Introduction

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 increases 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 (REALUs), 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 migrant) occurred during the 1940s-1950s, mostly Bugis and Banjar ethnic groups from Sulawesi and Kalimantan islands.

The most significant migration (recent migrant) into the site occurred during the 1980s-1990s under the Government of Indonesia’s transmigration program, which was linked with the development 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

The highest source of income for old migrants is the agroforest (62%), while oil palm (34%) is the major income for recent migrants.

The daily income of old migrant village members was IDR 32,484 (USD 3.6) and recent migrant villagers was IDR 27,816 (USD 3). Around 65 percent of household sample preferred mixed-farming systems as opposed to 35 percent who opted for monoculture. Most of the mixed-farming systems were: coffee-agroforest (coffee-coconut-betalnut), coconut agroforest (coconut-coffee), betelnut agroforest (betal-nut-coconut). The monoculture systems in question mostly used oil palm.

Profitability of land use systems

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

Both in private and social 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 (Coffeea 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.

Conclusion and Recommendation

- Coffee-based agroforest is one of potential livelihoods for the smallholders in the area.

- The competitiveness of coffee agroforest was high against oil palm plant.

- 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 an option to increase the price.

- Coffee-based agroforest 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 as an unique coffee variety that can only found in peat land in 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 bargaining position of the product in further organic markets.

References
