

# **Risk Analysis and Impact Assessment for Pulp and Plantation Investments:**

## **The Case of Indonesia**

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# Indonesia's Wood Pulp Industry

- Rapid expansion of BHKP capacity since early-1990s, with Indonesia reaching 6.0 million Adt/yr in 2001
- Industry dominated by APP and APRIL, which control over 75 % of total pulp capacity – both linked to China
- 2003 BHKP production = 5.0 million Adt (83 % capacity)
- 55 % used to feed domestic paper and board production
- 45 % exported, but some of this is for integrated production offshore
- 2003 BHKP exports = 2.2 million Adt (+/- US\$ 700 million)
- New capacity expansion planned, including 1 greenfield BHKP mill

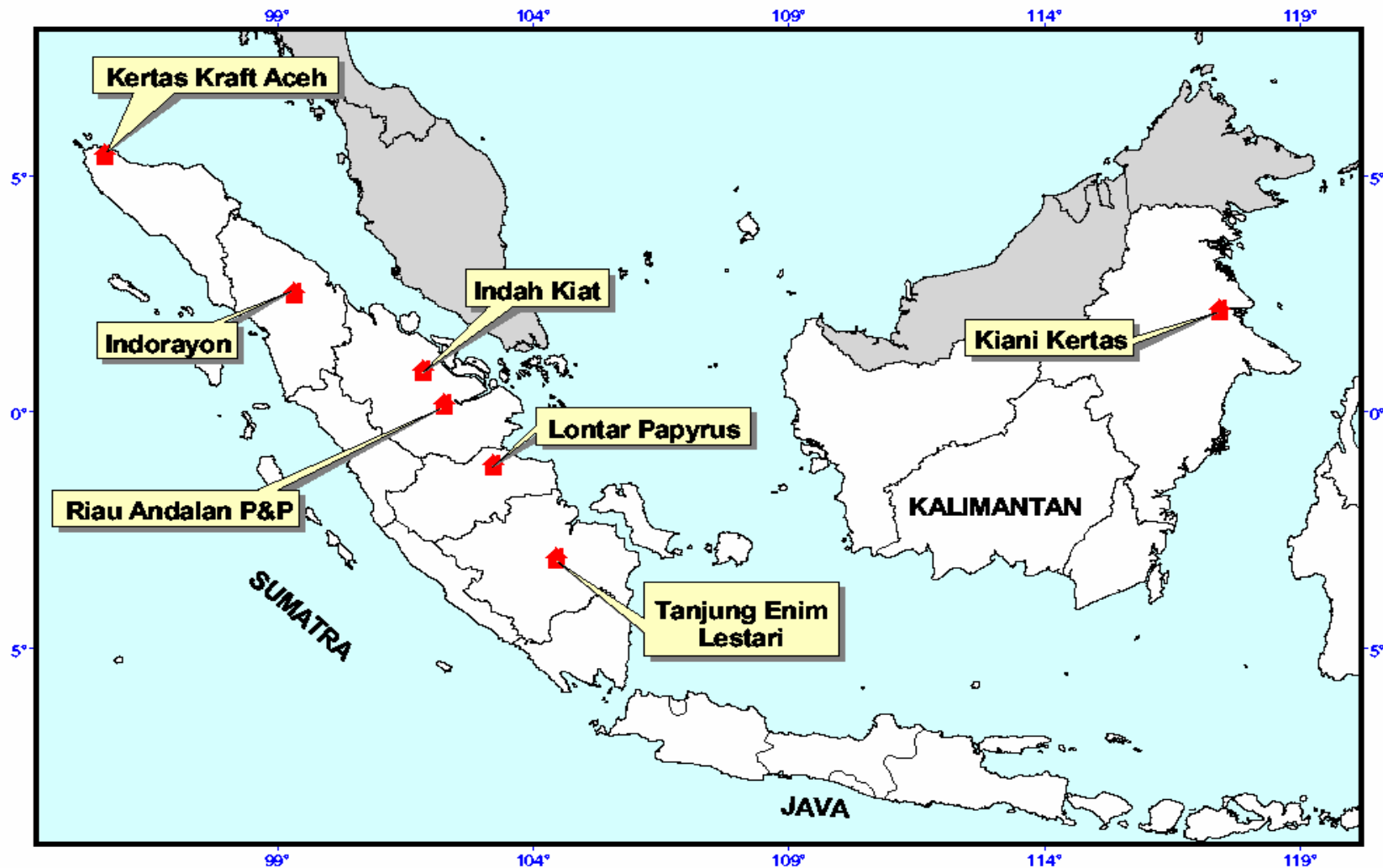
\* BHKP = Bleached Hardwood Kraft Pulp

## Pulp Capacity and Effective Wood Demand of BHKP Mills in Indonesia

Mill	Pulp Capacity (Adt/yr)	Wood Demand (m <sup>3</sup> /yr) <sup>1</sup>	Location
Indah Kiat (APP)	2.0 m	9.8 m	Riau, C. Sumatra
RAPP (APRIL)	2.0 m	9.8 m	Riau, C. Sumatra
Lontar Papyrus (APP)	650,000	3.2 m	Jambi, C. Sumatra
Kiani Kertas	525,000	2.6 m	East Kalimantan
Tanjung Enim Lestari	450,000	2.2 m	South Sumatra
Toba Pulp (APRIL)	220,000	1.1 m	North Sumatra

1) Assumes 4.9 m<sup>3</sup> (ob) per Adt

# Kraft Pulp Mills in Indonesia



# Growing Demand for Wood Fiber

	Pulp Capacity (Adt/yr)	Wood Demand (m <sup>3</sup> /yr)
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1990	1.0 m	4.9 m
1995	2.6 m	12.7 m
2003	6.0 m	29.4 m



# Large-scale Plantation Development



Government has promoted fast-growing high-yielding plantations

- 23 pulpwood plantation licenses issued, covering 4.3 million ha (gross) since late-1980s
  
- 1.3 million ha (net) planted by Jan. 2004
  
- 80 % *Acacia mangium*
  - Rapid growth (7 year rotation)
  - Adaptability to degraded soils
  - High pulp yields

# Heavy Reliance on Natural Forests



70% of wood consumed is ‘mixed tropical hardwood’ (MTH) from natural forest

- Over 120 million m<sup>3</sup> of MTH used by pulp producers since late-1980s
- Mostly from land-clearing for *Acacia* or oil palm plantations
  - Often these areas go unplanted once cleared for MTH
- Questions remain about use of illegally harvested wood

## *Structural Problem:*

**Expansion of pulp processing capacity has occurred much faster than plantation development**

- Yields from existing plantations will fall well short of meeting future wood demand
- Legal supplies of natural forest fiber in Sumatra are rapidly being exhausted



## APP and APRIL Mills

APP and APRIL have developed mega-scale pulp mills in C. Sumatra

- APRIL – Riau Andalan Pulp & Paper (RAPP) = 2.0 m Adt/yr
- APP -- Indah Kiat Pulp & Paper = 2.0 m Adt/yr
- APP – Lontar Papyrus Pulp & Paper = 650,000 Adt/yr

Both have developed large-scale Acacia plantations

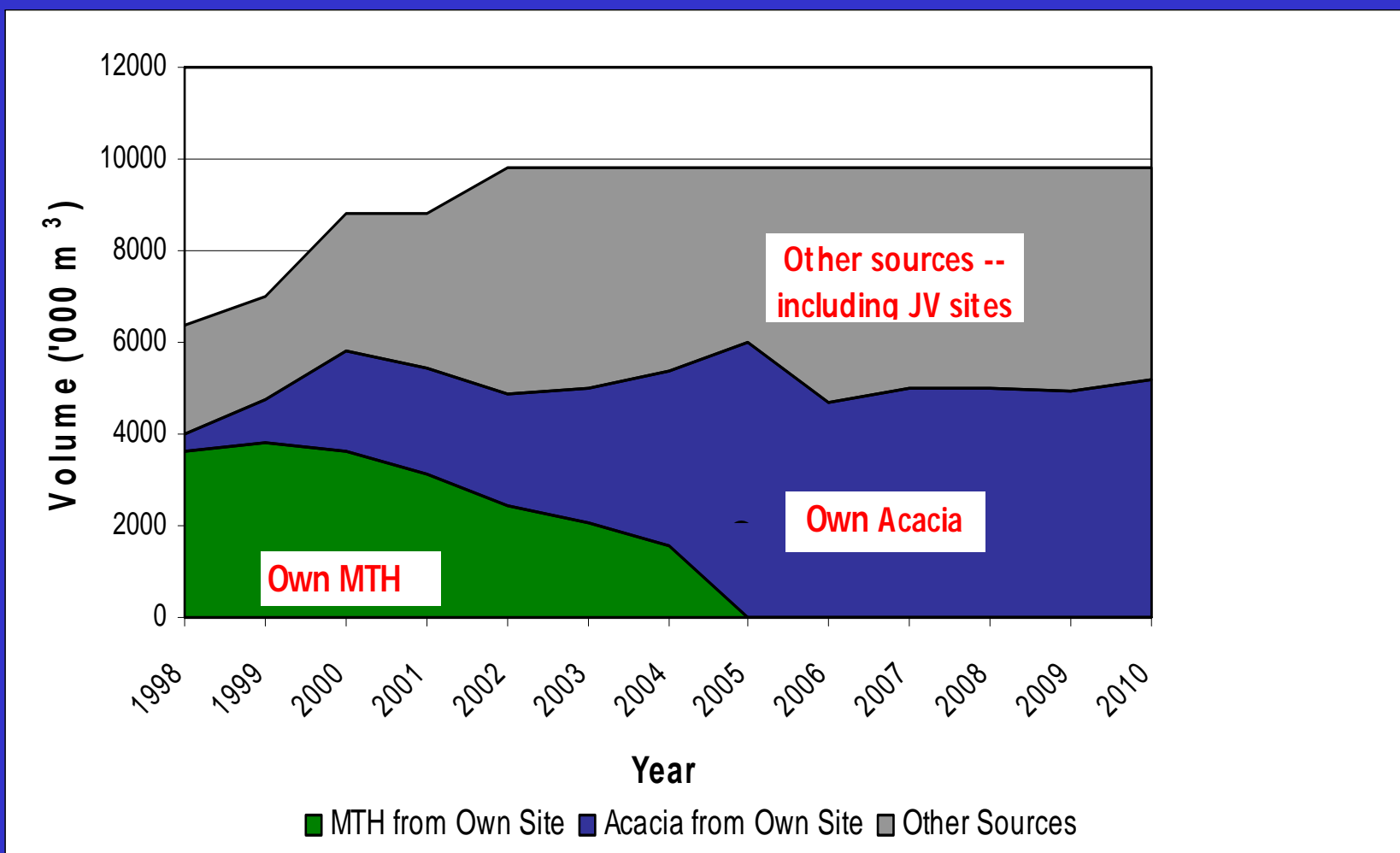
- Approx. 432,000 ha planted at APP and APRIL's own HTI plantation sites (end 2003) in Riau and Jambi provinces

However, both have expanded pulp capacity much faster than plantations

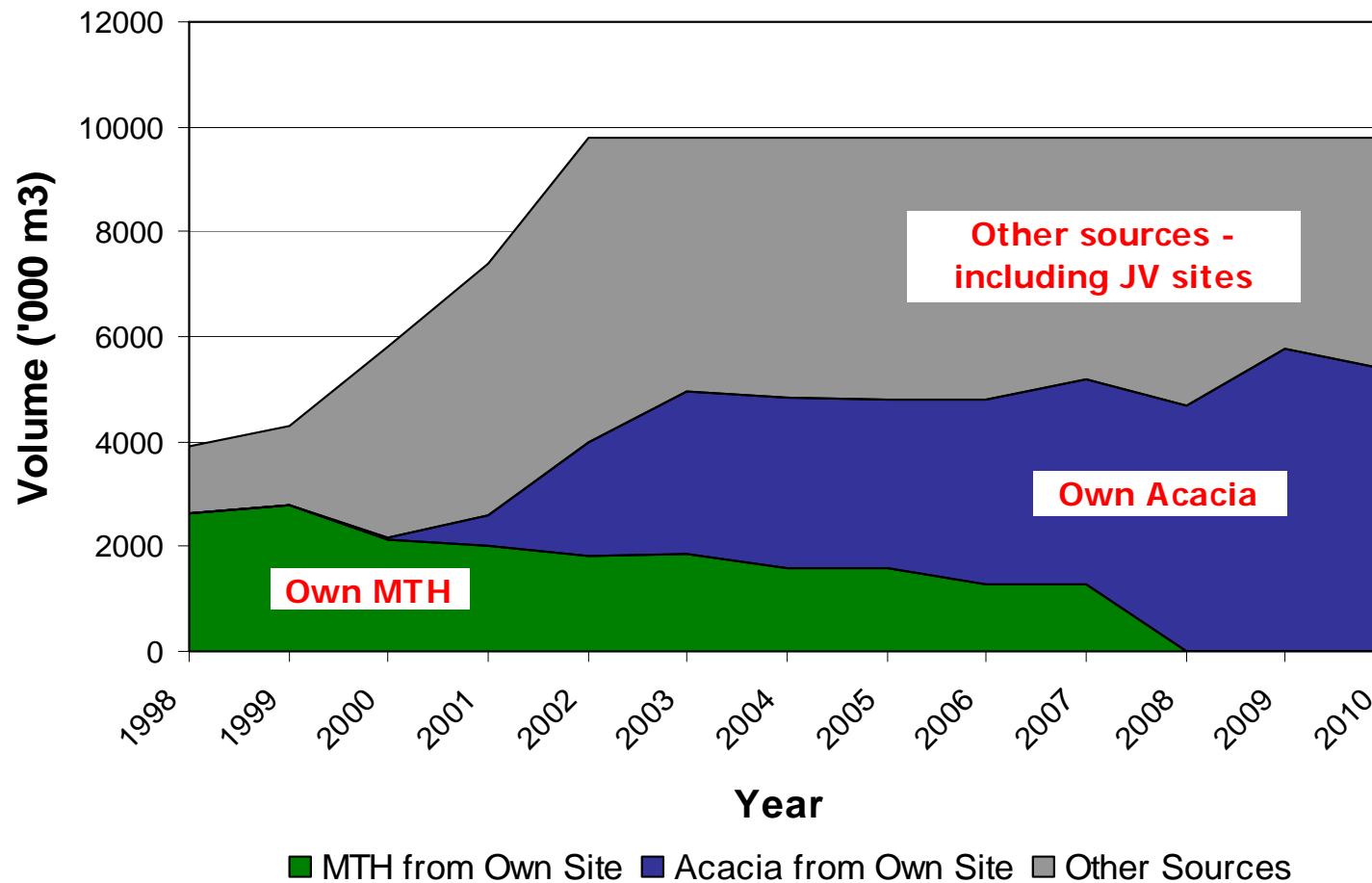
- Own plantations to supply 50-60 % of fiber on a sustained basis

Both groups trying to secure large new JV areas for conversion to meet 2007 (APP) and 2009 (APRIL) 'sustainability' targets

# Wood Supply for APP-Indah Kiat 1998-2010



# Wood Supply for APRIL- Riau Andalan, 1998-2010



**Why have Indonesian pulp producers expanded mill capacity before securing adequate plantation resource base?**

## *Reasons for Over-expansion (1)*

### **Poor Planning and Weak Regulation**

- Ministry of Industry generally approved pulp mill capacity expansions without consulting first with the Ministry of Forestry about wood supply
- Government has not required companies to submit detailed wood supply plans, and little monitoring has occurred
- Weak law enforcement and no effective chain of custody to ensure legal origin of wood supplies

## *Reasons for Over-expansion (2)*

### **Capital Subsidies**

Government subsidies lowered capital costs for pulp producers and encouraged them to engage in high-risk behavior

Direct and indirect subsidies included:

- Cheap wood from natural forests
  - Taxes and royalties < US\$ 2.50 per tonne
- Grants and loans from the Government's Reforestation Fund
  - US\$ 417 million disbursed through 1997/98 (though APP and APRIL were not major recipients)
- Soft loans from State banks
- Tax incentives for new capital investments

## *Reasons for Over-expansion (3)*

# **Weak Due Diligence and Risk Assessment by Financial Institutions**

During the 1990s, Indonesian pulp and paper producers had easy access to international and domestic finance, raising over US\$ 15 billion for capacity expansions.

Investment institutions generally used weak due diligence and risk assessment practices

- Little involvement of forestry experts
- Reliance on company-provided data and projections
- No use of independent audits of forestry operations

Export credit guarantees from supplier countries also lowered the cost of capital and reduced financial risk to banks

**As a result:**

**Indonesia's pulp and plantation sector has high levels of risk that have not been fully assessed.**



# **Extremely Optimistic Projections**

APP and APRIL have announced plantation development plans which are based on very optimistic assumptions, and may be unrealistic – *particularly for APP*

- Sharp increases in annual planting
  - APP: 24,000 ha (2000) to 85,000 ha (2004), 98,000 ha (2005)
    - *Until now, APP has never planted > 35,000 ha per year*
  - APRIL: 19,000 ha (2000) to 47,000 ha (2002 and beyond)
- Ambitious growth rates
  - In the past, APP projected MAI's of 36 - 40 m<sup>3</sup>/ha/yr for areas planted in 2002-04
  - Recent study by AMEC found average MAI to be 28 m<sup>3</sup>/ha/yr on mineral soils and 23 m<sup>3</sup>/ha/yr on peat soils

# **Reliance on Natural Forest Conversion**

Both APP and APRIL continue to rely heavily on wood harvested from natural forests. The two companies are now competing to secure the last remaining stands of natural forests that can be converted to plantations.

- APP's plans to convert an additional 130,000 ha of natural forest to meet its plantation 'sustainability target' by 2007.
- Conversion of natural forests has led to protests from environmental groups and pressure from buyers in Japan, Europe, and the US

## *Risk Factors (3)*

# **Plantation Development on Peat Lands**

Increasing reliance on swampy peat-land sites for plantation development

- 70 % of APP's total sites (co's own plantations and joint venture areas) are on peat soils
- 25 % of APRIL's sites are on peat soils

Peat land plantations have many challenges:

- Fragile soils
- Water levels difficult to maintain
- Vulnerability to fire
- Higher investment cost, lower productivity than mineral soils

***Can intensive industrial plantations on peat-lands succeed over multiple rotations?***

# **Land Claims and Social Conflict**

- Regional autonomy has led to a sharp increase in land claims on large-scale company plantations
- Security of existing plantation sites is not guaranteed
  - In Jambi, APP lost 70,000 ha to local claims in 2001  
→ (25% of total concession)
  - In Riau, 57,000 ha at APP sites now subject to claims
- New plantation development requires companies to find effective models for working with local communities

**AMEC audit of APP:** *“The existing level of claim disputes can have a large impact on sustainable wood supply plans. If the number of successful claims escalates, it will have a further severe impact.”*

## Heavy Debts

APP (Sinar Mas Group)	US\$ 13.9 billion
APRIL (Raja Garuda Mas Group)	US\$ 1.1 billion

- Government of Indonesia has had to guarantee repayment of US\$ 1.3 billion in APP/SMG loans from the group's own bank (BII)
- Under APP's debt restructuring process, many creditors will not be repaid the money they lent – Chinese banks are the exception!
- APP's massive debts create pressures to keep operating costs as low as possible and to defer major long-term investments in plantations
- Since APP's default in 2001, cost of wood sold to the mills by APP's parent conglomerate (Sinar Mas Group) have risen sharply
  - US\$ 15-17 per m<sup>3</sup> (2000) → US\$ 32-35 per m<sup>3</sup> (2002)

**What lessons does Indonesia's  
experience offer for China?**

## **Develop plantation base before expanding pulp capacity**

**Legal and sustainable fiber supply should be secured before new processing capacity is installed**

Requires coordination between:

- Gov't agencies responsible for industry licensing and forestry
- Gov't planning agencies at national and provincial levels
- Pulp co's, other land-users, and local government
- Mill operators and wood supply managers

## **Involve local communities and provide equitable benefits**

Plantation development is as much a social issue as it is a technical issue -- to succeed, local peoples must see long-term benefits.

China already has many models for involving farmer cooperatives in fast-growing plantation development. It will be important to ensure that farmers have:

- Secure land tenure
- Incentives to grow pulpwood
- Fair payment for the wood they produce

Social impact assessments are also needed to determine effects of new pulp mills on surrounding communities



## **Require pulp producers to meet sustainability targets**

Given the large scale of their operations, pulp producers should be required to develop accountable plans for meeting sustainability targets on key social and environmental issues

- Sustainability plans should include:
  - Plantation development targets that are achievable
  - Legal verification of wood sourcing
  - Protection of high conservation value forest
  - Investment in out-grower schemes / resolution of land conflicts
- Government should monitor implementation of sustainability plans, and hold companies accountable for meeting key targets

## **Strengthen financial due diligence and risk assessment for state banks**

Investment institutions should be more accountable for fully assessing financial risks and social/environmental impacts of projects they fund.

- China's state banks should review international initiatives for raising investment standards, such as the 'Equator Principles'
- Need to involve forestry experts to analyze:
  - Areas planted; stocking rates; annual growth rates; land tenure security; technical risks; legal sourcing

## **Reward responsible producers, not co's with largest investment plans**

Government should set high industry standards, and support those companies that demonstrate responsible performance:

- Sustainable environmental practices
- Long-term benefits for farmers
- Responsible financial management

Government may wish to look at companies' performance with prior investments in China or other countries