



Coffee-based Agroforestry as an Alternative to Improve Local Livelihoods in Peat Landscapes of Sumatra

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Introduction

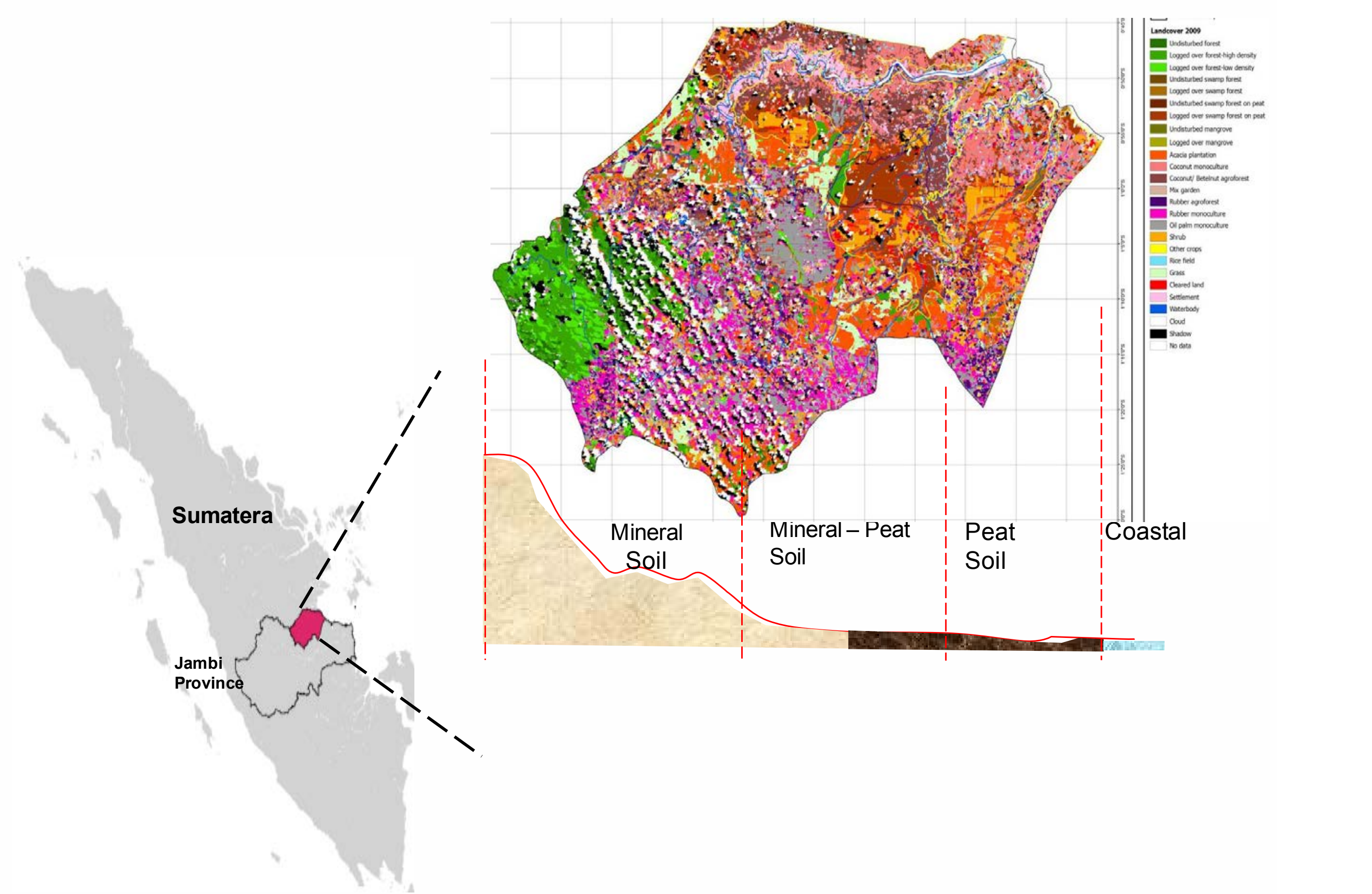


Figure 1. Location of Tanjung Jabung Barat district, Jambi province, Sumatra Island, Indonesia.

Indonesia has the largest area of peat swamp forest in the world, covering an estimated area of 20.7 million hectares. Sumatra which has large peat swamp forest is also has highest threats due to massive land conversions, deforestations and forest degradation. In the peat swamp forest this will increase a significant carbon emission and loss of poor people livelihoods that lives in the area.

In relation to the low emission development and reducing emissions from all land uses (REALU), this study is trying to identify local livelihoods in peat swamp area and opportunities to reduce emissions in the site level.

The study site was Tanjung Jabung Barat district in Jambi province on the island of Sumatra, Indonesia. The total area of the district was approximately 5 000 km², with almost 40% of the area being peat lands in the east towards the coast.

The population was approximately 266 952 people in 2009. Early in-migration (old migran) occurred during the 1940s-1950s, mostly Bugis and Banjar ethnic groups from Sulawesi and Kalimantan islands.

The most significant migration (recent migran) into the site occurred during the 1980s-1990s under the Government of Indonesia's transmigration program, which was linked with the develop-ment of large-scale oil palm plantations.

Methodology

The livelihoods study collected data from community and household level. Focus group discussions gathered information on sources of livelihoods, farming system and land management practices. Quantitative data were collected through a survey at household level. There was a total of 40 respondents in the peat area (one early migrant village and one recent migrant village) which was randomly selected from the larger sample.

Net Present Value (NPV) was used for comparing profits of different types of investment (e.g. different type of land use). Rapid Rural Appraisal was used to gather information on farm budget data for each land use, including prices, production, labor and other input.

Results and discussion

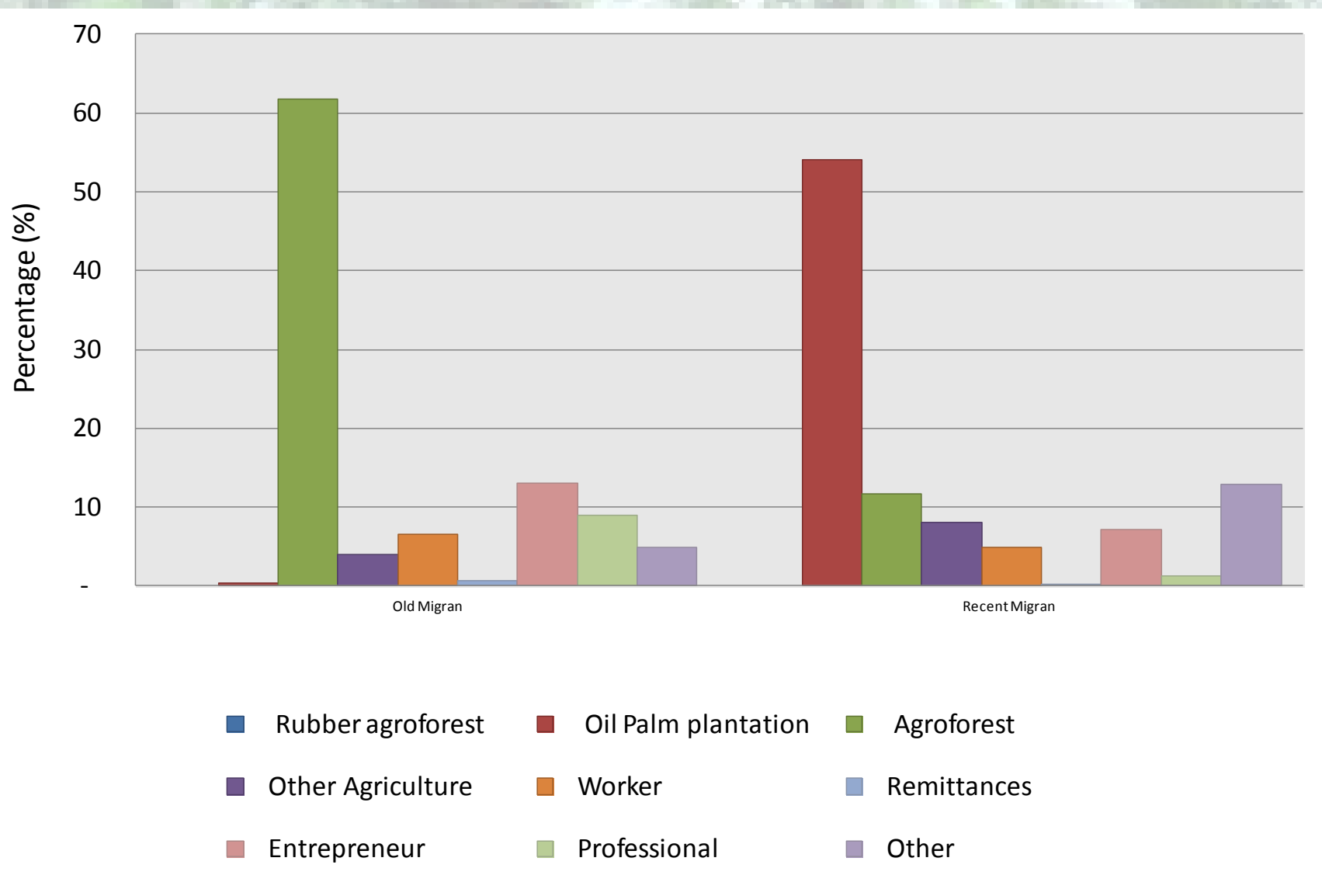


Figure 2. Household income by activity type (%)

agroforestry (betel nut- coconut. The monoculture systems in question mostly used oil palm.

References

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Profitability of land use systems

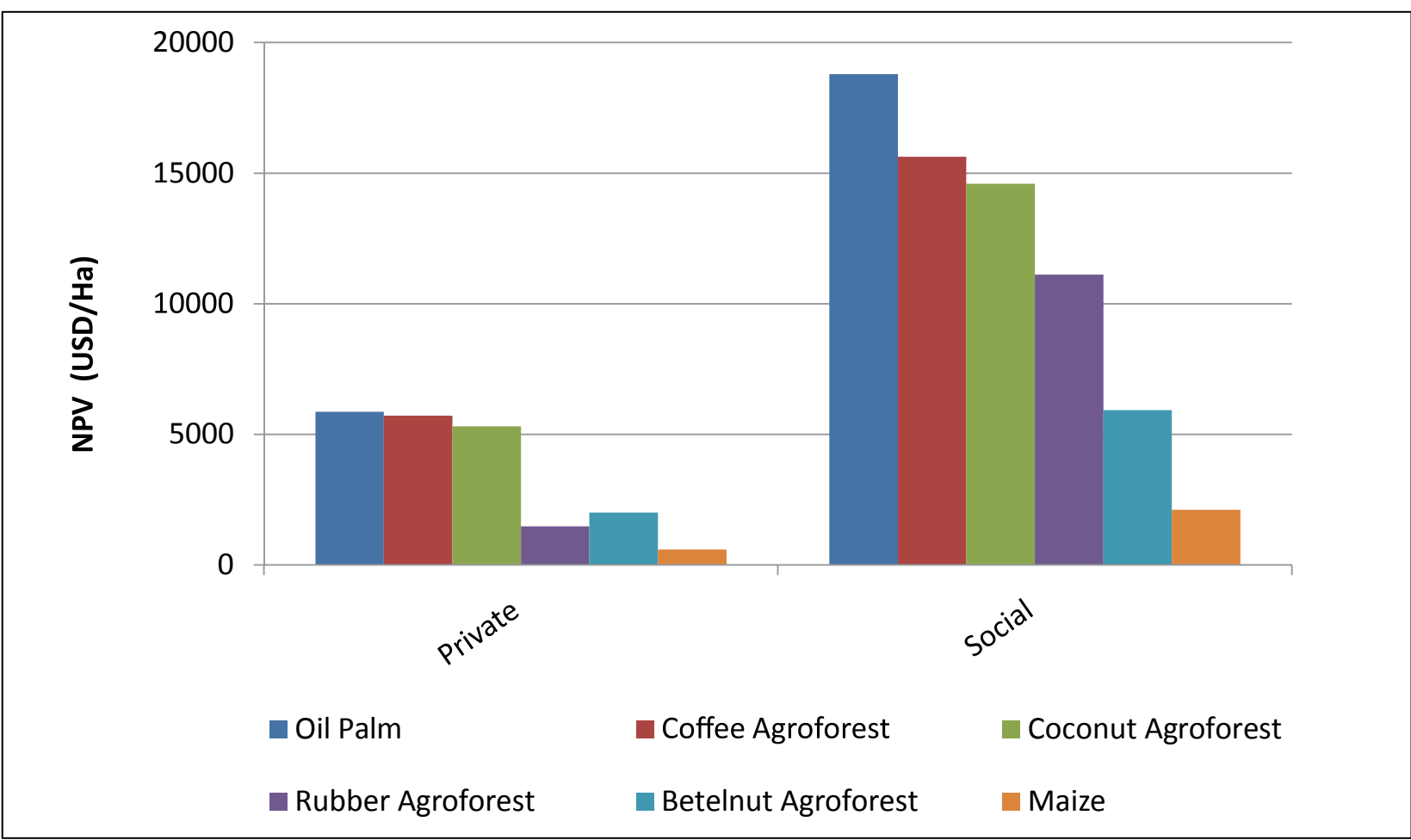


Figure 3. Profitability of land uses system in Tanjung Jabung Barat.

The profitability analysis showed that all land uses in peat area were positive, indicating that those land uses were profitable.

Both in private and sosial profitability, oil palm having the higher profitability, while the profitability of coffee based agroforest system was almost the same with oil palm.

Coffee-based Agroforestry

In the beginning, farmers planted monoculture coconut as the main commodity, since the 1990s, coconut productivity and prices have declined, farmers began to intercrop coconut with coffee and betel nut.

Farmer planted Liberica coffee (*Coffea dewevrei*), also well known as Excelsa coffee variety, to intercrop coconut. Excelsa was a unique coffee variety that in Indonesia can only found in peat land in Tanjung Jabung Barat district. Current situation found that the role of excelsa coffee has become more important than coconut. Soil fertility is maintained with the use of fertilizers from waste of the coffee shells, and without chemical used.



Figure 4. Coffe based agroforestry in Tanjung Jabung Barat .

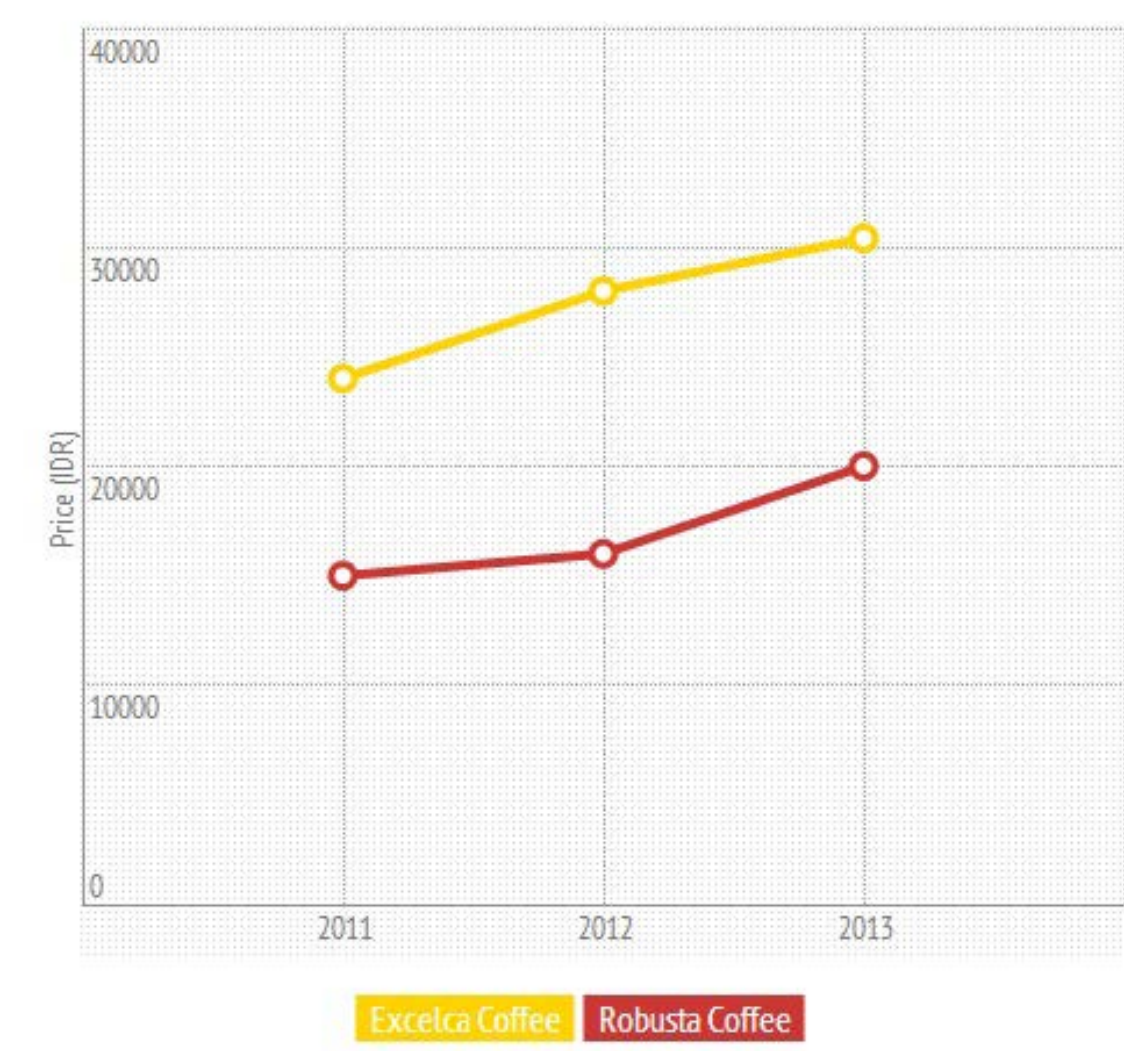


Figure 5. Price comparison excelsa and robusta coffee.

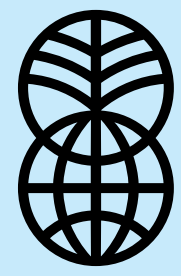
- Excelsa coffee are well adapted in this area, especially in mature peatland. Excelsa beans were bigger than Robusta, it started to produce coffee beans in 3.5 years after planting.
- In Jambi Province, Excelsa coffee have the higher productivity when compared to the other species of coffee. (Excelsa coffee: 1100 kg/ha, Robusta coffee: 794 kg/ha, and Arabica coffee : 442 kg/ha).
- At the farmer level, the prices of Excelsa coffee is also higher than other species of coffee (e.g: Robusta coffee).

Conclusion and Recommendation

- Coffee-based agroforestry is one of potential livelihoods for the smallholders in the area. The competitiveness of coffee agroforestry was high against oil palm on peat. The profitability of agroforestry was almost the same as oil palm.
- Several efforts are needed to improve its profitability to access wider market with higher price. Repackaging and rebranding the existing Excelsa coffee as organic coffee (or specifically 'Luwak coffee' for certain conditions) could be the an option to increase the price.
- Coffee based agroforestry system in Tanjung Jabung Barat district is an environment-friendly farming system practices that suitable for peat landscapes of Jambi. This system use Excelsa coffee - a unique coffee variety that can only found in peat land in the area within Indonesia. This option should follow the common criteria for organic product that sold in the market.
- Accessing the potential of eco-certification scheme for this Excelsa coffee will be a good exercise to strengthen the bargain position of the product in further organic markets.



Partnership for the Tropical Forest Margins



Norad

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