UNIVERSITI PUTRA MALAYSIA

ATTITUDE AND KNOWLEDGE ON OIL PALM FARM BIODIVERSITY AND WILLINGNESS TO PARTICIPATE IN SUSTAINABLE PALM OIL CERTIFICATION AMONG OIL PALM SMALLHOLDERS IN TANJUNG KARANG, SELANGOR

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By

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DEDICATION

Beloved Dad & Mum,

Firdaus Bin Abu Jamah & Nani Asriani Binti Rasul

My Brother & Sister,

Muhammad Al-Hasyir Bin Firdaus & Iklil Almas Binti Firdaus,

For giving me the inspirations.

My Supervisor Lecturer & best friends,

Dr. Norzanalia Binti Saadun

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Freddy Ngu

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Syafiah Mukhlishoh S

For their untiring effort and support.

Thanks a lot & May Allah bless you……

ABSTRACT

Oil palm or scientifically known as *Elaeis guineensis* Jacq. is the most important commodity crop as compared to other crops in Malaysia. Oil palm smallholders play very important role in the Malaysia. There has been lack of studies on oil palm smallholder's knowledge and attitude toward oil palm farmland biodiversity and their willingness to participate in the sustainable palm oil certification scheme. There the objectives of study the biodiversity were to assess knowledge and attitude of oil palm smallholders toward biodiversity in oil palm smallholders, and examine their willingness to participate in sustainable palm oil certification scheme. This study was based on structured interviews with 50 oil palm in Tanjung Karang, Selangor. This study found that knowledge of oil palm smallholders on farm biodiversity was low and viewed biodiversity from a narrow perspective by focusing on pest animals while neglecting other species directly related to farmland biodiversity. In terms at attitude toward biodiversity, most of smallholders felt angry with wild animals and tend to chase the animal away from the farm. The study also found that all respondents willing to join sustainable palm oil certification but willing to pay a very slow annual certification fees.

ABSTRAK

Kelapa sawit atau nama saintifiknya *Elaeis guineensis* Jacq. merupakan tanaman komoditi yang paling penting berbanding dengan tanaman lain di Malaysia. Pekebun kecil kelapa sawit memainkan peranan yang sangat penting dalam Malaysia. Kajian berkaitan dengan pengetahuan dan sikap pekebun kecil kelapa sawit di terhadap biodiversiti didalam ladang kelapa sawit dan kesedian mereka untuk mengambil bahagian dalam pensijilan mampan kelapa sawit, dan mengkait kesediaan mereka untuk menyertai pensijilan mampan kelapa sawit. Kajian ini berdasarkan temubual berstruktur dengan 50 pekebun kecil kelapa sawit di Tanjung Karang, Selangor. Kajian ini mendapati bahawa pemahaman pekebun kecil terhadap kepelbagaian biologi didalam ladang kelapa sawit sangat rendah. Peladang melihat kepelbagaian biologi dan sudut yang sempit iaitu menumpu kepada hewan perosak serta tidak mengambil kira sepsis haiwan lain yang terhat secara langsung dalam kepelbagaian biologi. Dari segi sikap terhadap biodiversity, kebanyakan pekebun berasa marah dengan kehadiran binatang liar didalam lading dan coba menghalau binatang tersebut. Kajian juga mendapati semua peladang setuju menyertai pensijilan mampan kelapa sawit tetapi kesanggupan membayar yuran pensijilan adalah sangat rendah.

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APPROVAL SHEET

I certified that this research project report entitled “Attitude and Knowledge on Oil Palm Farm Biodiversity and Willingness to Participate in Sustainable Palm Oil Certification Among Oil Palm Smallholders in Tanjung Karang, Selangor” by Muhammmad Abrisam Bin Firdaus has been examined and approved as a partial fulfillment of the requirements for the degree of Bachelor of Forestry Science in the Faculty of Forestry, Universiti Putra Malaysia.

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LIST OF ABBREVIATIONS

CPO	Crude Palm Oil
FAO	Food and Agriculture Organization of the United Nations
FELCRA	Federal Land Consolidation & Rehabilitation Authority
FELDA	Federal Land Development Authority
FFB	Fresh Fruit Bunches
GAP	Good Agricultural Practices
IPM	Integrated Pest Management
ISCC	International Sustainability and Carbon Certification
ISO	International Standards Organization
ISPO	Indonesian Sustainable Palm Oil
MPOB	Malaysian Palm Oil Board
MRB	Malaysian Rubber Board
MSPO	Malaysian Sustainable Palm Oil
NGO	Non-Governmental Organization
RM	Ringgit Malaysia
RSPO	Roundtable Sustainable Palm Oil
RISDA	Rubber Industry Smallholders Development Authority
SPOC	Sustainable Palm Oil Certification
WWF	World Wildlife Fund

CHAPTER 1

INTRODUCTION

1.1 Background

Smallholders play a significant part in the palm oil industry and responsible for over 80% of the world palm oil production. In Indonesia and Malaysia, smallholders account for 35-40% of the total area of planted oil palm and accounted up to lower case 33% of the output. In 2008, smallholders cultivated about 41% of the 4.5 million hectares of oil palms planted in Malaysia, with around 30% managed by supported smallholders and 11% by independent smallholders (Teoh, 2010).

Palm oil is the world's highest yielding oil crop, with an output of 5 to 10 times greater than other leading vegetable oils. Palm oil can be used in a multitude of products, ranging from cooking oil, food products, cosmetics, industrial applications to biodiesel.

Palm oil has become the world's most widely produced vegetable oil, and the global demand for vegetable oils continue to increase. Palm oil production from smallholders has the potential to secure mutually beneficial outcomes for large and small producers and processors, enhance social and environmental sustainability at the landscape scale, ease land disputes between smallholders and large plantations and promote credibility among consumers - going beyond simple criteria for corporate responsibility and rural development for the producing countries (Gillespie et al., 2012).

On one hand, the rise in production to meet the global demand for palm oil has created increased pressure on the available farmland and has led to concerns about the effects of direct and indirect land-use changes. People, especially in the developed and environmentally sensitive countries, have expressed concerned on biodiversity loss due to deforestation for oil palm cultivation expansion (SarVision, 2011).

In addition, there has been increased reports on unsustainable farming practices which caused negative impact to the environment. Study by Rahman et al. (2008), demonstrated that independent smallholders in Malaysia are less efficient than other producers, due to their smaller plot size, poor agricultural practices (such as using poor quality seedlings, maintaining old palms, applying insufficient fertilizer and harvesting unripe Fresh Fruit Bunches (FFBs)) and poor data management practices.

Increased concern about sustainability and environmental impact on oil palm production, a few certification system related to palm oil have been established including Roundtable Sustainable Palm Oil (RSPO), Indonesian Sustainable Palm Oil (ISPO) and Malaysian Sustainable Palm Oil (MSPO). The RSPO is the international certification standard for the use of palm oil and its fractions in food and oleo-chemicals. It uses a multi-stakeholder, business-to-business model to encourage the adoption of sustainable practices by members (particularly producers) and promotes the uptake of certified sustainable palm oil internationally. In 2009 the Indonesian Government launched the ISPO standard. Based on existing Indonesian legislation, it is designed to ensure

that all Indonesian oil palm growers, not just those exporting to foreign markets, conform to higher agricultural standards. It is the first Indonesia standard of its kind, and other countries have begin to consider implementing similar standards to ensure sustainable practices among all palm oil producers.

The MSPO address sustainability issues and challenges in relation to the multi-stakeholders involve in the industry which complies with Malaysian laws and ratified international agreements. The standard describes the sustainability requirements for the production throughout the supply chain from the raw materials until the transport to consumer and makes it possible for smallholders to establish, maintain and improve their operational practices within management system framework, which enables the approach towards attaining sustainable production of palm oil. The MSPO certification scheme is applicable to all organizations throughout the value chain palm oil production comprising plantation, smallholders, and finished palm oil based products.

1.2 Problem Statement and Justification

Smallholders are a vital part of the global palm oil supply chain and they play a significant role in rural economic development, especially in Malaysia (Rahman et al., 2008). Smallholders produce a substantial amount of the world's palm oil, estimated to around 4 million tons per year. In Malaysia, Indonesia and Papua New Guinea (PNG), around 40% of the total palm oil

production areas were managed by smallholders, while in Thailand was even higher at 75% (Teoh, 2010).

With the sustainability and environmental issues related to palm oil cultivation, participation of smallholders in sustainable, environmental-friendly targeted at biodiversity enhancement certification schemes is important. Nonetheless, in Malaysia, subscription to the palm oil certification schemes has been industry oriented and has involved only a small number of organized smallholders (MSPO, 2015).

There has been little information on the smallholder's attitude and interest toward the schemes especially in Malaysia. Such information will help policy or certification standards maker to make more informed decision to include smallholder's participation in sustainable palm oil certification.

The MSPO certification scheme is applicable to all organizations throughout the value chain palm oil production comprising plantation, smallholders, miller, refineries, kernel crushing plant, producers of semi-finished and finished palm oil based products. The benefits of certification included broaden market access with the increasing demand for sustainable palm oil, enhances organization's image as it is seen as being socially responsible, facilitates access to the growing green market.

Farmers' values and attitudes towards the environment have been shown to influence the way they manage their farms and participate in environmental

support schemes (Gasson & Potter, 1988; Morris & Potter, 1995; Willock et al., 1999; Beedell & Rehman, 1999, 2000; Wilson & Hart, 2000; Schmitzberger et al., 2005). Farmers' understanding of biodiversity as a target for management is also likely to have an effect. There are few studies of farmers' knowledge of and attitudes towards the biodiversity of their land, specifically related to nature-friendly management (Burgess & Harrison, 2000; Jacobson et al., 2003; Jurt, 2003; Soini & Aakkula, 2006). Nonetheless, studies related to attitude and knowledge toward farmland biodiversity among oil palm smallholders in Malaysia has been lacking. As biodiversity is important element toward the establishment of sustainable palm oil certification, information on smallholder's knowledge and attitude toward oil palm biodiversity is important.

1.3 Objectives

The objectives of the study are:

I. To assess smallholders' knowledge and attitude towards oil palm farmland biodiversity.

II. To examine smallholders attitude and willingness to participate in sustainable palm oil certification scheme.

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