

Sustainable Livelihoods and Enhancing Land Productivity for Small-Scale Oil Palm Farmers on Peatlands in Kalimantan, Indonesia

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Abstract

Common challenges that arise with palm oil development on peatlands include fires during the long dry season, flooding during the high-intensity rainy season, and high GHG emissions and subsidence of the peat soil surface due to the drainage of the peatlands. To address these issues, an integrated approach should be followed, focusing on rewetting the peat soils and restoring a more diverse vegetation cover with plants and cash crops which generate an income for local communities. In doing so, a variety of perennial and forest plants adapted to undrained peat could be used. Data was obtained through a literature review and Forum Group Discussion (FGD), interview with farmers, and field survey. It is a well-known practice for smallholder farmers to intercrop annual crops and secondary crops between the oil palm plants, especially during the non-productive start of oil palm fields. It serves as a source of income or food for household consumption. Reducing or stopping the drainage of peatland will reduce the carbon losses from the peatlands, which in some cases could generate credits for the farmers. Data from calculations of intercropping crop production in Batola Regency, shows that when smallholder farmers planted some types of crops on 2 ha of land, they made a profit of 6,248 USD. The carbon content produced is 2,298 tons/ha, and the ability to absorb carbon is 8,433 tons CO₂/ha. The use of endemic plants that grow on peatlands around smallholder oil palm plantations has not been conducted optimally, such as kelakai (*Stenochlaena palustris*) and purun danau (*Lepironia articulata*). These plants can be used as raw materials for various products. Kelakai, for instance, can be an alternative food, purun danau can be used for various crafts with high economic value. Utilizing peatland plants that grow around oil palms is an alternative to improving the economy of smallholder oil palm farmers.

Keyword: Oil palm, Livelihood, Peatlands, Intercropping