

Socio-ecological perspectives of engaging smallholders in environmental-friendly palm oil certification schemes



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ABSTRACT

The majority of smallholders in palm oil producing countries are not involved in palm oil certification schemes. The schemes are jointly developed by environmental NGOs, government agencies, and plantation companies without the input of smallholders. The inclusion of smallholders into palm oil certification schemes is necessary as they constitute 40% of land use coverage for global palm oil cultivation. This paper argues for the need to understand the smallholders' socio-ecological perspectives to design a realistic and acceptable scheme. Three hundred independent and managed smallholders in Peninsular Malaysia were interviewed to collect information on the groups' knowledge, perception, expectation and willingness to participate in the certification scheme. The study showed that the smallholder groups (more than 90% of the respondents) were keen to participate in the certification scheme if there is a premium pricing for oil palm yield and the certification cost is affordable. The study also indicated that smallholders need to be educated on biodiversity conservation and provided with financial and technical incentives to boost smallholders' participation. The paper concludes that understanding the socio-ecological background of smallholders is instrumental to designing a holistic certification scheme that will successfully conserve biodiversity in the agricultural production landscape without neglecting the plight of smallholders.

1. Introduction

Growing global demands for inexpensive vegetable oil from consumer countries, including emerging economic powers such as China and India, have contributed to the expansion of oil palm industry in the tropics (Rifin, 2013; Alonso-Fradejas et al., 2016). Agricultural land cultivated with oil palm is increasing in South America, western Africa, and Southeast Asia (FAOSTAT, 2016). Forest conversion to oil palm monocultures has been estimated at a rate of 270,000 ha per year in leading oil palm producing countries (Henders et al., 2015).

Palm oil production is a controversial industry (Oosterveer, 2015). The industry has been accused of causing massive deforestation in biodiversity-rich regions (Gilbert, 2012; Moreno-Peñaranda et al., 2015). Numerous studies have reported unprecedented biodiversity loss in palm oil producing countries (Azhar et al., 2011, 2013a, 2014; Gallmetzer et al., 2015; Lees et al., 2015; Mandal and Shankar Raman,

2016; Prabowo et al., 2016; Shuhada et al., 2017). Palm oil certification schemes have been developed to reduce further deforestation and establish new plantations with improved agricultural practices in the tropics (Mukherjee & Sovacool, 2014; Azhar et al., 2017).

Today, several certification schemes exist which act as a guide for consumers to purchase palm oil from more environmentally friendly farms (Appendix 1). These certification schemes which include the Roundtable on Sustainable Palm Oil (RSPO), Indonesia Sustainable Palm Oil (ISPO), Malaysia Sustainable Palm Oil (MSPO), and Good Agriculture Practice (GAP) require for the standardization of harvest of fresh fruit bunch, the processing of crude palm oil, and shipment to the consumers (Salleh et al., 2007; McCarthy & Zen, 2010; Khairudin et al., 2015). In general, most schemes require palm oil producers to protect the environment as well as to ensure the conservation of biodiversity. Some schemes specifically include natural resources, ecosystem services and green gas house emission. Producing certified palm oil enables

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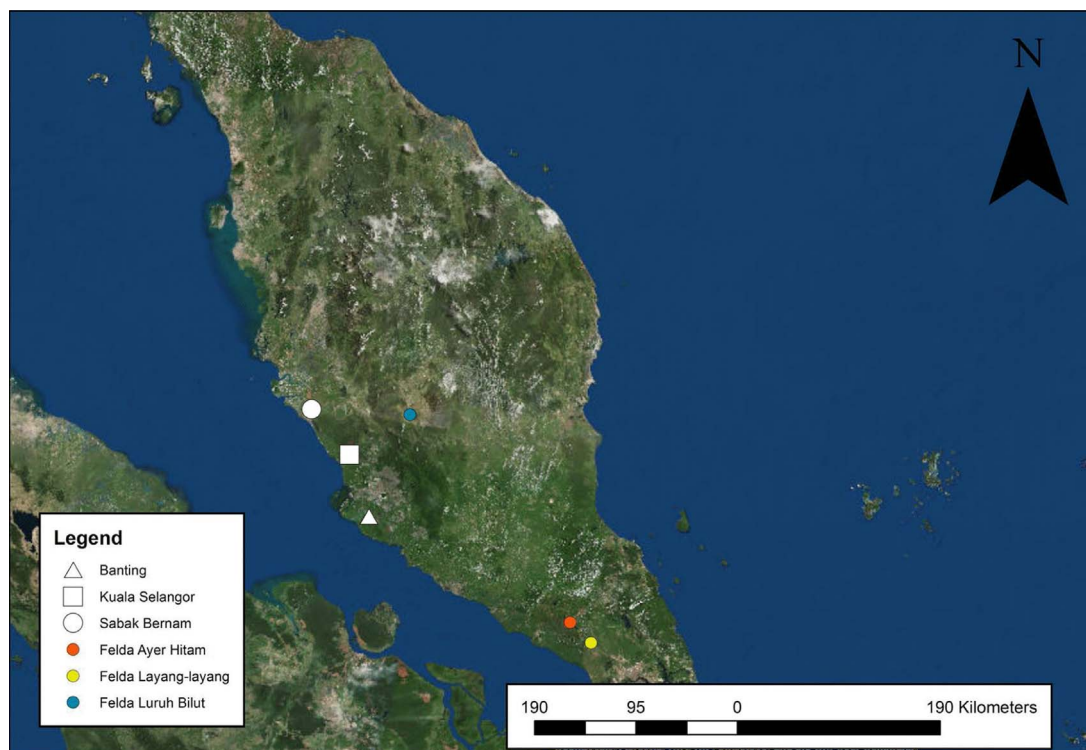


Fig. 1. Map showing location of the study areas on the west coast of Peninsular Malaysia.

producers to access global markets that demand for responsible production (Schouten & Glasbergen, 2011). For example, for RSPO certified products the majority of this demand is from the countries of European Union. To encourage production of certified palm oil, some certification schemes promise producers price premiums when they put their palm oil on sale in some consumer countries (Edwards & Laurance, 2012; Bateman et al., 2015).

The effectiveness and sustainability objectives of certification depend on who is involved in the schemes. Most of the major players in the palm oil industry (e.g. multi-national plantation companies) that are involved in the certification schemes are large plantation companies with financial capabilities to meet the needs of sustainability and certification objectives (Lee et al., 2011). In 2016, there were 71 RSPO certified oil palm growers operating in 15 producing countries (RSPO, 2017a, 2017b). In Malaysia, certified growers that comprise major players such as Cargill, Kuala Lumpur Kepong, Golden Agri-Resources, and Sime Darby manage 2,480,152 ha of oil palm planted area and produced 12.15 million tonnes of crude palm (RSPO, 2017a, 2017b). However, smallholders (who manage farms less than 50 ha) are often left out in the certification processes because of several outstanding issues (Pesqueira & Glasbergen, 2013; Von Geibler, 2013; Ruyschaert & Salles, 2014; Azhar et al., 2017). Among the issues identified were that the certification fee is too expensive while the technical guidelines provided are difficult for the smallholders to fulfil. Hence, advocates of sustainable practices and standards must completely understand the complex realities of the smallholder production systems if they are to encourage smallholder participation (Lee et al., 2011).

Almost all existing palm oil certification schemes were developed by major industry stakeholders, government agencies, and environmental NGOs (Schouten & Glasbergen, 2011; Oosterveer, 2015), with little or no input from the smallholders. Therefore, there is an urgent need to understand smallholders' socio-ecological perspectives on the palm oil certification system to ensure the development of suitable certification schemes for them. This is important as it has been estimated that globally, three million palm oil smallholders produce approximately four million tonnes of palm oil. This contributes to 30% of the world's

palm oil production and forms 40% of land use coverage for palm oil cultivation (SPOTT, 2017). Both Indonesia and Malaysia yield around 85% of the world's oil palm production and smallholders make up to 40% of the planted area (Azmi & Nagiah, 2013).

Smallholders in the producing countries can be grouped into independent and managed. Independent smallholders are farms that operate with minimum assistance from the government, organisations or private companies. They sell their yield to any mill and might be able to pursue higher prices (Von Geibler, 2013). In contrast, managed smallholders in Malaysia are given a piece of land, provided with government incentives and advice on the best management practices such as the use of higher-yielding varieties and the most efficient use of chemical applications (Basiron, 2007; Barau & Said, 2016). However, they are obligated to comply with regulations set by the management such as contract, credit agreement, or sale to a particular mill and are often not free to grow other crops (Pesqueira & Glasbergen, 2013).

Our study aims to understand smallholders' perception, knowledge and attitude on farmland biodiversity as well as their expectation and willingness to participate in environmental-friendly palm oil certification. We posed the following questions: (1) Do independent and managed smallholders differ socially and economically?; (2) Do independent and managed smallholders differ in terms of knowledge, perception and attitudes towards farmland biodiversity?; and (3) Do independent and managed smallholders have different expectation and willingness to participate in certification schemes? This is the first study to assess the socio-ecological dimension on smallholders to provide useful insights into their engagement in environmental-friendly palm oil certification systems.

2. Materials and methods

2.1. Data collection

A total of 300 respondents — 150 managed smallholders and 150 independent smallholders — were interviewed from January to February 2016. Each smallholder represented a household farm where

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