Local people – industrial timber plantations interactions: A comparative analysis in Indonesia

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Talk outline

- Planted forests
- Sustainable wood production from planted forests
- Study background, justification
- Study areas, methods
- Key results, conclusions
Concept of natural, semi-natural, planted forest and non-forests

"Planted forests are composed of trees established through planting and/or through deliberate seeding of native or introduced species."

Commercial planted area, productivity and sustainable production capacity of planted forests, Indonesia

<table>
<thead>
<tr>
<th>Timber species</th>
<th>Productive area ('000 ha)</th>
<th>MAI (m³/ha/year)</th>
<th>Sustainable production capacity '000 m³/year</th>
<th>% of total production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eucalypt</td>
<td>144</td>
<td>13</td>
<td>1,872</td>
<td>5.3</td>
</tr>
<tr>
<td>Pine</td>
<td>770</td>
<td>10</td>
<td>7,700</td>
<td>21.8</td>
</tr>
<tr>
<td>Teak</td>
<td>1,470</td>
<td>5</td>
<td>7,350</td>
<td>20.8</td>
</tr>
<tr>
<td>Hevea</td>
<td>918</td>
<td>12</td>
<td>11,016</td>
<td>31.1</td>
</tr>
<tr>
<td>Acacia</td>
<td>642</td>
<td>6</td>
<td>3,852</td>
<td>10.9</td>
</tr>
<tr>
<td>Others</td>
<td>897</td>
<td>4</td>
<td>3,588</td>
<td>10.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>4,841</td>
<td>-</td>
<td>35,378</td>
<td>100</td>
</tr>
</tbody>
</table>

ITTO, 2009

Center for International Forestry Research
Industrial round wood production from planted forests in Indonesia

Data: Jurgensen et al. (2014)

Ecosystem services from planted forests

International users (Global scale)
e.g., climate regulation, UV protection

National and provincial users (Regional scale)
e.g., Purification of air, flood mitigation

Users inside or nearby plantation (Local scale)
e.g., pollination, seed dispersal

Certain services are enjoyed by multiple scale, for example, climate regulation via carbon sequestration by planted forest is beneficial to local, regional and global users.
Justification

- Planned expansion of industrial timber plantations worldwide

- Indonesia has vast areas of industrial timber plantations with either private or public ownership (Acacia with Inhutani, pine and teak with Perum Perhutani)

- Recurrent controversies around this land use and its environmental and social impacts

Key questions addressed

- What are the perceived impacts / perceptions by people living in these plantation landscapes?

- What are the key determinants of either positive or negative perceived impacts?
Study areas

Methods

- Household survey with 606 respondents living nearby industrial plantations in Indonesia, undertaken in 2014-2015
- 9 villages are involved, 3 plantation types (acacia, teak, pine), across 3 islands (Sumatra, Java, Kalimantan)
- Attention paid to selection of villages without extreme cases of either conflicts or perfect relationship.
A distinction emerges between Acacia plantations on one side, and pine / teak plantations on the other hand...

**Interactions: employment and use of land**

- Share of respondents using the plantation land for their own activities differs between plantation types: Acacia (26%), Pine (64%), teak (87%)

- Employment roughly the same for all plantations types (but variations between villages): 40-52% of respondents

- Type of employment differs between plantation types: various options for Acacia, paid by the task for pine (resin tapping), seasonal labor for teak
Services and benefits

- Significantly more positive impacts were cited by respondents for pine / teak compared to acacia.

- Acacia plantations mostly praise for their local development contributions (opening up remote areas basically, e.g. with infrastructures).

- In contrast pine and teak plantations are acknowledged a diversity of benefits including environmental services, access to land and provision of goods.

Negative impacts

- High rate of dissatisfaction for Acacia: 44% respondents cite at least 4 negative impacts.

- Pine and teak plantations do much better, with about half of respondents citing no problem, and 2/3 citing only one problem.

- One possible interpretation, beside better performance, is that pine and teak plantations have been established in the landscape for a long time so that some impacts are not attributed to them by respondents.
Evolution of perceptions over time

- Trend toward worsening opinions with Acacia
- In contrast, pine and teak enjoy improved perceptions for about 2/3 of respondents
- This pattern is consistent across villages

Concluding comments

- Distinct perceptions between acacia and pine/teak probably explained by new land use in remote / frontier areas vs long-established integration in the landscape
- Great expectations for Acacia plantations/ contribution to local development, and private companies tend to be relied upon more than the state for infrastructures, etc.
- Potential for the identification of areas of improvement for plantation management, that would usefully rely on involvement of locals earlier in the process of developing management plans
Acknowledgements

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