



The Katoomba Group "Valuing Environmental Services"

Forest Companies
Engaging in Multiple Asset Management

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- Which asset is this?
 - Native forests
- Does it have a value?
 - ?
 - Land
 - Timber
 - Non Timber Products
 - Environmental Services
 - Reputation

Aix en Provence



- Rencontres Économiques d'Aix en Provence – July 2006
- Un Monde de Ressources Rares
A World of Scarce Resources
- If scarce, it should have a high value!
- www.lecercledeconomistes.asso.fr

Scarce Resource



- Is the forest a scarce resource?
- To whom?
 - To the local communities, scarce is the land to plant
 - To the urban world, scarce is the forest
 - Biodiversity
 - Water
 - Climate
 - Landscape
- Relative concept > Conflicts!

Institutional Conflict



On the institutional sphere, the rules of the game are different for those living inside or outside the forest.

- In the local culture, it's acceptable to “clean” the forest (culture is part of the institutions)
 - It is not the main cause of deforestation
 - It is the “front door” for agricultural and cattle raising activities
 - More than 20 million inhabitants need to have a source of living...
- Both nationally and internationally, environmental laws say that the forest is to be protected
- But the laws, although existing, are not enforced neither in a complete, nor in a coherent way
- Coherency? Where? How? In relation to whom?

Value and Price



- Scarce resources have high value
- Free land has a high value to the local population
 - Changes population's life
 - Offers income alternatives
 - Demanded for large scale agribusiness activities
 - Offers real estate value
- The standing forest
 - Offers very little to the local population
 - Represents high preservation, maintenance, security and regulatory costs (environmental law) to the large property land owners
- How to get the standing forest to become valuable locally?

Time – Short Term Deforestation



- Deforestation offers short-term income
 - Wood sales
 - Short-cycle agriculture
 - Cattle breeding
- The lack of attachment to the land (ownership) stimulates short-term actions
- Informality and the lack of a solid institutional environment stimulate short-term actions
- Investments are minor and return has to be quick
- Technology and addition of value are not used

Time – Long Term Preservation



- Sustainable forest management offers income on a long-term basis
 - Timber selling in smaller volumes
 - Agriculture and animal breeding do not exist
 - Extractivism generates products with low added value, small volumes, powerful and often opportunistic informal agents
- Needs attachment to the land (possible with undefined land ownership situation?)
- High investments with long-term return
- Emerging technologies
- Environmentally correct products market still not developed
- Underdeveloped financial tools/mechanisms
- Higher risks

Balance



- No-value forest and long term vs. clear cut with land valuation
- Weak institutional environment to the environmental laws and land property rights
- Low quality and quantity of product innovation and environmental services

Is there space to be optimistic?

Before answering...



The risks are very high!



Land titles in one of the most important Amazonian notary public - "cartório"

Country Risks Challenges

- Inexistence of formal investment and risk guarantee mechanisms adapted to the forest context
- Investment climate
 - ITTO survey 2005 (Opportunities and Constrains to Investment: Natural Tropical Forest Industries)
 - 25 countries ... position of Brazil
 - Time to start a business – 24
 - Enforcing contracts – 18
 - Registering property – 9
 - Resolving insolvency – 25
 - Investment profile – 11 (“contract viability, expropriation and ability to repatriate profits”)
 - Intensity of local competition – 15
 - Transparency of governmental policy – 10

Institutional Challenges

- Very **fragile institutional environment** for tropical forests
- Extremely **high transaction costs** (2005: 30% of gross sales! For certified operations)
- Enormous **legal enforcement tolerance** (illegal / semi-legal / legal)
- Enormous **fiscal tolerance** (informal / semi-formal / formal)
- Extremely **confuse and unstable fiscal system**
- **Corruption** at all levels (regulatory, property ownership, etc)
- Very **poor land ownership** situation (24% private / 33% non-defined)
- Confuse and **unstable regulatory** framework
- Concession law recently approved (important step forward but still embryonic)
- Certification systems not yet consolidated (FSC / CERFLOR / PEFC / SFI)

Economical Challenges



- Productive **tropical forest economy is emerging**
- Disequilibrium on industry **scale** (10000 small scale / 100s medium / 10s large)
- Disequilibrium on industry **origin** (few multinationals and foreign investors)
- **Margins are not high** for low added value industries, specially if directly competing with informal / illegal loggers
- **Economics of certified operations to be better understood** for comparison with non certified industries

Knowledge and Technological Challenges

TA

- Enormous **technological tolerance** (very low tech and high tech companies in the same industry)
- **Multi-optional vertical integration** possibilities
- Productive **tropical forest operational procedures** (heterogenic forests) into the **beginning of the technological curve**
- **Sustainability concepts** and practices are **new area to scientific** and technological development
- **Lack of skilled human resources availability**, specially in industrial phases
- Very **poor educational situation** on tropical forest areas

Marketing Challenges



- Demand for forest products is **increasing**. Not a clear trend for tropical
- Demand for **responsibly-produced wood** is increasing but market is emerging and frequently related to **niches**
- **Complexity of market structure** (agents, added value products chain)
- **Bad image** of tropical timber sector, associated to illegal loggers and environmentally predatory
- Long and **complex cycle for development of Lesser Known Species** (lack of technological infrastructure in the country)
- High demand for **internal market** but low value (competition to **illegal / informal** activities)
- **Lack of experience** and culture of access to **external markets** (language and knowledge of commercial practices)
- Complex and **wide product mix**, difficult to balance using economical logic
- **Premium price for certified products** is a reality but **not evident** and easy to access

Corporate Governance Issues



- Corporate governance in Brazil is **emergent**. Systems yet in implementation
- Corporate governance **not implemented in tropical forest business**
- Traditionally tropical forest industries are family owned. **Family governance not common**

- **Stakeholders consultation** and engagement **not a common practice** in tropical forest business.
- **Complexity of direct, indirect and hostile stakeholders** in the forest industry

Infrastructure Issues

TA

- Very **poor logistic infrastructure** of roads and ports in tropical forest areas
- Very **poor telecommunication** infrastructure
- **Unbalanced energy generation and distribution**

Social Challenges

TA

- Production and quality skills
- Market relations skills
- **Social Organization** (associations, cooperatives, etc)
- **Contracts models** between community organization
- **Monitoring routines** (opportunistic actions)
- Types and sources of **community financial instruments** (access, guarantees, monitoring)
- **Financial architecture** of the network (company + community);
- Scale has to be large
- High degree of agility
- Institutional land ownership situation confusing and imprecise
- Political situation can be conflictive (diverging interests)

Environmental Challenges

- Environmental issues at **early development stage** (biodiversity assessment, inconsistency of concepts such as HCVF - High Conservation Value Forests)
- **Metrics** and evaluation procedures for **Ecosystem Services** not yet available
- Inconsistent, ideological and scientifically poor **debate about plantation X native forestry**

A World of Scarce Resources



- A world of ignorance
- Can we expect rationality?
- Informational asymmetry
- Hierarchy of rules on scarce resources
 - International
 - National
 - Local
- A world of plurality of rules

Vive la rareté!



- The new scarce resources
 - Air, water, biodiversity, landscape
 - Long term thinking
- The old scarce resources
 - Oil, gas, food
 - Short term thinking
- “The extension of the scarcity domain is the extension of the conflict domain”
- Price, regulations, elasticity are concepts applied to old scarce resources. How they should be applied on the new scarce resources?
 - New market rules?
 - Innovation
 - Who will be the winners and the losers?
 - World governance

Types of Scarce Resources



- The ones you see
 - Relative prices
 - Economy of alternative sources
 - Supply and demand rules
 - Market
 - Regulations
- The ones you don't see
 - Inexistence of market
 - Or market do not reveals the value
 - Social construction of the market
 - Collective actions replacing the market
 - Global x national assets

Dynamic Capabilities Needed



- Active **risk management**
- **Political skills** to deal with fragile and unstable institutional environment
- **Business diplomacy**: skills to deal with **hostile stakeholders**
- **Mapping** and involvement with **financial sector**, specially with sources of sustainability-related funds
- Networking and **cluster of business management**
- **Innovation in forestry & industrial technologies, species, products and market development**
- Strong **corporate social responsibility**
- **Communication**
- **Global spectrum of activity**

Rights over Scarcity



- Intellectual protection
- Property rights
- Resources exploitation rights
- Relations with the international commerce
- Economic power concentration
- Resources protection tools
 - Private actions
 - Public actions
- The right and the wealth distribution
- The right and the “common assets” > two different approaches:
 - They are so abundant, that they do not need to be shared
 - As they become scarce, the property right emerges
- Once they are common, they have to be distributed to everyone
- The right to future use

Allocation of savings



- Money is not a scarce resource
- Diversification matters a lot
- Volatility matters
- Stability matters
- Returns expectations matters
- Risk assessment matters a lot
- Reputation matters
- Time matters a lot

Investors



- Institutional the investment basket
- Strategic raw materials supply
- Large forest owners not focused on forest
 - Security, Maintenance, Transaction costs
 - US\$ 3 to 5 per hectare
 - Conflict management costs

The Continuum Paradigm



- Forestry is a continuum of native, semi native and planted forests
- Enhanced by the synergic use of technologies (silviculture, forest management, planting, harvesting, transporting, adding value), product and services development and management tools
- Helps to build asset value and total returns
- Takes into consideration the forest complexity
- Multiple products
- Increases long-term timber yields
- Increases native biodiversity
- Social and environmental results are measured as economical benefits
- Balance the risk and returns on investments

Planted + Native Forests



Planted

- Alternative class investment
- Low volatility
- Low risk
- Stability
- Long term returns
- Commodity
- Predictable
- 3% of the basket
- Benchmarking is title of US Treasury
 - 30 years
 - IRR 10 to 15%

Native

- Low volatility
- Very high risk
- Medium term returns
- Definitely not a commodity
- Definitely not predictable
- Reputation
 - Two extremes
 - Sustainable
 - Illegal, predatory
- Definitely no benchmarking
- IRR 2 to 25+%!!
- Potential upsides and opportunities

Adjusting the machine

100 thousand hectares of native forest



- Net operational area 50 to 70%
- Cycle 25 to 30 years
- Forest yield 14 to 30m³/ha
- Distance forest – saw mill 30 to 100 km
- Distance saw mill – port 0 to 1000 km
- Saw mill yield 15 to 50%
- Adding value chain rough sawn to furniture
- Price US\$ 300 to US\$ 25 000 m³
- Certification premium price 20%
- Number of Species 10 to 50 (LKS)
- Dollar rate
- Product range
 - Timber
 - Non timber
 - Environmental services
 - Tourism, education

Costs



- Inventory US\$ 20 to 40/ha
- Standing tree US\$ 4 to 15 m³
- Harvesting US\$ 3 to 6 m³
- Recovery US\$ 3 to 8 m³
- Transportation US\$ 0,05 to 0,15 m³/km
- Handling US\$ 1 to 4 m³
- Taxes 2,5 to 12%
- Saw mill costs US\$ 120 to 200 m³
- Agent costs 3 to 6%

- Transaction costs US\$ 5 to US\$ 50!!!!

Economic results



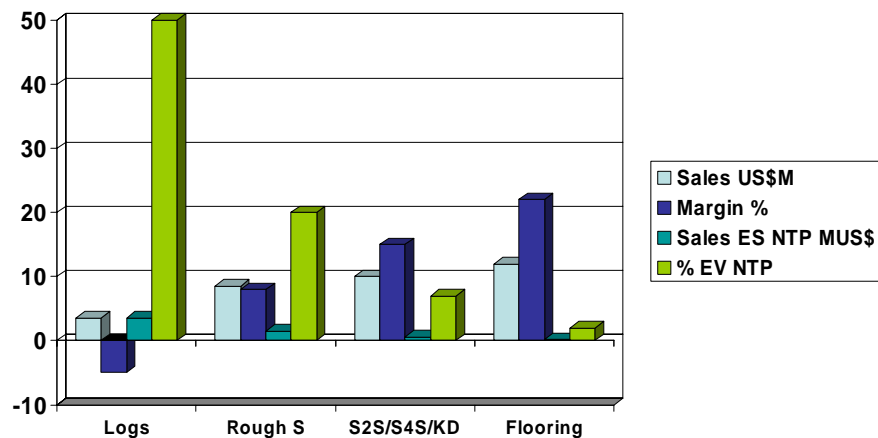
- Average costs
- Average yields
- Operational margins

– Logs	-5%
– Rough sawn timber AD	8%
– S2S, S4S KD	15%
– Flooring	22%

- Non timber and environmental services addition to be attractive to institutional investors

– Logs	US\$ 3,5 million/year
– Rough sawn timber AD	US\$ 1,5 million/year
– S2S, S4S KD	US\$ 600 thousand/year
– Flooring	US\$ 200 thousand/year

General Economic View



Conclusion



- Environmental Services and Non Timber Products margin addition to a reasonable added value industry can be the decision factor for investors
- With low value addition...very difficult!
- It can pay the risks
- It can be very attractive to investors
- It can pay more than any agricultural activity
- It does not includes the positive externalities associated to reputation (good forestry practices and management of a scare resource)
- The land with the forest survives
- **There is a machine to be adjusted. There are plenty of opportunities. This is the beauty of the native forest business**

“Searching space, found the time”



Thank you!

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