SUSTAINABLE PLANTATION FORESTRY DEVELOPMENT IN SUB-SAHARAN AFRICA

(THE MARKET, BUSINESS MODEL & FINANCING)

AN OPERATORS PERSPECTIVE

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Presentation Outline

Miro Forestry
• Overview

Sustainable Plantation Forestry Development (focusing on West Africa)
• Macro Economic Fundamentals
  • Timber Supply vs. Demand (focusing on West Africa)
    • Timber Prices
  • Environment for Plantation Development (Economic, Social and Climatic)
• Business Model
  • Commercial Plantation Forestry
  • Skills Requirement
  • Host Nation Support
• Financing & Returns
  • Long-Term Finance
  • Attractive Returns
• Conclusions
Miro Forestry - Overview

Ghana: Boumfoom Plantation, Teak, 2 months after planting
Miro Forestry is a leading commercial plantation forestry businesses in West Africa. The Company is growing fast-rotation tree crops for the production of transmission poles, plywood and industrial saw timber for the local and regional market.

- Miro is establishing over 3,000 hectares of new plantations per annum in Ghana and Sierra Leone, employing over 800 people.
- Miro is growing fast-rotation species of high quality genetic stock sourced globally. The Company’s plantations have excellent access to road networks and to markets, with climatic and soil conditions for maximum tree growth.
- Miro is an experienced developer of modern commercial plantations in West Africa, bringing relevant technical expertise and know-how to build local capability and globally cost competitive plantations.
- Miro operates to high environmental and sustainability standards (FSC and IFC-PS).
- The Company is primarily funded by commercial investors and development finance institutions.
Sustainable Plantation Forestry Development
Africa Now a Net Wood Importer

African Solid Wood Trade 2001-2014
Export, Import & Trade Balance (USD Million)

Trade Balance Dropping @ US$164 Million/Year

CAGR Imports = 10.6%

CAGR Exports = 6.6%

Source: ITC
Timber Supply

Supply:

- Dwindling local timber stocks (increasingly inaccessible)
  - Ghana <15yrs of timberland left at 2014 rate of deforestation
  - West Africa now reliant on imports (import parity priced) to meet industrial demand

Source: Food and Agricultural Organization, Indufor, and GEF Estimates
Demand Drivers:

- Continued real GDP growth across West Africa of c.5%
- Population growth of 3%+
- Growth and development driving infrastructure expansion:
  - Industrial timber, biomass power, transmission poles
  - ...and increased material possession / consumption

Ghana Real GDP Growth by Supply:

Source: BOG, GSS, Standard Bank Research
Timber Market and Prices

High Timber Prices
• Transmission poles more than 2x the price in RSA
• Domestic Ghana industrial saw wood prices are around $180-240/m³
• Average cost of plywood c.US$400/m³ in Ghana and Nigeria
  • Considerably higher in Sierra Leone due to no local production
    (c.US$700-800/m³+)

Why:
• There is a significant and widening supply to demand gap, and…
• Timber is expensive to transport
Environment for Plantation Development

Pros

• Strong timber markets and highly attractive prices
• Excellent climatic conditions (sunlight, temperature, humidity) for high biological growth rates (high MAI)
• Availability of land (though a painfully slow and complex process)
• Leasehold land limiting upfront cash requirement (compared to freehold) at fair cost competitive rates (though now increasing)
• Long-lead time advantage over new entrants and high barrier to entry
• Availability of good and cost competitive management
• Attractive tax incentives

Cons

• Very limited local experience of modern plantation forestry (forestry industry built on natural forest management / logging)
• Limited to no genetic material base / no history of tree breeding / no experience of modern industrial timber species (eucalyptus, acacia, pines…)
• Limited to no plantation log (small diameter) value-add / sawmill tooling
• Limited host nation support due to limited resources
• Limited resources in rural areas requiring the business to be self-sufficient
• Complex social environment and limited exposure of the local population to business resulting in regular social matters to address
Business Model

Replanting to create a sustainable and long-term business

Sawmilling: Creating industrial timber products. Adding value in country

Growing industrial timber with characteristics and of quality suitable for the local market

Training and skills development

Undertaking significant tree breeding research and development specific to the local area

Experienced Team

Supporting education and welfare in local communities

Timber Sales

Harvesting

Maintenance

Experienced Team

Site conditions

Suitable location

Species selection

Market access
Financing & Returns

• Long-term financing required, at least equivalent to rotation lengths
  o c.8-10 yrs for Eucalyptus, c.20 years for Teak

• Forestry, like most commodity businesses, is capital intensive
  o Total cost of US$2,500 – US$5,000 / hectare established (full rotation)
  o Total development cost for a 10,000ha plantation (before harvesting and sawmilling) likely to be c.US$ 30 million
  o Critical to ensure maximum usable m³ of timber for investment
  o Must be globally cost efficient per m³ of usable timber produced

• Must keep financing structure simple and not overburden with debt

• If the above is achieved then stable returns of at least 15%+ can be expected in a market like Ghana where industrial wood prices are and will remain import parity priced (as there is no trees yet planted to meet even present demand) The barrier to entry is huge
  • However to invest in such a business and location, returns of at least this amount are necessary
Sierra Leone: 2 year old Eucalyptus grandis x camaldulensis. 12m high × 12cm DBH. AI of 56 m³/ha/annum.

Conclusions
Conclusions

• The market for industrial timber in Ghana / West Africa / sub-Saharan Africa is extremely attractive with high future visibility:
  o Timber cannot be produced locally without growing it first!
  o Supply dwindling vs. buoyant growth and booming demand – high prices
  o Excellent climatic conditions for high biological growth rate
  o Competitive land and operating costs
  o Globally competitive per m³ of useable timber grown

• Forestry is difficult to finance. It is extremely capital intensive, requiring scale, however:
  o Stable and attractive investment returns from well management plantations

The Challenges:
• Host governments need to be more proactive and helpful in facilitating investment into new and existing plantations
  o ….but they need more resource and expertise to do this (ideally being target driven)
• Existing operators need to set a precedent of positive investment returns through cost efficient and quality management
  o ….this will be the biggest facilitator of additional money into the sector
Ghana: Boumfoum Plantation, Teak seedling planted in Q4 2011 guarded by a Tree Frog

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