

The Tropical Forestry and Global Climate Change Research Network
(F7 Network)

***Forestry Mitigation Carbon Potential and Costs:
Brazil, China, India, Indonesia,
Philippines, Tanzania, and Mexico***

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PARTICIPATING RESEARCH GROUPS, SINCE 1990

- ASIA:
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 - ◆ TANZANIA -- (Yonika Ngaga, CEEST, Dar es Salam, and Dr. Willy Makundi, LBNL, LULUCF and WGIII Lead Author)
 - ◆ SOUTH AFRICA -- (Dr. Robert Scholes and Marna van de Merwe -- IPCC CLA, LUCF Report) CSIR, Johannesburg (Under discussion)
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F7 Studies Background

- ⌚ **F7 participants advise and counsel their respective governments and the UNFCCC, and lead several chapters of IPCC reports**
- ⌚ **LBNL/EPA work on forestry and climate change began in 1990 and led to following outputs:**
 - ◆ **Development of widely used quantitative tools -- COPATH and COMAP models for inventory and mitigation analysis**
 - ◆ **COMAP/COPATH models described in IPCC SAR and distributed by UNITAR**
 - ◆ **Results cited in four chapters of the IPCC Second Assessment Report**
 - ◆ **Special issue of Mitigation and Adaptation Strategies Journal from Costa Rica forestry monitoring workshop, 1997**
 - ◆ **Special issue of Climatic Change on forest emissions inventory, 1997**
 - ◆ **Special issue of Biomass and Bioenergy on mitigation costs and benefits, 1995 (Vol.8/5)**
 - ◆ **10 LBNL reports published on mitigation potential, scenarios, and their costs and benefits for F7 countries**

COMAP Model

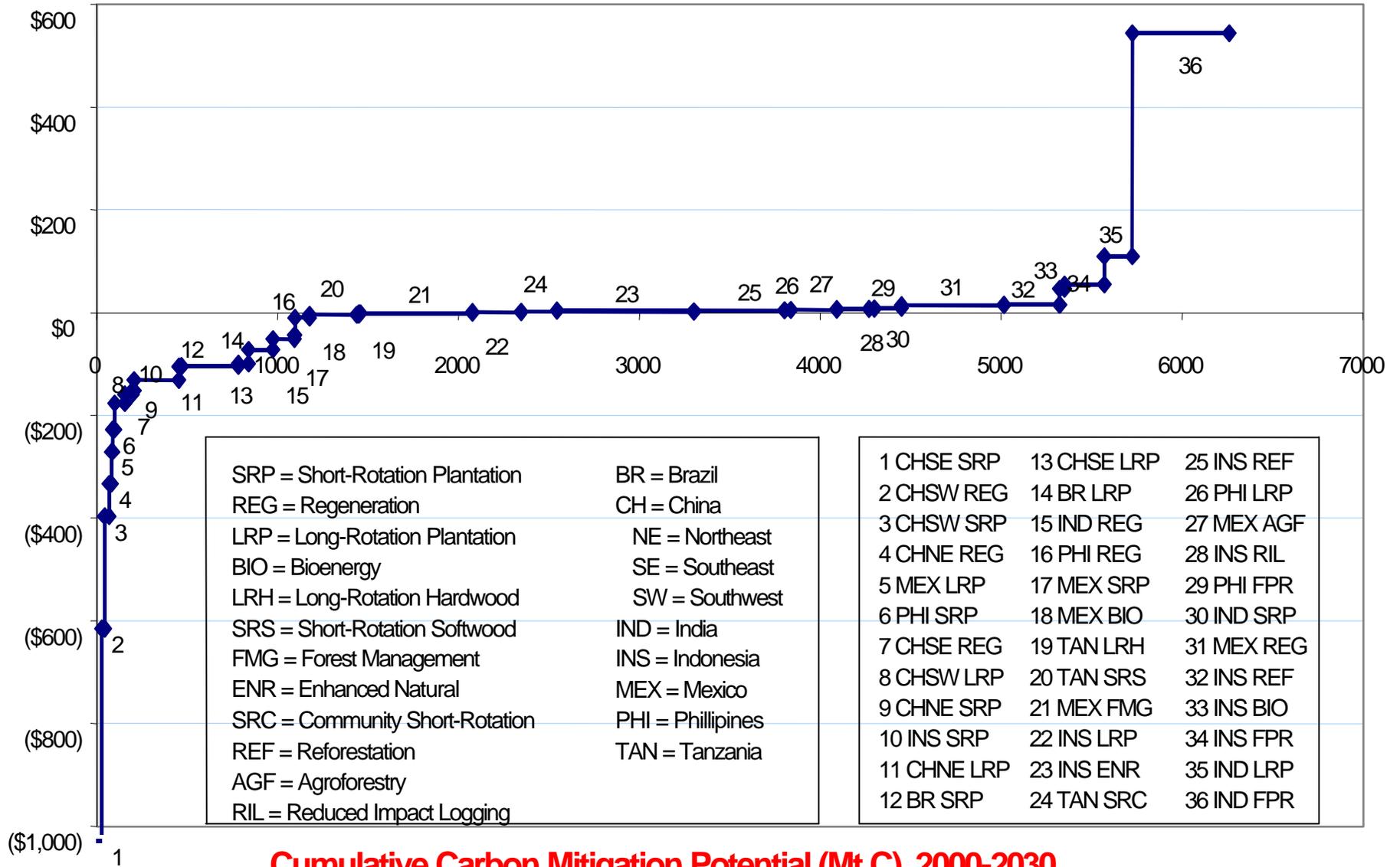
- COMAP -- *Comprehensive Mitigation Assessment Process*
- Approach:
 - Develop land-use scenarios by option
 - Estimate carbon stock changes by option
 - » Live and dead biomass, soils, and products
 - Estimate costs and benefits of each option
 - » Investment, recurring, and opportunity costs
 - » Timber, fuel wood, honey, etc. revenue sources
 - Compare and integrate costs and carbon estimates
 - » Perpetual rotations approach, but can track changes annually
 - Estimate macroeconomic impacts
- Treatment of time is critical in all LULUCF options

Forestry Mitigation Potential

Cost (\$/ t C)

(Brazil, China, India, Indonesia, Mexico, Philippines and Tanzania)

Discount rate-10-12%

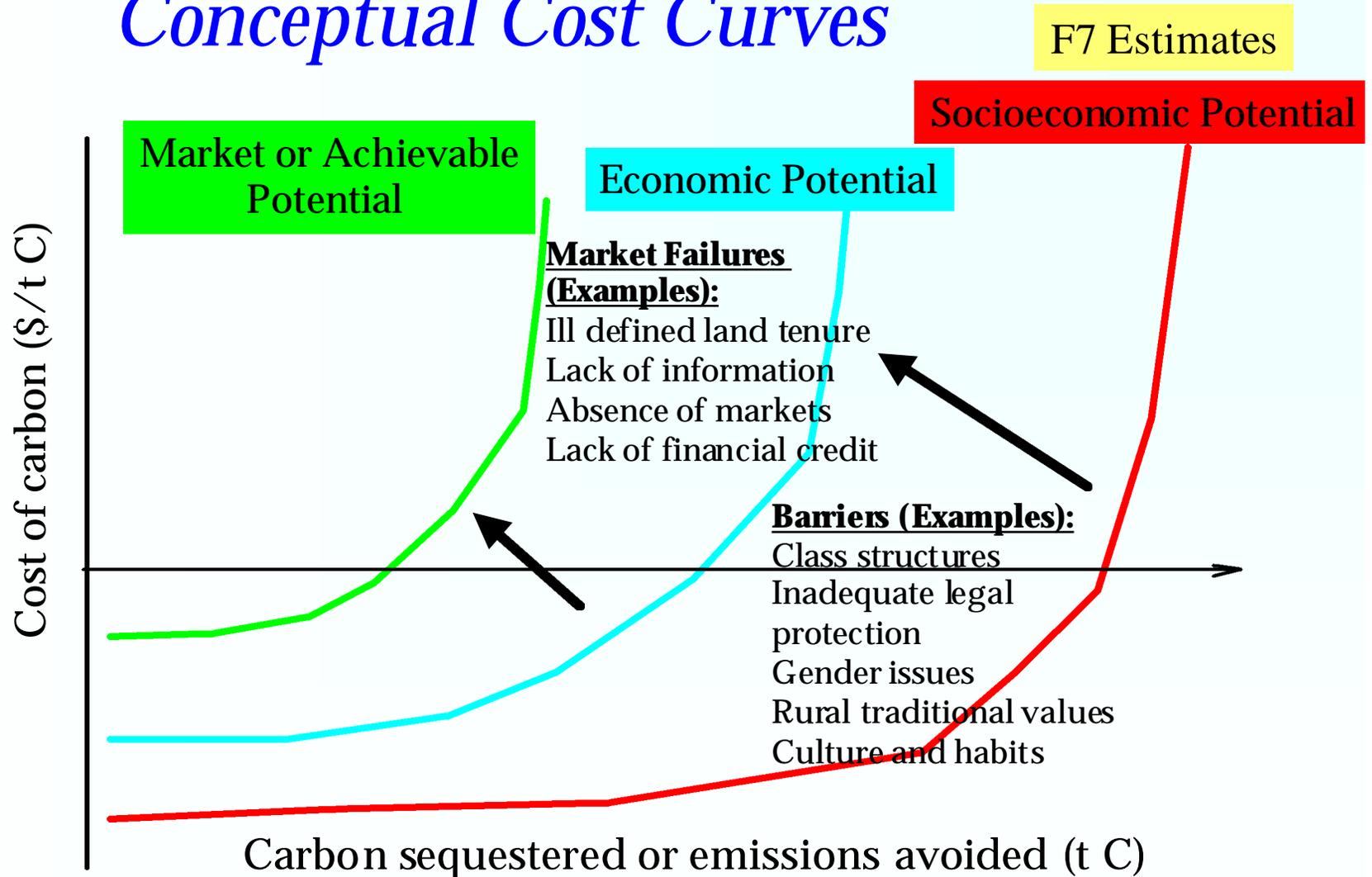


SRP = Short-Rotation Plantation
 REG = Regeneration
 LRP = Long-Rotation Plantation
 BIO = Bioenergy
 LRH = Long-Rotation Hardwood
 SRS = Short-Rotation Softwood
 FMG = Forest Management
 ENR = Enhanced Natural
 SRC = Community Short-Rotation
 REF = Reforestation
 AGF = Agroforestry
 RIL = Reduced Impact Logging

BR = Brazil
 CH = China
 NE = Northeast
 SE = Southeast
 SW = Southwest
 IND = India
 INS = Indonesia
 MEX = Mexico
 PHI = Philippines
 TAN = Tanzania

1 CHSE SRP 13 CHSE LRP 25 INS REF
 2 CHSW REG 14 BR LRP 26 PHI LRP
 3 CHSW SRP 15 IND REG 27 MEX AGF
 4 CHNE REG 16 PHI REG 28 INS RIL
 5 MEX LRP 17 MEX SRP 29 PHI FPR
 6 PHI SRP 18 MEX BIO 30 IND SRP
 7 CHSE REG 19 TAN LRH 31 MEX REG
 8 CHSW LRP 20 TAN SRS 32 INS REF
 9 CHNE SRP 21 MEX FMG 33 INS BIO
 10 INS SRP 22 INS LRP 34 INS FPR
 11 CHNE LRP 23 INS ENR 35 IND LRP
 12 BR SRP 24 TAN SRC 36 IND FPR

Conceptual Cost Curves



Future F7 Research