Intensively Managed Forest Plantations in Indonesia: Overview of Recent Trends and Current Plans

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Outline of the Presentation

- Overview of Indonesia’s forest crisis
- Ministry of Forestry’s 9.0 million ha plantation plan
- Indonesia’s HTI industrial plantation program
  - Achievements
  - Lessons
- Pulpwood plantation development in Riau
- Overview of the HTR community plantation program
- Indonesia’s experience with outgrower schemes and nucleus estates
- Summary and recommendations
Indonesia’s forest crisis

- Deforestation is estimated at 1.6 – 2.0 million ha/yr, with similar rate of forest degradation
- Illegal logging is widespread
- Most timber companies are logging at unsustainable levels
- Parks and protected areas under heavy encroachment
- Large areas of forest being converted for oil palm, biofuels
- Central and regional governments are in tug-of-war
Legal wood supply from natural forests is rapidly declining

- Since late-1960’s, Ministry of Forestry has issued > 60 million ha of HPH timber concessions, for selective logging on a 35 year rotation
- But HPH log production is rapidly declining in much of Sumatra and Kalimantan, as concessions are depleted

- Current legal supply is approx. 22 million m3/yr – mostly from natural forests
- This amounts to 40% or less of domestic log demand
- Balance is from illegal sources
- Industrial forestry sector faces decline if revitalization is not initiated
MoF’s 9.0 million ha plantation plan

- In Dec. 2006, Ministry of Forestry announced a target of establishing 9.0 million ha (gross) of plantations for industrial wood by 2016 – integrated with a broader forest sector revitalization process
- 40% of total area (3.6 m ha) will be large-scale plantations

- 60% of total area (5.4 m ha) will be managed by small-holders
- Funds from Reforestation Fund will be allocated through a new state finance agency
- Approx. US$ 8.0 billion will be invested from public and private sources
Potential benefits are substantial...

- If targets are met, plantation expansion could offset the current supply-demand gap – and even generate a surplus -- at moderate production levels.

- Small-holder plantations expected to provide livelihood opportunities for 360,000 households.

- Direct and indirect employment expected for larger numbers of rural poor.

Source: T. Brown et al. (2005)
Establishing 9.0 million ha (gross) of commercially viable plantations poses huge technical, logistical, and administrative challenges …

… particularly with 5.4 million ha to be allocated to small-holders in 15-ha blocks

- Past experience, in Indonesia and elsewhere, suggests this initiative could pose new risks for forests and rural communities
- Need to review potential lessons from Indonesia’s HTI industrial plantation program, outgrower schemes, and nucleus estates
Indonesia’s HTI plantation program

- Since late-1980s, Ministry of Forestry has allocated HTI industrial plantation concessions to private and state co’s
- Licenses allocated for ‘marginal’ or ‘degraded’ forest areas – i.e. < 20 m3/ha of commercial species with dbh > 30 cm
- Co’s allowed to clear remaining forest, with IPK license
- HTI license-holder then obliged to replant and manage plantation for 35 years + length of 1 rotation
- Subsidized financing provided from Government’s Reforestation Fund
In 2002, the IUPHHK replaced the HTI license, and the maximum duration for a plantation concession was extended to 100 yrs.

Through August 2006, 219 licenses covering an area of 9.0 million ha had been issued or were pending.

These were concentrated in:
- Papua = 1.63 million ha
- East Kalimantan = 1.46 million ha
- Riau = 1.18 million ha
- South Sumatra = 970,000 ha
- West Kalimantan = 912,000 ha
In October 2006, Ministry of Forestry reported a total net planted area of 2.8 million ha

- 1.8 million ha for pulpwood
- 1.0 million ha for solid wood

But numbers need to be treated with caution, as large areas were never fully stocked, have been poorly managed, or have had heavy losses

Net commercial area is likely to be much smaller than these figures indicate.
Most intensively-managed commercial plantations are for pulp

- During 1990’s, 23 pulpwood plantation licenses issued, covering 4.3 million ha (gross); many more since then

*Acacia mangium* is main species on dryland sites

- Rapid growth (7 year rotation)
- Adaptability to degraded soils
- High pulp yields

*Acacia crassicarpa* is dominant on peat sites
Much of the area allocated for HTI plantation development was covered by commercially valuable forest (technically ‘degraded’).

This encouraged rent-seeking, as plantation companies were first allowed to clear the wood with royalties well below stumpage value.

Many HTI license-holders never replanted after clearing their concession area.

To avoid further negative impacts on natural forests, greater care will be needed to prioritize sites that no longer have forest cover.
Tenure conflict and displacement of forest communities

- In many cases, HTI licenses have overlapped with land or forests managed by local communities under customary tenure systems.

- During the Suharto era, this often led to the displacement or relocation of local peoples.

- In the post-Suharto era, tenure disputes and violent conflicts have become common, particularly as timber plantations tie up the land for long periods (now 100 years).
Financial fraud – misuse of the Reforestation Fund

- Through 1997-98, GoI allocated US$ 417 million from the Reforestation Fund to finance plantation development, as cash grants and discounted loans
  - Many recipients ‘marked up’ their costs or overstated the areas planted
  - A 1999 Ernst & Young audit recorded losses of US$ 223 million during 1993-98
  - In 2006, ex-President Suharto’s half-brother was convicted for fraudulent use of loans from the Reforestation Fund
Incentives for high-risk and/or unsustainable investments

- Access to HTI plantation concessions with large volumes of natural forest fiber that could be liquidated at low cost allowed Indonesian companies to secure funding for high-risk and unsustainable pulp mills.

- Banks and ECA’s routinely failed to conduct due diligence to determine whether borrowers could sustain such low-cost operations over the long-term.

- Defaults of APP, APRIL, Kiani Kertas, Barito Group have meant the Government and private investors have absorbed substantial costs.

- New regulations allow plantation license-holder to use forest assets as collateral for bank loans.
Indonesia’s pulp industry

- Rapid expansion of BHKP capacity since early-1990s, with Indonesia reaching 6.45 million Adt/yr in 2005

- Industry dominated by APP and APRIL, which control over 75% of total pulp capacity – both linked to China

- 2005 BHKP production = 5.47 million Adt/yr (85% capacity)

- 2005 pulpwood consumption = 25-27 million m3/yr
  -- 70% was ‘mixed tropical hardwoods’ (MTH) from natural forest

- Est’d 1.5 million ha of plantations (net), > 80% *Acacia spp*

- New capacity expansion ‘planned’, including 1 greenfield BHKP mills
APP and APRIL mills in Riau

APP and APRIL have developed 2 of the world’s largest pulp mills in Riau, each of which consumes 9-10 million m3/yr

- APP’s Indah Kiat = 1.85 million Adt/yr (pulp)
- APRIL’s RAPP mill = 2.0 million Adt/yr (pulp)

However, both groups have expanded pulp capacity much faster than plantation development

- Continue to rely heavily on MTH from natural forest
- Own plantation sites to supply only 50-60 % of fiber needed on a sustained basis

Both groups trying to secure large new JV areas for conversion to meet 2007 (APP) and 2009 (APRIL) targets for 100% acacia

Key findings:

- As of 2003, net planted area: 121,179 ha (own HTI) and 34,000 ha (JV sites)
- Ambitious growth rates now revised downward:
  - MAI on mineral soils = 23.2 m3/ha/yr
  - MAI on peat soils = 19.6 m3/ha/yr
- Additional 252,828 ha (net) would be needed to sustain mill at 1.85 million Adt/yr
APP’s plan for 2004-2007

- APP proposed to secure the additional 252,828 hectares of net plantation over 4 years (2004-2007)
- 72% of the new expansion (182,828 hectares) would occur in 2004 and 2005
- The areas targeted for plantation development consists of:
  - 122,828 hectares currently under peat swamp forest in Riau.
  - 30,000 ha is ‘waste land’ on mineral soil and peat swamp in Riau;
  - 100,000 ha are wet / swampy land in South Sumatra.
- Conversion of an additional 130,000 ha of natural forests is required
APP’s plan to reach 100% acacia for Indah Kiat Pulp & Paper

**Scenario 1:** IKPP & JV plantations are harvested to provide an even flow of wood and are replanted immediately after

<table>
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<tr>
<th>Year</th>
<th>Area (ha)</th>
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<tr>
<td>2004</td>
<td>85,000</td>
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<tr>
<td>2005</td>
<td>98,000</td>
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<td>2006</td>
<td>100,000</td>
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Prior to this, APP had never planted more than 30,000 ha per year for IKPP.

**Source:** APP Sustainability Action Plan (2004)

**Annual planting targets:**

2004: 85,000 ha (net)
2005: 98,000 ha (net)
APP’s reported results

- In 2004, APP reportedly planted nearly 65,000 ha (net) to supply fiber to Indah Kiat, including:
  - 52,275 ha in Riau
  - 12,483 ha in Palembang (S. Sumatra)
- In 2005, APP reportedly planted 81,000 ha (net), including:
  - 46,182 ha in Riau
  - 35,426 ha in Palembang

Company sources indicated, however, that these a substantial portion of these areas are poorly stocked due to push to meet planting targets. APP also reportedly suffered substantial plantation losses due to fire in 2004-05.
APP fiber supply – risks (1)

- Increasing reliance on peatland sites poses a significant technical challenge and a potentially serious (underestimated) risk

  -- 75% of APP’s total sites in Riau and Jambi will be on peatlands
Social conflict and uncertain land tenure

- Regional autonomy has led to sharp increase in land claims and illegal logging

- Security of existing plantation sites 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 subject to claim in 2002

AMEC audit: “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.”
APRIL fiber supply strategy (1)

APRIL is competing with APP for land and fiber in Riau province to supply Riau Andalan Pulp & Paper

- RAPP BHKP capacity = 2.0 m Adt/yr
- 60 % of wood supply was MTH in 2006 (est.)

APRIL seeking to develop 330,000 ha of Acacia in Riau

- 195,000 ha at own sites; 85,000 ha at JV sites (with other plantation companies); 20,000 ha at community sites
- Approx. 264,000 ha (net) planted by mid-2006
- 43 % of existing planted area is on peatland sites

APRIL trying to convert large JV areas to meet 2009 target of 100% acacia
Generally, APRIL’s plan for meeting its 2009 target for 100% acacia seems more achievable than APP’s, in terms of annual planting.

- Based on increase in annual planting from 19,000 ha (2000) to 47,000 ha (2002 and beyond)
- In 2004, APRIL reportedly planted 49,242 ha across all sites.
- In 2005, APRIL reportedly planted 51,377 ha across all sites.

But, APRIL’s commitment to 100% acacia applies only to currently installed pulp capacity – i.e. the existing 2.0 million tonnes.

The company offers no assurances that any additional capacity will be fed with acacia.
For APRIL, what do ‘sustainability commitments’ really mean in light of the company’s plan to expand its pulp capacity?

- The company reportedly plans to expand pulp capacity to 4.0 million Adt/yr – the timing of this expansion is not yet announced.
- APRIL also plans to expand its net plantation base to 600,000 ha (suggesting that it aims to obtain a gross plantation base of up to 1.2 million ha in Riau).

Expansion on this scale raises fundamental questions about the significance of the company’s stated commitment to assess and protect high conservation-value forest (HCVF).
The Ministry of Forestry’s ‘Nine Million Hectare Plantation Plan’ intends to allocate 5.4 million ha to small-holder tree planters in 15 ha blocks.

Credit will be provided through a new financial institution to be created by MoF, and will use Reforestation Funds.

The small-holder component will reportedly be limited to Sumatra and Kalimantan.

Land allocated has been determined to be ‘free of existing rights’ (‘lahan bebas dari hak’).
Lessons from out-grower schemes and nucleus estates

- Indonesia has a long history with small-holder tree-planting schemes, structured both as out-grower arrangements and nucleus estates.

These offer potentially important lessons related to:

- Accountability and terms of partnership
- Labor, access to markets, and indebtedness
- Land tenure and conflict
Issues for stakeholders

- How to ensure that new plantation development does not place new pressures on Indonesia’s remaining natural forests?
- What can be done to clarify tenure rights of local communities, and address tenure claims before they turn into conflicts?
- How to approach HTR community plantations – to allow small-holders to choose species and to whom they will sell their trees?
- What mechanisms are needed for transparency and accountability in use of the Reforestation Fund?
- Should new pulp industry capacity expansion be supported before a legal and sustainable fiber supply has been fully secured?
- What pace should be taken? – Need to review lessons from prior initiatives, carry out pilot projects, establish a system for monitoring and assessing progress, adapt the targets as needed