



Mitsubishi UFJ Securities

International Seminar on Reducing Emissions from Deforestation
and Forest Degradation in Developing Countries

**Lessons learned from CDM projects
including AR-CDM and views on REDD
from the private sector view point**

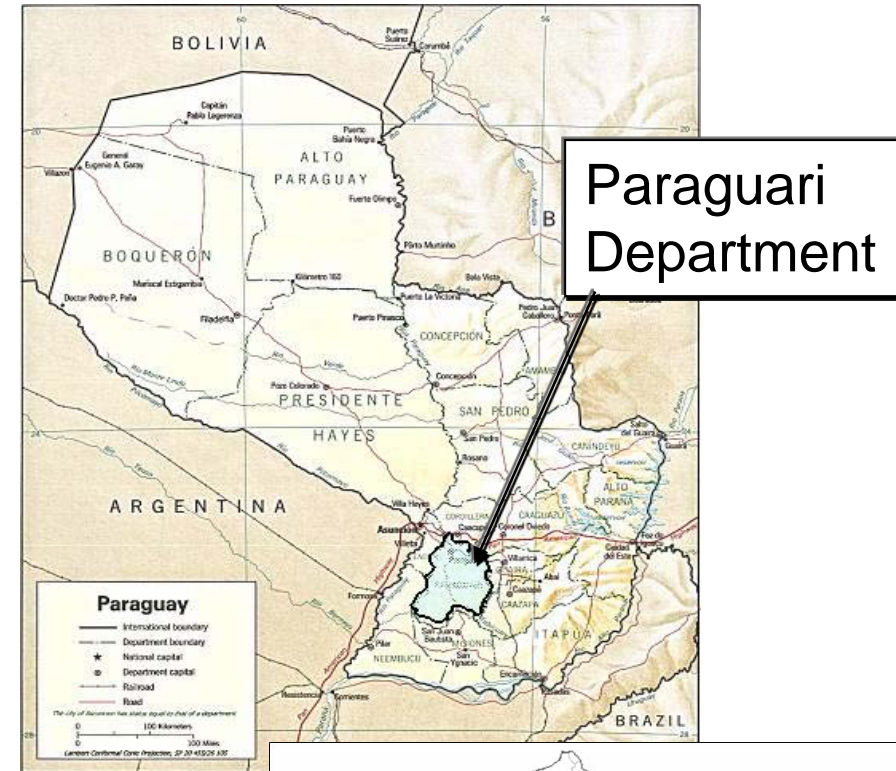
March 10, 2010

**Clean Energy Finance Committee
Mitsubishi UFJ Securities Co., Ltd**

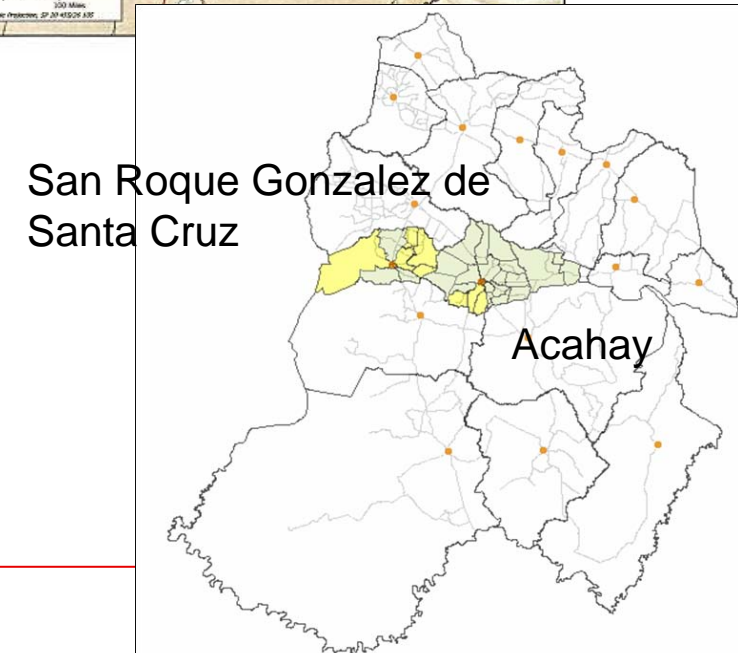
Summary of the Project

- **Background**

- Low income and small-scale farmers have limited knowledge on more appropriate soil management practices
- No financial capability to implement new and less impacting practices



- **Location:** *San Roque Gonzalez de Santa Cruz and Acahay districts, Paraguari Department, Paraguay*



Summary of the Project -2

- **Proposed project:** Reforestation of lands that are currently croplands and grassland under poor soil conditions
- **Project participants:**
 - Japan International Research Center for Agricultural Sciences (JIRCAS)
 - Instituto Forestal Nacional (INFONA: Public entity of Paraguay)
- **Other project participants not on the PDD:** About 200 farmers

Summary of the Project-3

- **Project area:** 215.2 ha
- **A/R type:** Small-scale, Reforestation
- **Methodology:** AR-AMS0001 ver.04.1 (grassland and cropland)
- **Project Status:**
 - Public Comments (Feb 15, 2008)
 - Registered (Sep 09, 2009)
- **Crediting period:** 20 years
- **Type of credits:** tCERs

Contribution to Sustainable Development

Environmental Benefits

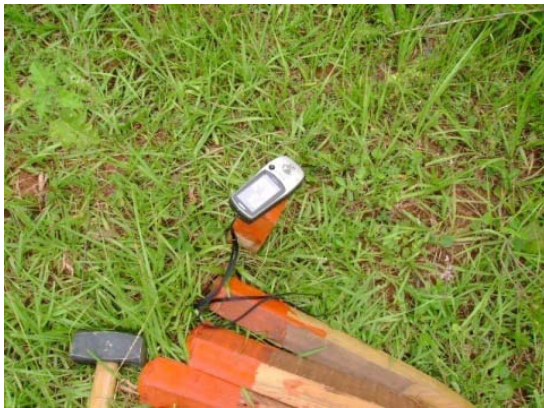
- Reduce the amount of greenhouse gases
- Prevention of soil erosion
- Protect farms and homes from strong wind

Socioeconomic Benefits

- Gain advanced know-how of reforestation, forestry management and agro-forestry
- Enhance educational program of forestry activities
- Income from timber products
- Income through CERs

A/R CDM Project Preparation

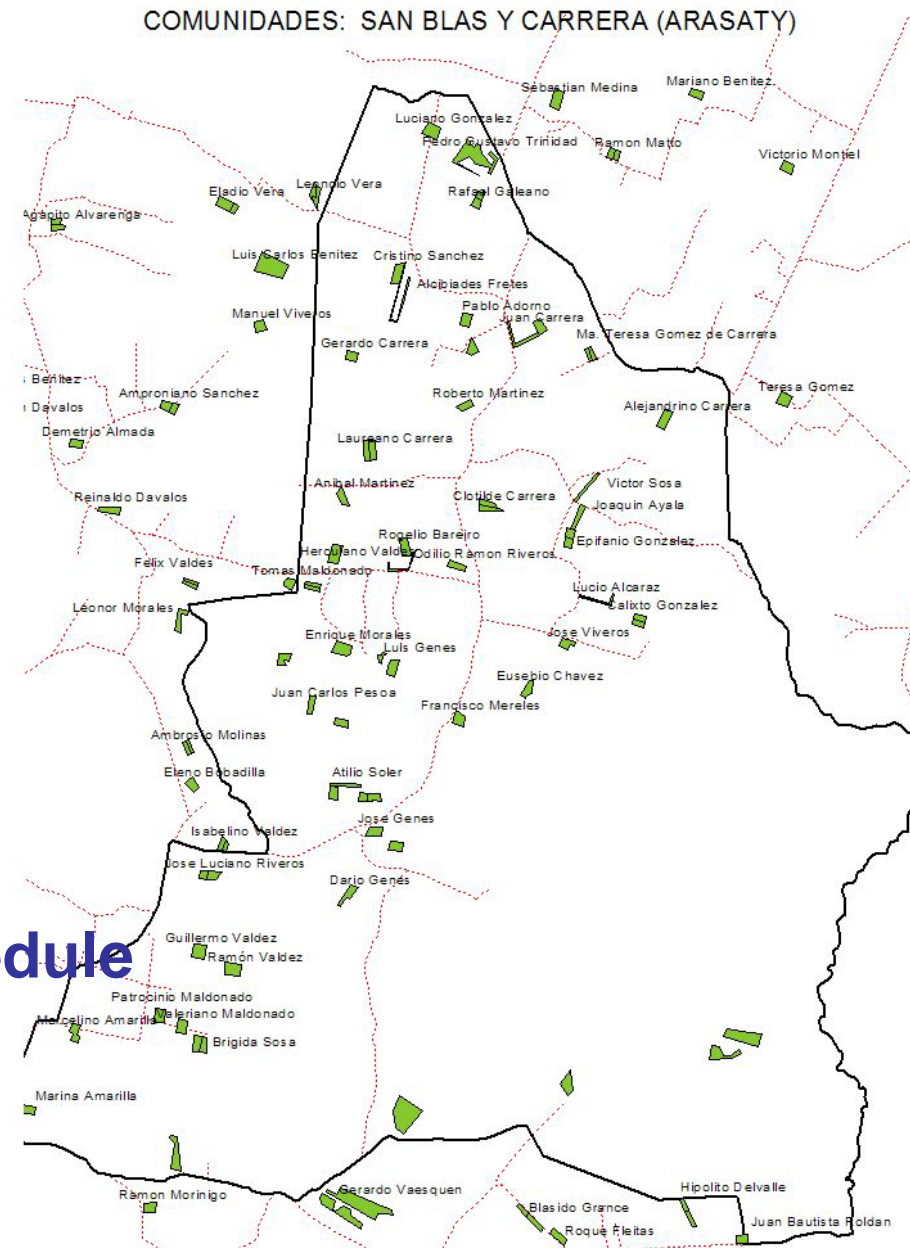
- **Project boundaries**
 - All 240 parcels of lands were determined using GPS
 - Mark each parcel



- **Define forestry management schedule**

Harvesting schedule

Thinning schedule



A/R CDM Project Preparation-2

- **Stratification**

Plant species:

- 2 eucalyptus species (Eucalyptus grandis, Eucalyptus camaldulensis)
- 1 silver oak specie (Grevillea robusta)

Planting schedule: 2007 and 2008

Stratum	Tree specie	Spacing (m)	Year of planting	Total Area (ha)	
				Croplands	Grasslands
S1	Eucalyptus grandis	3.0 × 2.5	2007	25.2	4.8
S2	Eucalyptus grandis	3.0 × 2.5	2008	16.9	14.3
S3	Eucalyptus camal dulensis	3.0 × 2.5	2007	6.6	9.8
S4	Eucalyptus camal dulensis	3.0 × 2.5	2008	3.6	60.9
S5	Gravillea robusta	3.0 × 2.5	2007	5.0	0.6
S6	Gravillea robusta	3.0 × 2.5	2008	12.5	2.6
S7	Gravillea robusta	5.0 × 4.0	2007	10.6	3.5
S8	Gravillea robusta	5.0 × 4.0	2008	23.8	14.5
Total				104.2	111.0

A/R CDM Project Preparation-3

- **Baseline**

Grassland: 111ha (52%) with grazing activity

Cropland: 104ha (48%) with some trees and palms

Grassland



Cropland



- **Monitoring**

- Location and size of the area
- Measure tree height and diameter (DBH) of trees
- Land ownership

Estimated GHG removals by sinks

Years	Annual estimation of net anthropogenic GHG removals by sinks in tonnes of CO ₂ e
Year 1	-8,737
Year 2	5,784
Year 3	14,082
Year 4	2,970
Year 5	-30
Year 6	9,469
Year 7	8,941
Year 8	3,850
Year 9	1,768
Year 10	15,128
Year 11	4,082
Year 12	-19,028
Year 13	-45,811
Year 14	6,913
Year 15	14,033
Year 16	3,710
Year 17	934
Year 18	7,662
Year 19	8,242
Year 20	-3,494
Total estimated net anthropogenic GHG removals by sinks (tonnes of CO₂ e)	30,468
Total number of crediting years	20
Annual average over the crediting period of estimated net anthropogenic GHG removals by sinks (tonnes of CO₂e)	1,523

Difficulties in Developing A/R CDM Project

Lack of forestry definition and low income communities

- Paraguayan government created the forestry definition for the project. (A minimum area, minimum tree crown cover, A minimum tree height)
- Difficult to obtain definition for low income communities determined by DNA

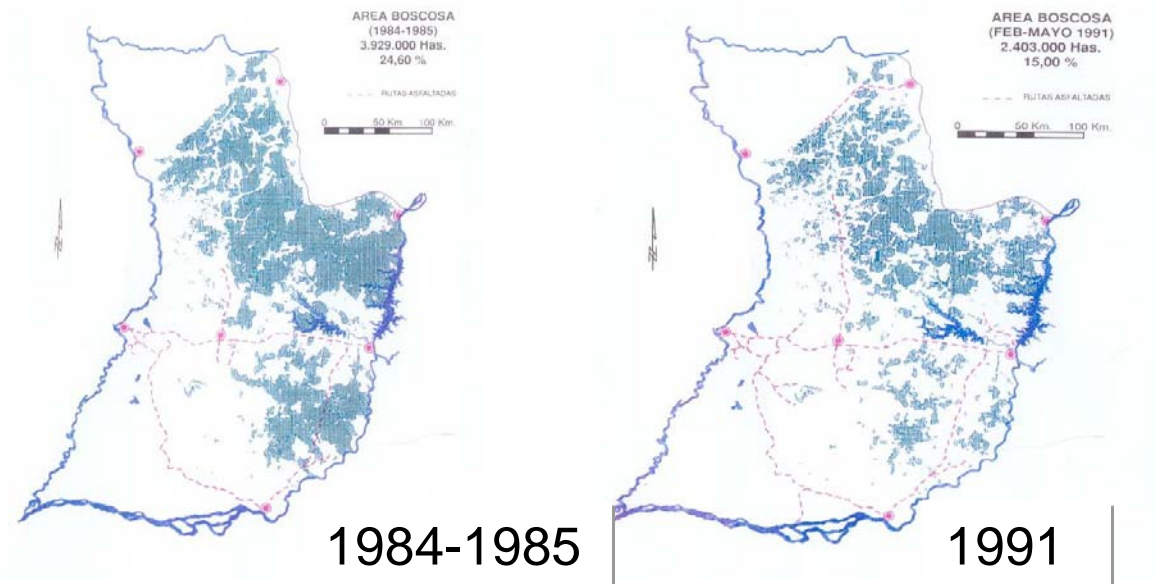
Land ownership

- Roughly half of the farmers were with title to their lands.
- Evidence of land ownership status from all farmers participating in the project.

Difficulties in Developing A/R CDM Project-2

Proof of land eligibility for afforestation and reforestation

- For afforestation, a project proponent is required to provide a sufficient proof that the land did not have woody vegetation above the national threshold for at least 4 single representative years within 50 years.
- The land should not have been forested since January 1st, 1990.



Difficulties in Developing A/R CDM Projects-3

Baseline calculation

- number of trees and heights been counted
- Below-ground biomass for grasslands

Stratification

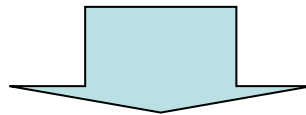
- The number of strata increased by the revised methodology and dividing the planting years into two

Plant selection process

- One of the initially planned tree species could not be used due to the presence of plant disease

Financing in Developing A/R CDM Projects

- Need Seed money
- Small incentives from CER sales
- Need cash flow until delivery of CERs



- Japanese ODA for capacity building for agro forestry (Total costs of 20 years:USD1MM, Initial costs: ODA:USD0.3MM +@) Farmers costs in O&M:USD50000)
- Japanese buyers for CSR purpose:USD20000)
- Income from agriculture products

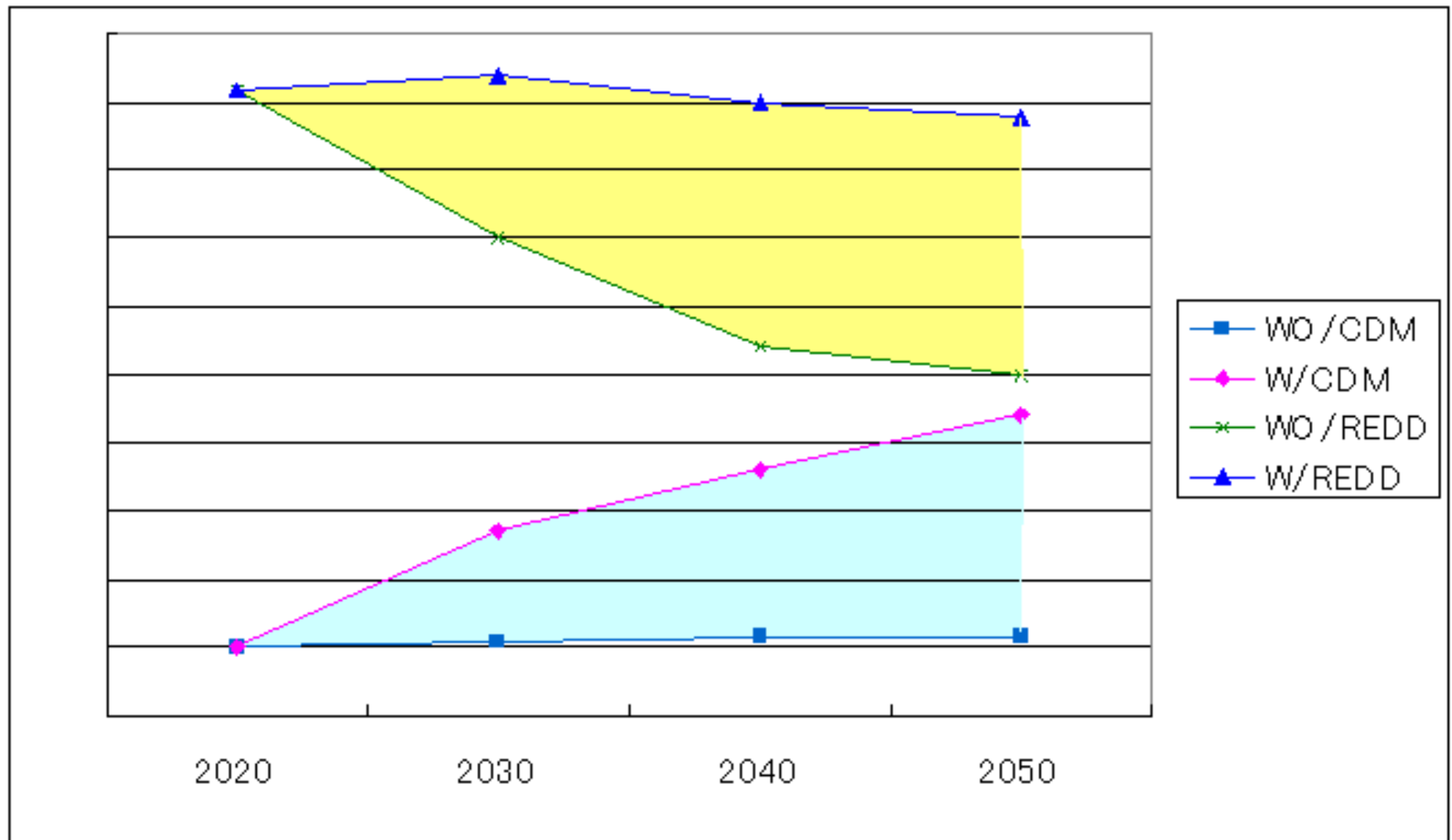
What we learned from CDM?

- A/R CDM requires a lot of local, technical and historical data →
Difficult to collect available local data
- A/R CDM requires special management practice on top of regular forestry management
- Uncertainty with A/R CDM project implementation and longer monitoring period (every 5 years after the first monitoring)
- Buyers find “non-permanence” and replacement of tCERs and ICERs less attractive than CERs from mitigation projects.

Progress of A/R in CDM EB 2009

- Pre-project **grazing** activities in A/R CDM project activity is insignificant
- Pre-project **crop cultivation** activities in A/R CDM project activity is insignificant
- Estimation of the increase in GHG emissions attributable to displacement of **pre-project agricultural** activities
- Removal of existing vegetation due to **site preparation** are insignificant
- Estimation of GHG emissions due to **clearing, burning and decay of existing vegetation**
- Conservative choice and application of **default data** in estimation of the net anthropogenic GHG removals by sinks
- Terms of reference to assess the implications of the possible inclusion of lands with **forests in exhaustion** as A/R CDM project activities, taking into account technical, methodological and legal issues
- Change in carbon stocks in **existing live woody vegetation** are insignificant
- Conservative choice of **default data** for estimation of biomass stocks and change in woody vegetation
- Estimation of changes in the carbon stocks of **existing trees and shrubs** within the boundary of an A/R CDM project activity
- Calculation of the **number of sample plots for measurements** within A/R CDM project activities
- **New methodologies approved: 15, Forest projects registered: 13**

Differences bet A/R CDM and REDD?



REDD from the private sector view point

Projects risks vs REDD risks

- Volume
- Indigenous People and minority group
- Land titles
- Loggers, deforesters
- Ownership/Boundary
- Political risk
- Baseline/monitoring



Compliance buyer vs CSR buyer

- Large vs Price
- Reputation risks
- Standard for checking
- Reference case setting
 - Verification by third body
- NEED transparent additional value
- Project based REDD+



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