

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

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Study site

- 5 traditional villages province (Kecamatan Bathin III Ulu, Bungo district, Jambi Province, Indonesia)
- Rubber is the main and traditional cash crop. Most villagers rely on rubber slab selling 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.



Independant grower plantation (Bungo district)

Nursery (Siak district)

Fertilizer bag (Bungo district)

Plasma grower and assistant(Siak district)

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 fertilization^{1,2}
- Mono specific rubber plantation with local seedlings without fertilization^{1,2}

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.

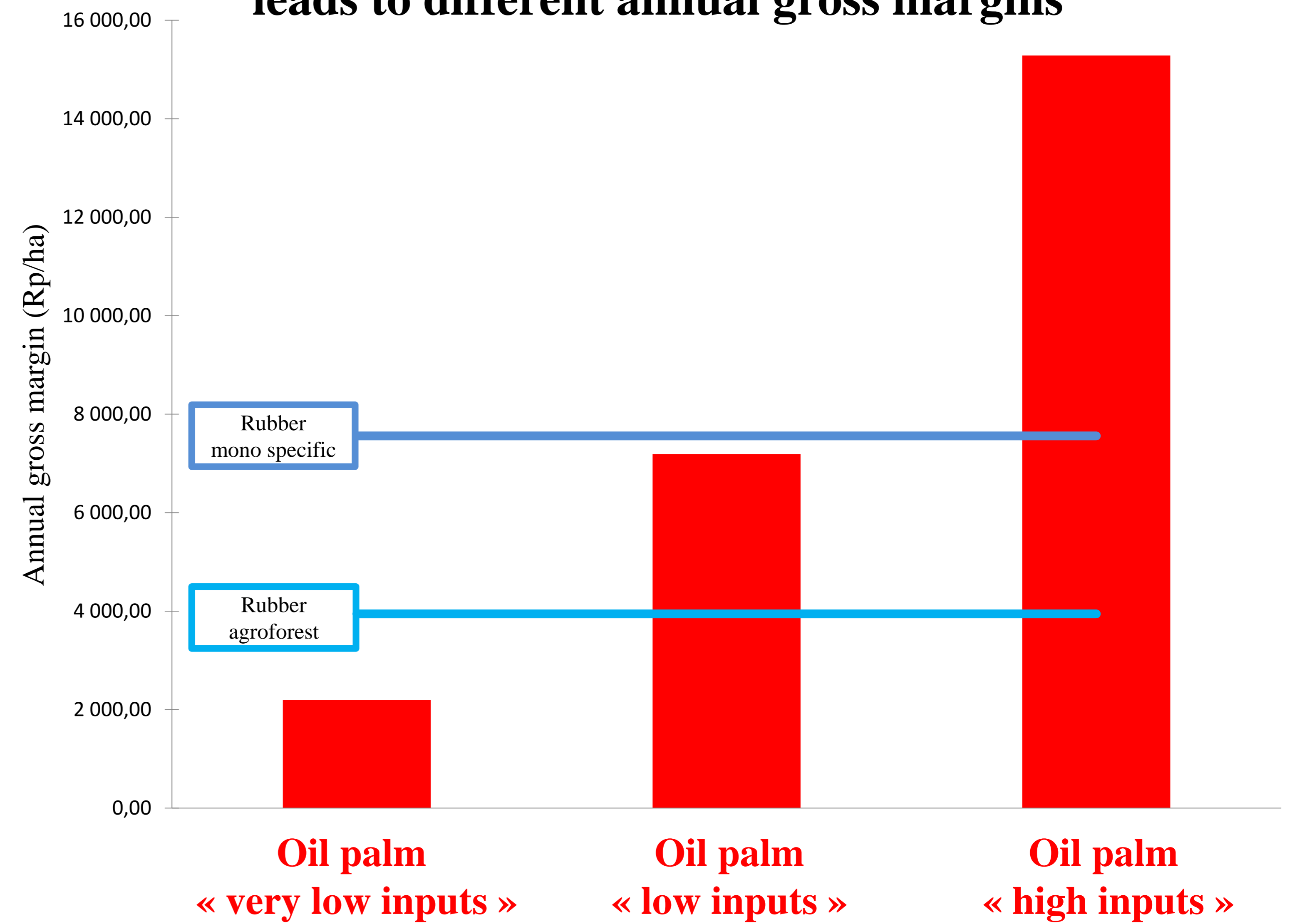
« Low inputs » oil palm plantations are less competitive than rubber monospecific plantations and rubber agroforest

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)

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



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.

$$\text{Simplified annual gross margin} = (\text{Commodity price} * \text{yield}) - (\text{labour cost} + \text{mineral fertilization cost})$$

Farm gate prices in October 2013: 877Rp/kg for FFB; 10 222Rp/kg for rubber slab (DRC50)

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



Photo: M Moulin

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FFB harvest (Bungo district)

Photo: M Moulin

Rubber slab (Bungo district)

1ha of « low inputs » oil palm plantations is not enough to make a living

In the case of « low inputs » oil palm cultivation, the usual 1ha size of oil palm plantation is not enough to make a living. Most oil palm growers rely on external incomes: rubber plantations and daily works.

In the study site, we found out that oil palm plantations size is mainly constraints by:

- the capacity of smallholders to buy a sufficient amount of oil palm seeds
- the availability of land suitable for oil palm cultivation

Perspectives:

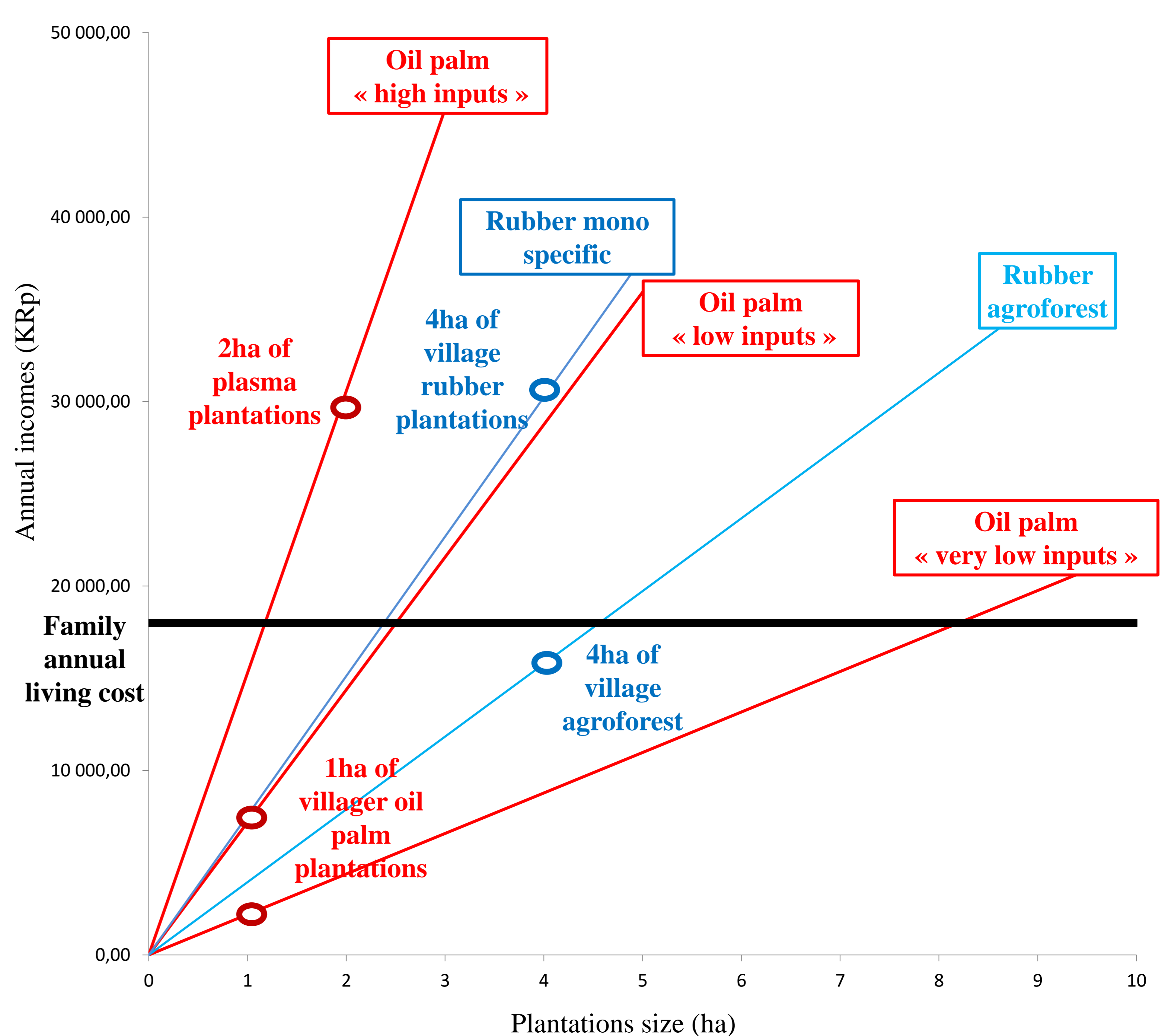
- Extension of the survey to both other growers and areas to validate these first results
- Recording more detailed agricultural practices for the whole oil palm cycle could improve the global assesment of oil palm cultivation

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Sources:

- (1) Bonnart, How can the improved livelihoods of rural community and the biodiversity conservation be integrated in the landscape mosaics in Bungo district. Master thesis. 2008.
- (2) Mienmany, Agriculture beyond the oil palm development in Jambi province, Participatory Prospective Analysis. Master thesis. 2013.

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 000Rp/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 transmigration programs
- For rubber : At least 4ha of rubber plantations and/or agroforest

