Oil palm dreams and disillusions: smallholders’ plantations in a context of poor access to agricultural inputs

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- 5 traditional villages (Kecamatan Batun III Ulu, Bungo district, Jambi Province, Indonesia).
- Rubber is the main and traditional cash crop. Most villagers rely on rubber slab to make a living.
- Encouraged by the success of plasma plantations, the development of oil palm plantations started around 10 years ago, as a mean to diversify the source of incomes.

Diversity of smallholders: a matter of real agricultural practices

In the study area, we found four main types of cash crop cropping systems:
- Oil palm « very low inputs » plantations with unselected seedlings without mineral fertilization
- Oil palm « low inputs » plantations with unselected seedlings and low mineral fertilization
- Rubber agroforest with local seedlings without mineral fertilization1,2
- Mono specific rubber plantation with local seedlings without fertilization1,2

We used surveys held in plasma plantations in Siak and Kampar districts (Indonesia, Riau province, Sumatra) as a reference for oil palm « high inputs » plantations with selected seedlings and recommended mineral fertilization.

« Low inputs » oil palm plantations are less competitive than rubber monospecific plantations and rubber agroforest

The gross margin of oil palm cropping systems is higher than the two rubber cropping systems if growers can access to selected seedlings and recommended fertilization rates.

In the study site, we found out that there is:
- No local reliable oil palm seedlings suppliers
- Growers do not have the initial funds to pay for selected seedlings
- Fertilization mostly depends on growers available (varying from year to year)

We calculated a simplified annual gross margin of mature plantation, considering the main cost and benefits of the 3 oil palm cropping systems and the 2 rubber cropping systems.

Simplified annual gross margin = (Commodity price * yield) – (labour cost + mineral fertilization cost)

Farm gate prices in October 2013: 877Rp/kg for FFB; 16 222Rp/kg for rubber slab (DRC50)

A better description of the diversity of oil palm cropping systems leads to assess better the sustainability of palm oil production

The diversity of oil palm agricultural practices leads to different annual gross margins

The minimum plantation size to make a living depends on the practices

Based on surveys, we estimated the cost of living of an Indonesian family to 1 500 000 Rp/month.

We assumed that the gross margin is linearly correlated to the size of the plantation.

Per family, the size of cash crop plantations is usually:
- For oil palm: 2ha for plasma plantations, 1ha for local villagers’ plantations and 0,75ha for the latest transmission programs
- For rubber: at least 4ha of rubber plantations and/or agroforest

**The minimum plantation size to make a living depends on the practices**

<table>
<thead>
<tr>
<th>Annual income (KRp)</th>
<th>Oil palm « very low inputs »</th>
<th>Oil palm « low inputs »</th>
<th>Oil palm « high inputs »</th>
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<tbody>
<tr>
<td>2ha of plasma plantations</td>
<td>2ha of village rubber plantations</td>
<td>1ha of village agoagroforest</td>
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Plantations size (ha)

Perspectives

- Extension of the survey to both other growers and areas to validate these first results
- Recording more detailed agricultural practices for the whole oil palm cycle could improve the global assessment of oil palm cultivation

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