Development Planning Ministry

Viceministry for Land Planning and Environment

Bolivia's experience on forest management and emissions avoidance

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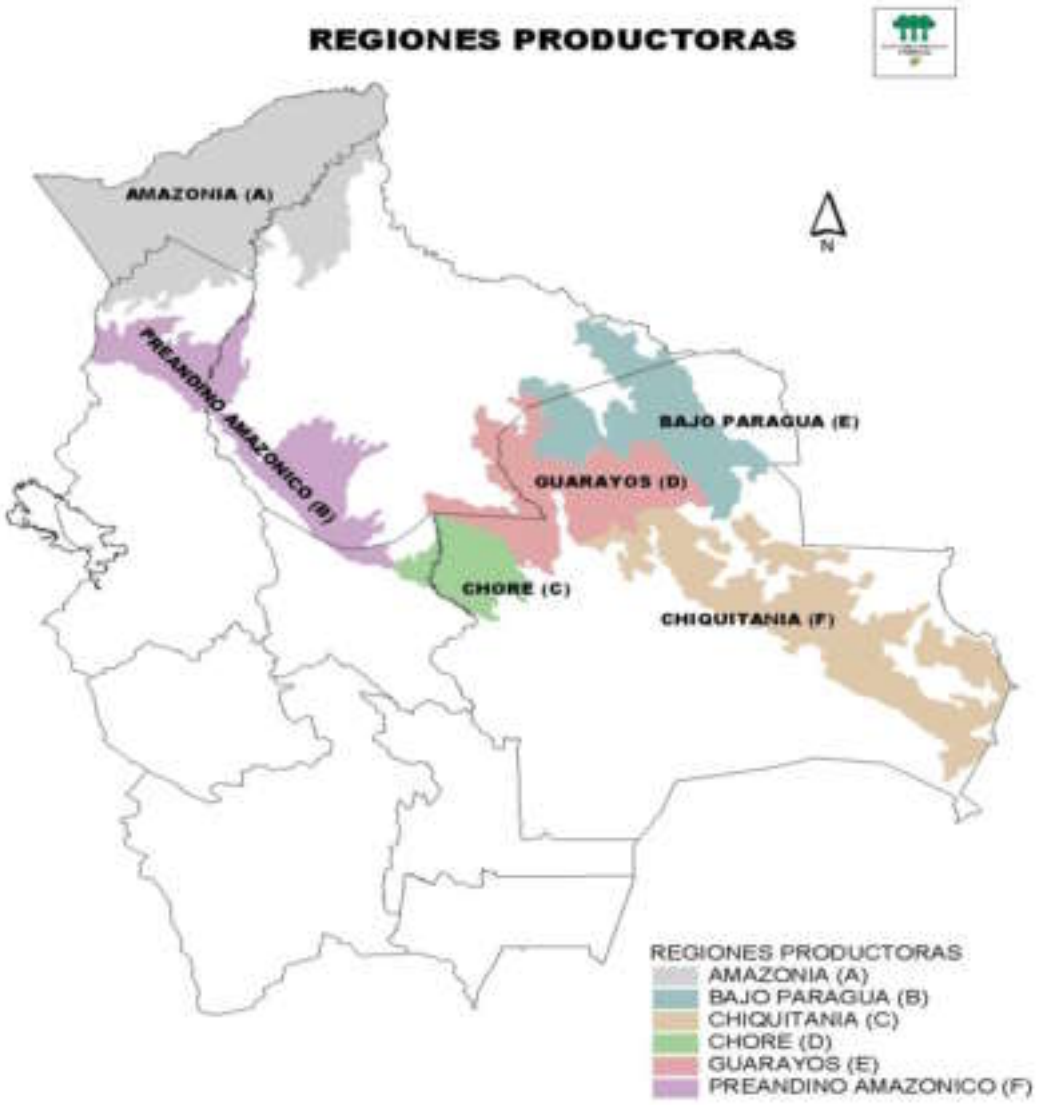
Issues

- Bolivia's Background
- Forest Management and Legal Framework
- Noel Kempff Mercado Climate Action Project: Lessons learned
  - Baselines
- Conclusions

BOLIVIA

Population	8.274.325 inhabitants
Area	1.098.581 Km2
GDP	9.306 billion US$ (2005)
GDP Growth	4.06% (2005)
GDP Per capita nominal	987 US$ (2005)
GHG emissions per Inhabitant	0.008878 ton CO_2-equivalent
% Global Emissions	0,097% from which 80% comes from LULUCF sector
Ratification UNFCCC-KP	Bolivia ratified the UNFCCC in 1994 with its National Law Nº 1576 and the KP 1999.

FOREST AREAS IN BOLIVIA



BOLIVIA: 108,7 million ha.

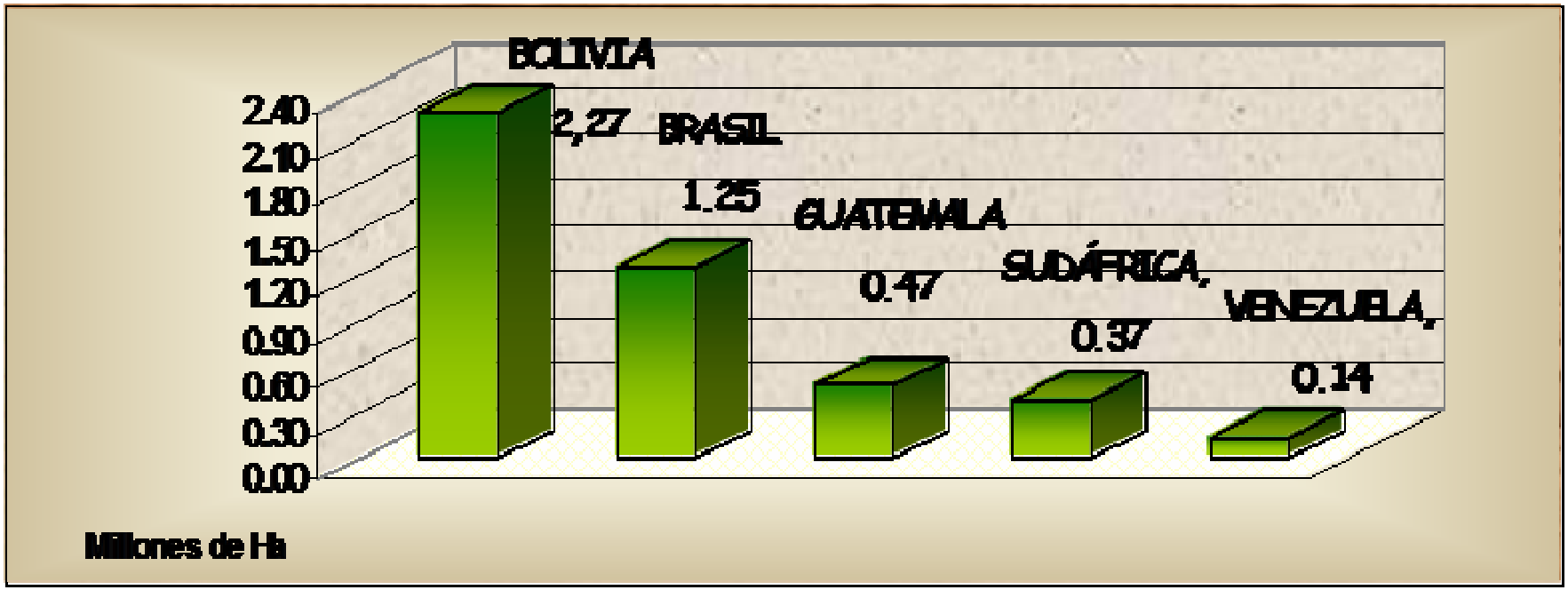
***FOREST*: 53 million ha.**

AREAS SELECTED FOR PERMANENT FOREST PRODUCTION: 28,7 million ha.

FORESTS LANDS UNDER FOREST MANAGEMENT (2004) : 8 million ha.

ONLY 28% OF THE POTENTIAL

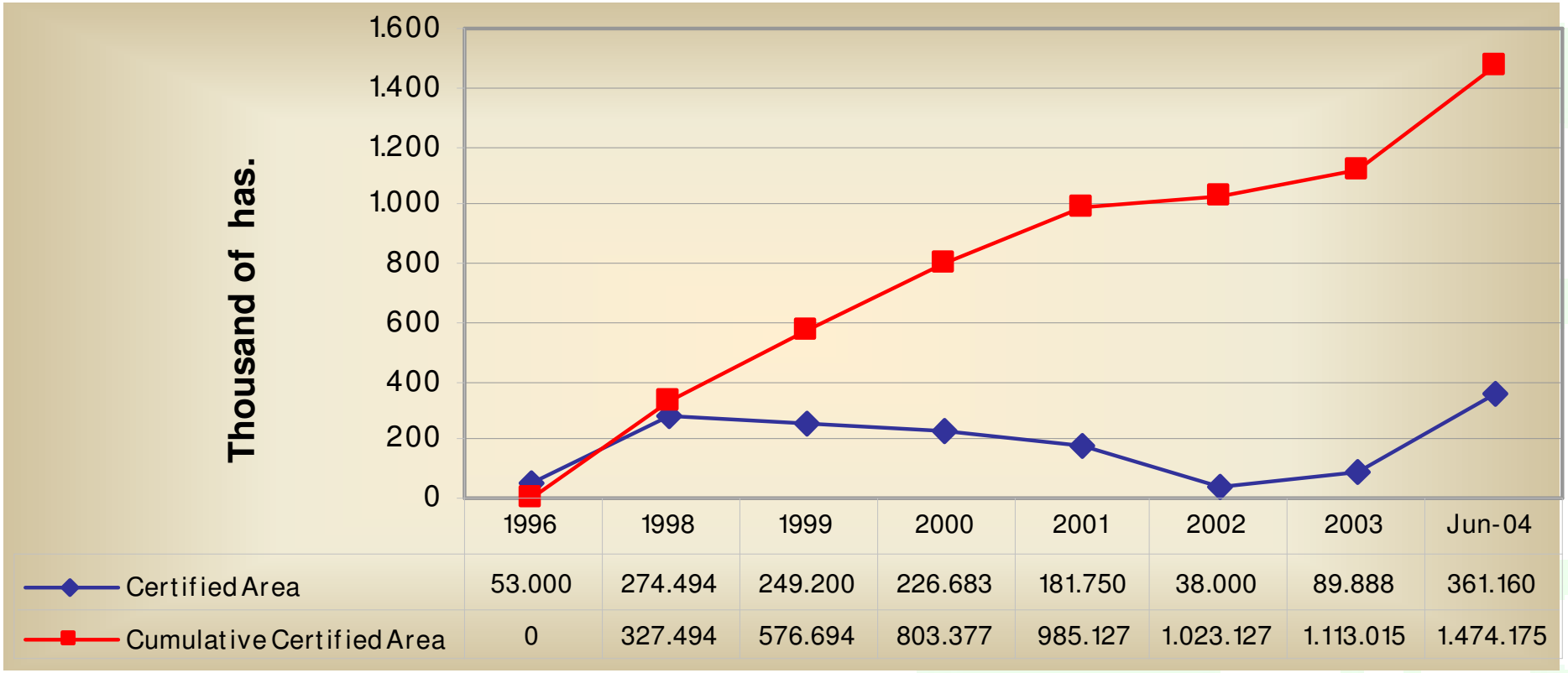
Bolivia: N°1 in the World Ranking of Certified Forests!



Source: CFV-FSC, july, 2004 Elaborated by: Cámara Forestal de Bolivia and updated in November, 2005

Bolivia has the largest area of certified forest in the world under the Forest Stewardship Council (FSC), with 2,27 millions of hectares!!.

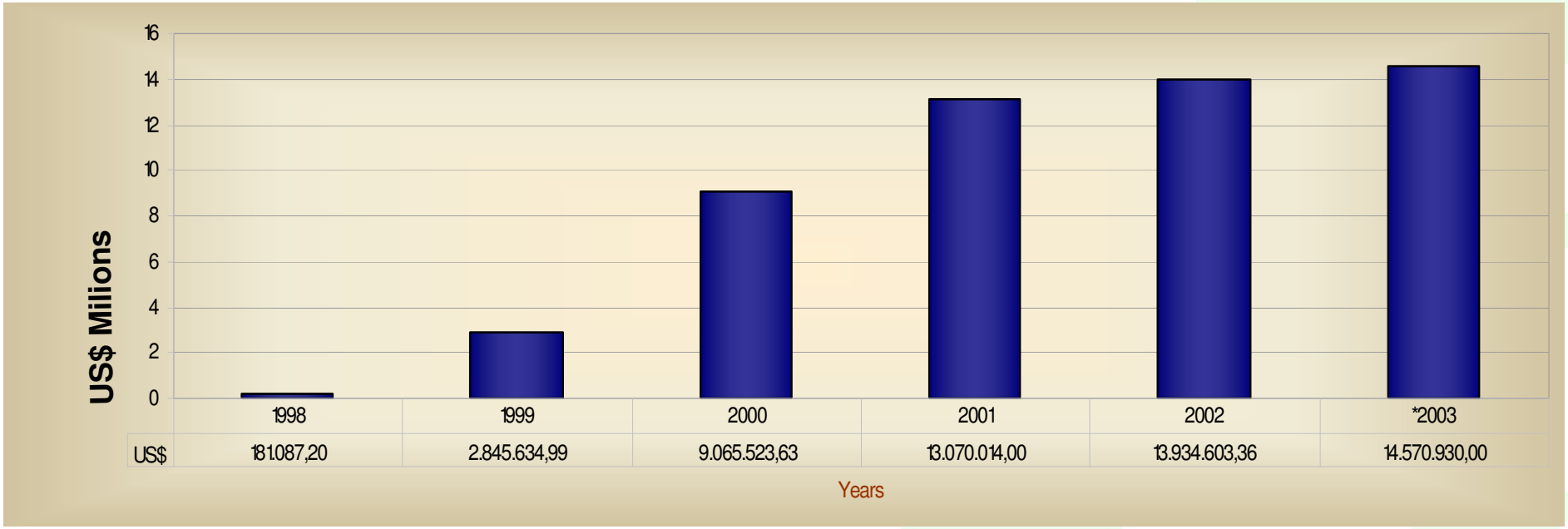
Certified Forest Area



	1996	1998	1999	2000	2001	2002	2003	Jun-04
Certified Area	53.000	274.494	249.200	226.683	181.750	38.000	89.888	361.160
Cumulative Certified Area	0	327.494	576.694	803.377	985.127	1.023.127	1.113.015	1.474.175

Source: Bolivian Council for Voluntary Forest Certification – CFV. Elaborated by: C.F.B.
Certifierr: FSC-Forest Stewartship Council

National Exports of Certified Forest Products



Source: CADEFOR, CFV,CFB *Preliminary Data
Elaborated by: Cámara Forestal de Bolivia

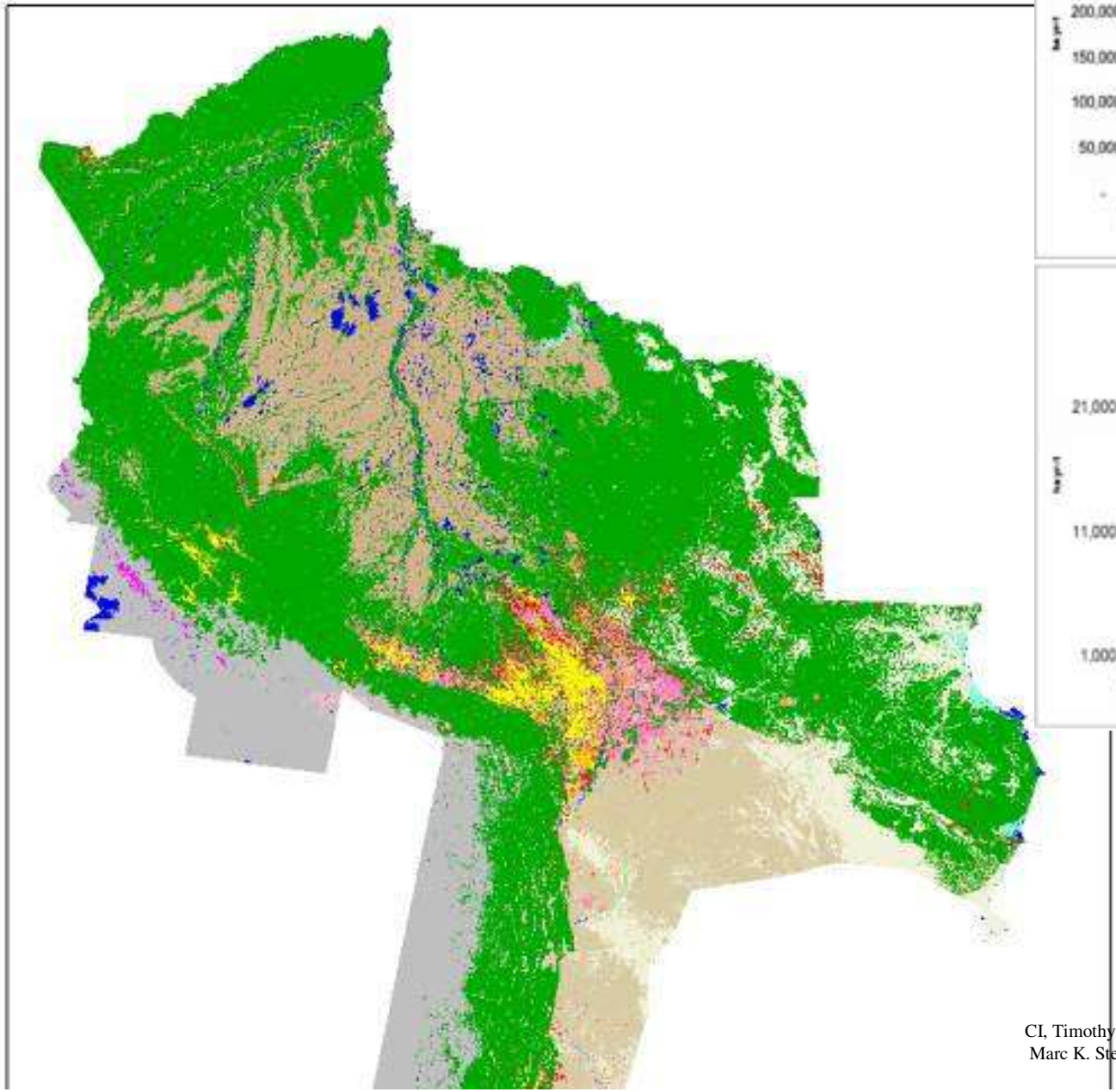
Forest Potential Contribution

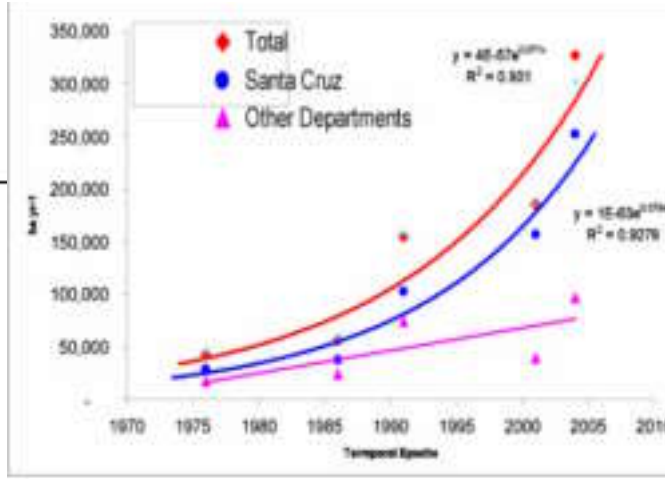
Variable	1996	2005	2010
SFM area	0	8,8 Mill. Ha.	13,2 Mill. ha.
Certified Area (million Ha)	0	2,2	5
% Value added exportation	45%	80%	90%
Exports (millon of dolars)	125	164	246
Employment	n.d.	75.000	112.000
% GDP	2,1	3,3	4

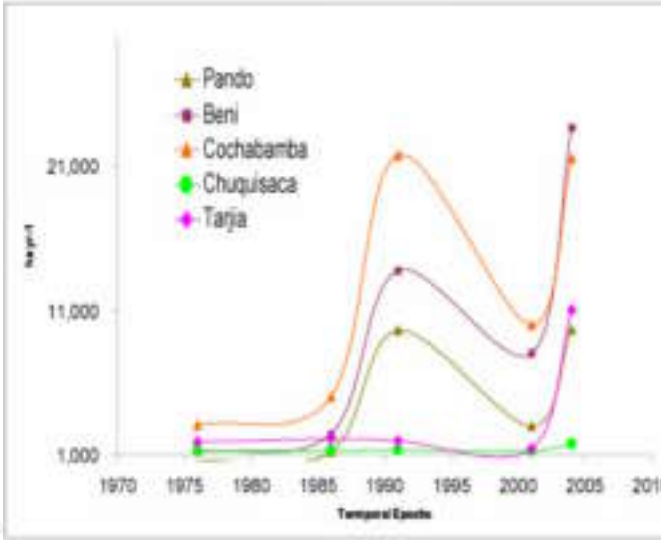
DEFORESTATION

- In 2004 large scale deforestation (> 25 ha) reached 276,000 ha.
- Principal drivers for this trend are: land use change to cash crop production and cattle ranching; forest fires; illegal logging; new settlements; and poverty as an underline factor.

Exponential growth of deforestation annual rate



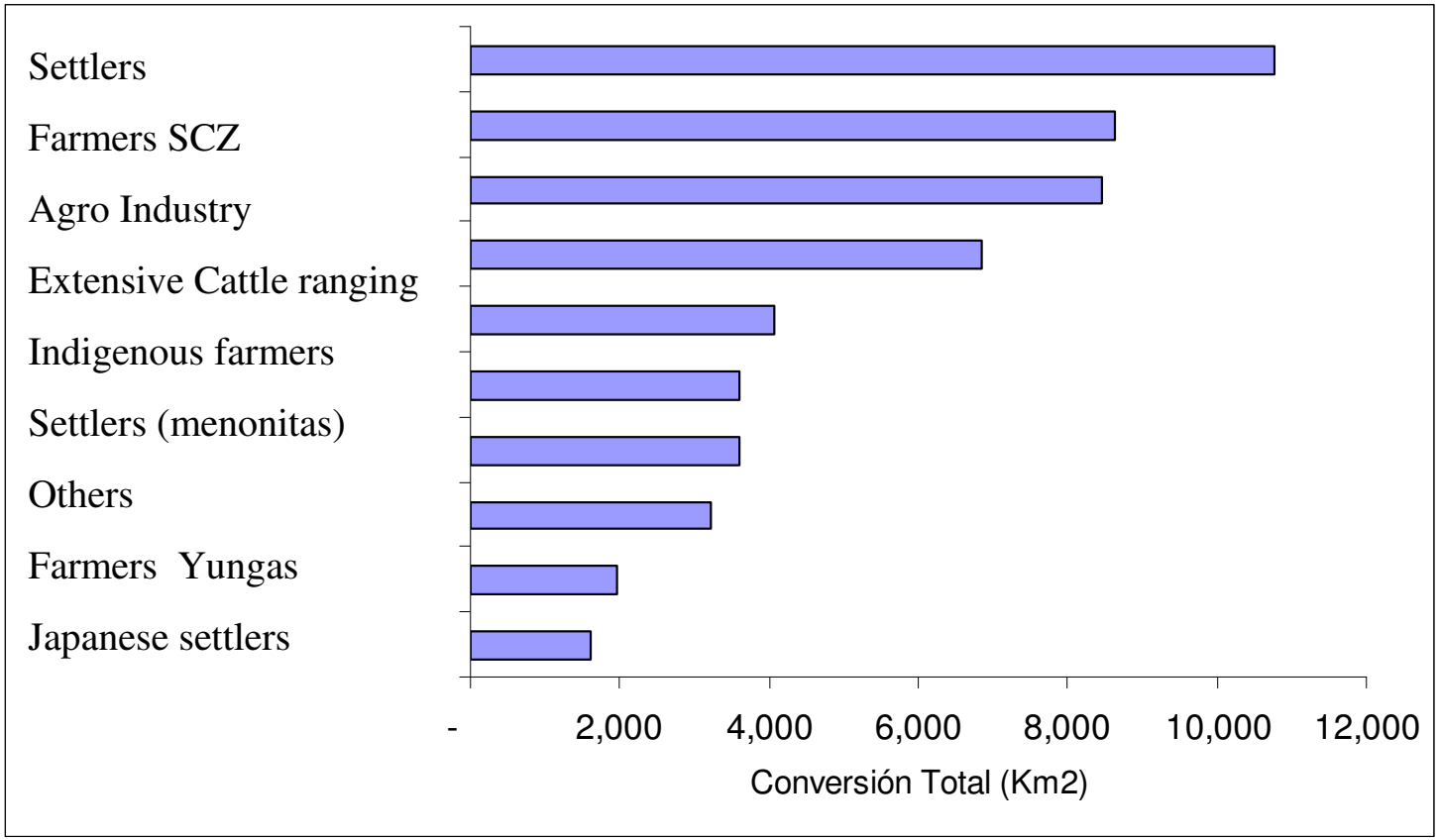




CI, Timothy J. Killeen, Veronica Calderon, Liliana Soria, Belen Quezada, Marc K. Steininger, Grady Harper, Luis A. Solórzano, Compton J. Tucker

Land Conversion by socioeconomic actor

1975 - 2005



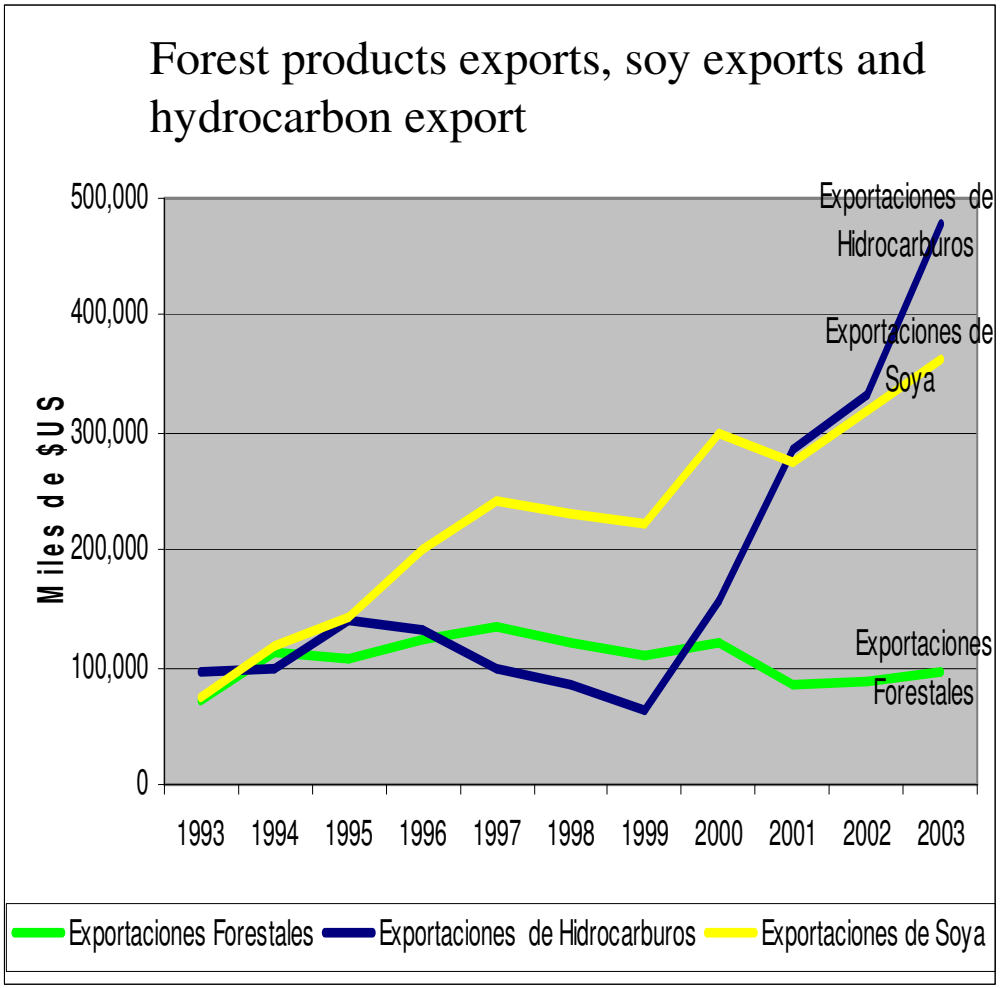
THREATS & CHALLENGES

Threats

- **Deforestation**
- **Unfair Competition with other land use types, subsidies for agriculture**
- **Illegal logging**
- **Weaknesses in the Implementation of the actual regime**

Challenges

- ***M*arket incentives**
- **Improve access to *social* actors**
- **Support through market mechanism access to rent generation**



Forest management and Legal Framework

The forestry regime has proven that maintaining forests and using them properly, can promote development and poverty Reduction if a real market signal is given.

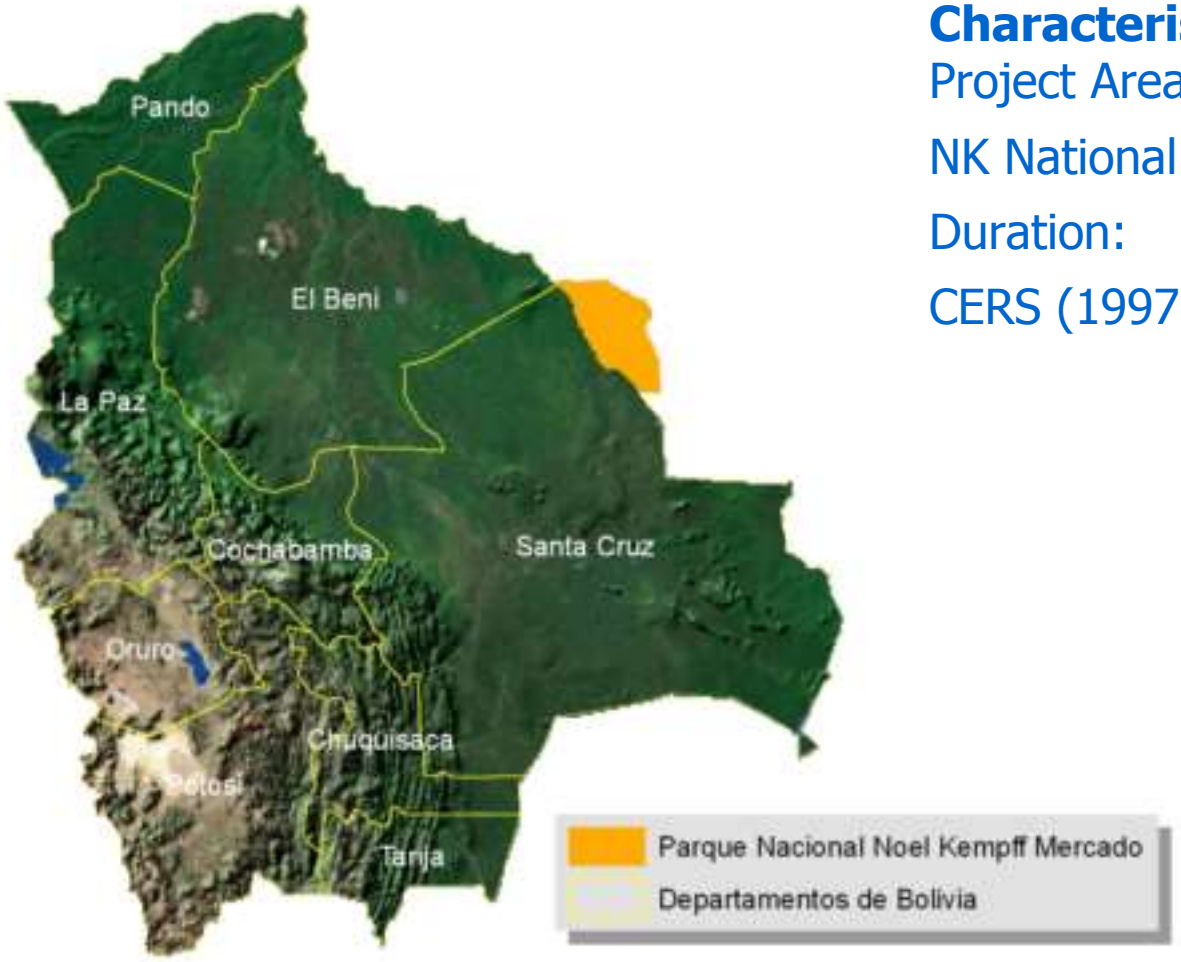
Nevertheless the 8.5 million hectares under the Law represents only 16.0 % of the total forest area in the country.

The deforestation is still a risk in the other 84% and therefore, there is the need to strengthen the implementation of the Law and to use **new mechanisms** to provide alternatives to land use change.

Environmental payments for reducing deforestation has the potential to complement all of the effort already done in the country.

Noel Kempff Climate Action Project

NK-CAP



Characteristics:

Project Area:	624.000 ha
NK National Park area:	1,5 millones ha
Duration:	1997 – 2026
CERS (1997-2005):	990,002 tCO2

Institutional Challenge

Local Capacity Building

Technical lessons and experience

Valuable ground information

NKM CAP (baselines)

PROJECT COMPONENTS

A: Stop Industrial Timber Harvesting

Avoiding further timber extraction and damage to vegetation. National analysis due to leakage potential

791,444 tCO_2 (1997-2005)

B: Avoiding Slash and Burn Agriculture

371,650 tCO_2 (1997-2005)

Through community development programs.

Degradation baseline

Stop Industrial Timber Harvesting

Challenges

How much timber would have been extracted in former concessions without project (= baseline)?

Impacts on other carbon stocks (dead wood, long-term wood products, vegetation)?

How?

Simulation of baseline harvests driven by supply and demand

Biomass measurements of stocks, damage, regrowth

Characteristics

- Driven by international timber markets (Bolivia = small open economy)
- Geographical extent: 9 regions (4 concessions, 5 departments)

RED baseline

Avoiding Slash and Burn Agriculture

Challenges

How much forest clearing would have occurred

without project (= baseline)?

Where would clearing have occurred?

How?

Assessing historical land use change patterns

Simulation of deforestation with GEOMOD (spatial allocation of deforestation)

Characteristics

- Deforestation driven by access to forest:
  distance to forest edge, communities, roads, rivers
- Conservative spatial modeling approach based on
  deforestation rates

Leakage

Leakage was calculated to be 171,618 tCO_2 and was deducted from gross carbon benefits, taking into account

- Slash and burn activities of communities in the communal forestry area.
- Logging activities being perpetuated elsewhere by the indemnified concessionaires.
- Shift of domestic timber supply caused by the impact of indemnification on timber prices and traded volumes.

Communities development model

- 8 communities with 1000 people, were directly benefiting from the project
- 1.3 million US$ for community development
- Income generation activities: SFM, palm heart production, land use planning
- CERS Income: 49% Government: 15% NKM Park, NSPA 5% ,29% community development and others

Lessons learnt

Noel Kempff Climate Action Project demonstrates:

- large scale avoided deforestation projects can produce real and measurable carbon offsets
- it generates substantial benefits to the climate, community, and biodiversity
- leakage can be estimated accurately on a national scale
- this project meets rigorous certification criteria

Conclusions

- Policies can support the REDD process, through regulatory frameworks that complement market mechanisms
- Pilot programs and phases are beneficial
- Environmental services for social services: additionally, REDD incentive mechanisms could potentially support poverty alleviation measures
- A higher carbon 'incentive' will drive greater emissions reductions.

Thanks

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