42M transferred = US\$20M

“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

- ◆ São Paulo:
 - 0,5% to Conservation
 - 152 municipalities (1999) = 24% of Total
 - Ribeira do Iguape Region = 23 municipalities
 - ◆ Amount received is greater than the fiscal value added transferred
 - R\$ 27M transferred = US\$12M

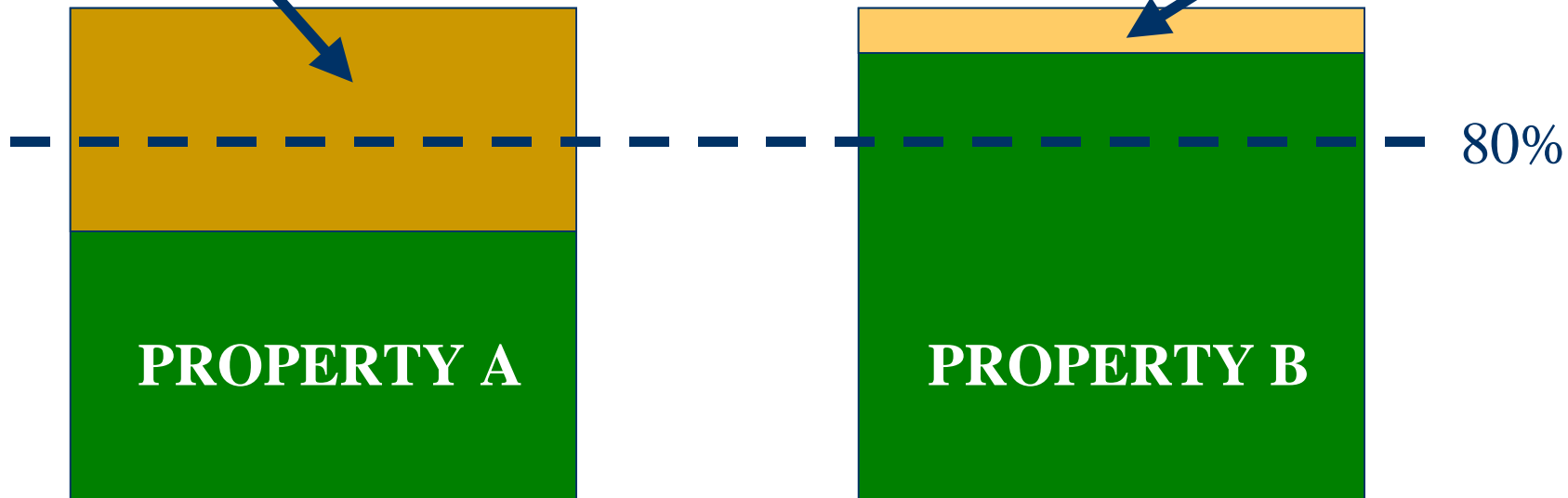
“ICMS ECOLÓGICO” ECOLOGICAL VALUE-ADDED TAX

- ◆ Minas Gerais
 - 0,5% to Conservation + 0,5% to Garbage and Sewage Treatment
 - # of conservation units nearly doubled
 - Protected areas increased 48%, totaling an additional 551,591 hectares (1995-98)
 - Total allocated (1995-98): US\$ 25M
 - 174 municipalities (1998)
 - Conservation became the “principal industry” in some municipalities

LEGAL RESERVE TRADEBLE RIGHTS SCHEME

High Productivity Area
US\$ 500/ha/Y

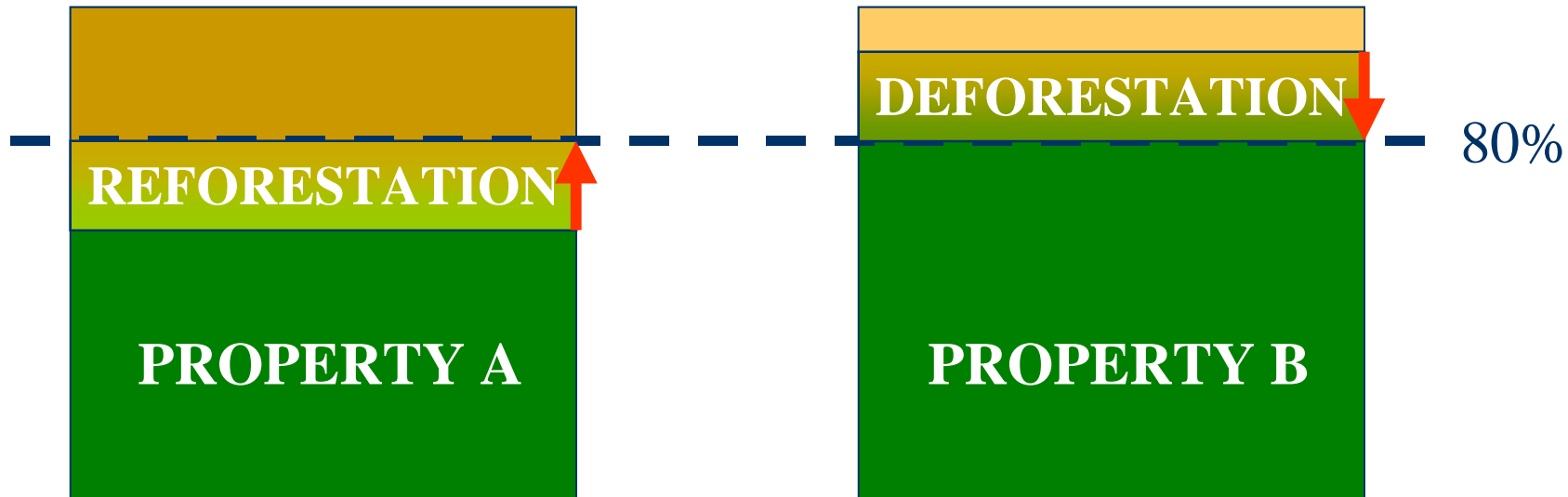
Low Productivity Area
US\$10/ha/Y



WHITOUT LEGAL RESERVE TRADEBLE RIGHTS

High Opportunity Cost
Low Environmental Gain

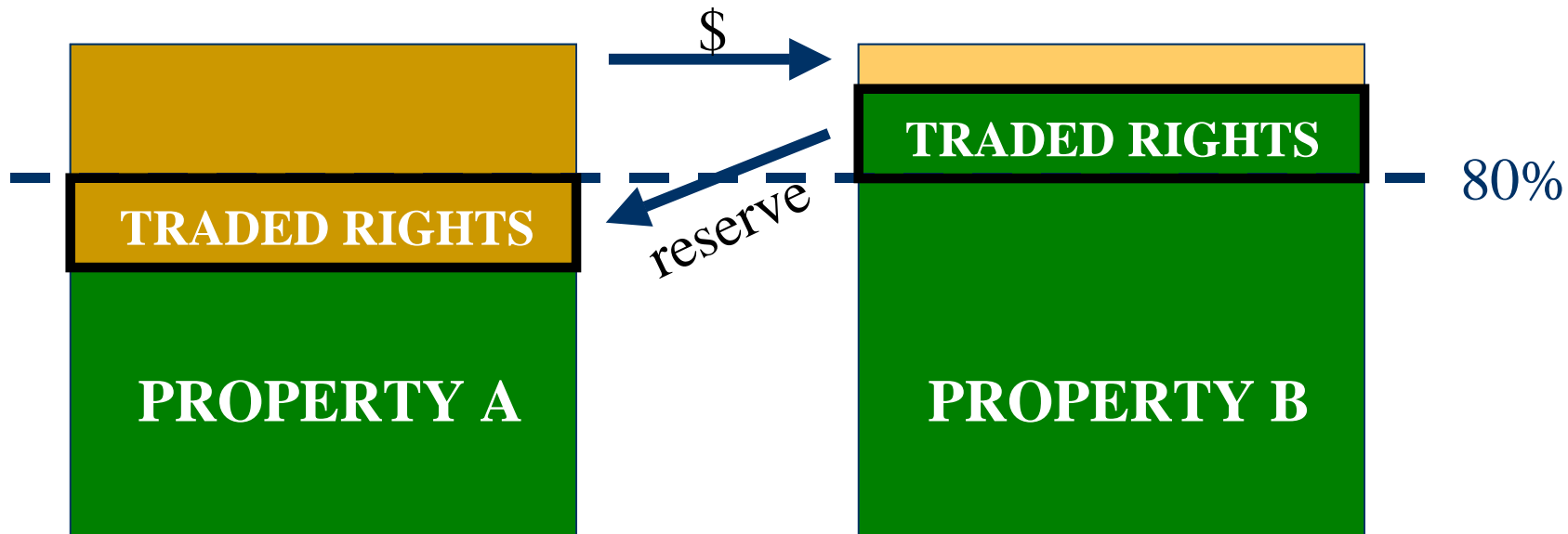
High Environmental Cost
Low Economic Gain



WHIT LEGAL RESERVE TRADEBLE RIGHTS

Economic and Social
Gains

Environmental
Gain



**CERTIFIED FOREST
PRODUCTS
BUYERS GROUP**



**Compradores de
Produtos Florestais
Certificados**

- ◆ **NGO Initiative – Friends of the Earth – Brazilian Amazonia**
 - **Funded in April, 2000 with 33 companies as “Certified Timber Buyers Group”**
 - **Became “Certified Forest Products Buyers Group” in February, 2001**
 - **Now, has 62 companies, 2 State Gov’ts (Acre and Amapá), and 1 municipality (Guarujá)**
 - **First Group in a Developing Country – (17 in the World)**

CERTIFIED FOREST PRODUCTS BUYERS GROUP



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CERTIFIED FOREST PRODUCTS BUYERS GROUP



**Compradores de
Produtos Florestais
Certificados**

- ◆ Commitments:
 - For those who buy native forest products
 - 50% of its total consumption has to be certified till 2005
 - For those who buy reforested timber
 - 100% of its total consumption has to be certified till till 2005
- ◆ Group Total Potential Consumption
 - 1M m³ of Certified Timber

OTHERS

- ◆ “Pro-Ambiente” – Pro-Environment Fund
- ◆ Watershed Consortiums
- ◆ “Reforestation Associations”
- ◆ Carbon Sequestration
 - PR, TO, and MT
 - Plantar Project – Charcoal to the Pig-Iron Industry – Approved at PCF