

# **UNIVERSITI PUTRA MALAYSIA**

ATTITUDE AND KNOWLEDGE ON OIL PALM FARM BIODIVERSITY AND WILLINGNESS TO PARTICIPATE IN SUSTAINABLE PALM OIL CERTIFICATION AMONG OIL PALM SMALLHODERS IN FELDA LURAH BILUT, PAHANG.

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By

**AKRAM BIN GIMIN** 

A Project Report Submitted in Partial Fulfillment of the Requirements for the Degree of Bachelor of Forestry Science in the Faculty of Forestry Universiti Putra Malaysia

#### ABSTRACT

Deforestation due to rapid expansion of oil palm cultivation area and other environmental issues related to oil palm productions had caused concern among the public and the NGOs. This led to the establishment of sustainable palm oil certification. Certified sustainable palm oil is palm oil that has been grown on a plantation that has been managed sustainably and certified by the certification body. The objectives of the study are to assess smallholders' attitude and knowledge on farmland biodiversity and to assess smallholders' attitude and willingness to participate in palm oil certification scheme. Qualitative and quantitative data were collecting using structured interview with 50 respondents, which were organized smallholders in FELDA Lurah Bilut, Pahang, using convenience sampling. From this study, it show that most of the respondents were lack of knowledge on oil palm biodiversity based on the question asked about wildlife sighting in oil palm farm. Wildlife identified were mostly pests animals and can be hunted for exotic meat. But, most of them concerned on caring these wildlife because of their role in oil palm farmlands. The study also found that smallholders were willing to participate in sustainable palm oil certification and willing to pay on average RM 10 per acre per year. Most respondents agree to the certification requirements pertaining to biodiversity and environmental protection.

#### ABSTRAK

Penebangan hutan disebabkan oleh pengembangan pesat kawasan penanaman kelapa sawit dan isu-isu alam sekitar yang lain yang berkaitan dengan pengeluaran kelapa sawit telah menyebabkan kebimbangan dalam kalangan orang ramai dan NGO. Ini membawa kepada penubuhan pensijilan minyak sawit yang lestari. pensijilan minyak sawit lestari ialah pengeluaran minyak sawit yang diurus secara mampan dan diperakui oleh badan pensijilan. Obiektif kajian ini adalah untuk menilai sikap dan pengetahuan mengenaibiodiversiti dalam kawasan ladang dan untuk menilai sikap pekebun kecil dan kesediaan untuk menyertai skim pensijilan minyak sawit. Data kualitatif dan kuantitatif dikumpulkan menggunakan kaedah temubual melalui soalan berstruktur dan dijalankan keatas 50 responden, yang yang juga pekebun kecil di FELDA Lurah Bilut, Pahang, menggunakan persampelan mudah. Dari kajian ini, ia menunjukkan bahawa kebanyakan responden kurang mempunyai pengetahuan mengenai biodiversiti dalam kawasan kelapa sawit, terutama apabila ditanya mengenai kewujudan hidupan liar di kebun sawit mereka. Hidupan liar yang dikenalpasti adalah kebanyakannya haiwan perosak dan diburu bagi tujuan dagingnya yang eksotik. Tetapi, kebanyakan mereka mengambil berat juga tentang penjagaan hidupan liar ini kerana peranan mereka dalam ladang kelapa sawit. Kajian ini juga mendapati bahawa pekebun kecil bersedia untuk mengambil bahagian dalam pensijilan minyak sawit yang mampan dan sanggup membayar secara purata RM 10 setiap ekar dalam setahun. Kebanyakan responden bersetuju dengan syaratsyarat pensijilan yang berkaitan dengan biodiversiti dan perlindungan alam sekitar.

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## APPROVAL SHEET

I certify 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 Smallhoders in Felda Lurah Bilut, Pahang." by Akram bin Gimin (174751) 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

- FAO Food and Agriculture Organization of the United Nations
- FELCRA Federal Land Consolidation and Rehabilitation Authority
- FELDA Federal Land Development Authority
- GAP Good Agricultural Practices
- ISPO Indonesian Sustainable Palm Oil
- MPOB Malaysian Palm Oil Board
- MPOC Malaysian Palm Oil Council
- MSPO Malaysia Sustainable Palm Oil
- NGO Non-Governmental Organization
- OURF Orang Utan Republik Foundation
- P&C Principle &Criteria
- POME Palm Oil Mill Effluent
- RISDA Rubber Industry Smallholders' Development Authority
- RSPO Roundtable on Sustainable Palm Oil
- SFM Sustainable Forest Management
- SPOTT Sustainable Palm Oil Transparency Toolkit
- WWF World Wildlife Fund

#### CHAPTER ONE

#### INTRODUCTION

#### 1.1 General Background

Oil palm (*Elaeis guineensis*) is one of the world's most rapidly expanding equatorial crops. The two largest palm oil-producing countries—Indonesia and Malaysia—are located in Southeast Asia, a region with numerous endemic, forest-dwelling species (Koh & Wilcove, 2008). Malaysia is the second largest of production of palm oil in the world. In Malaysia, oil palm plantations make up 77% of agricultural land or about 15% of total 32.855 million hectares (ha) Malaysia area (MPOB, 2015).

Oil palm offers necessary opportunities for economic with traditionally has low price compared to other vegetable oil costs, relative shelf stability, and have organic process advantages (Bethe, 2010). Palm oil and palm kernel oil based fixings are found in around half of items in the supermarket, including for sustenance and non-nourishment products. Oil palm is usually utilized as cooking oil, especially in tropical countries. Oil palm is also used in various industries including personal care such as cosmetics products (mostly palm kernel oil), biofuel and energy, creature pellets, and in pharmaceutical industries (GreenPalm, 2014).

There are several oil palm ownership in Malaysia. In December 2015, of the total 5.64 million ha of oil palm area, 61% belong to private estates, followed by independent smallholders (16%), FELDA (13%), state agencies (6%),

Federal Land Consolidation and Rehabilitation Authority (FELCRA) (3%), and lastly is Rubber Industry Smallholders' Development Authority (RISDA) (1%) (Figure 1.1) (MPOB, 2015).



Figure 1.1 Distribution of oil palm planted area by category of ownership

In 1956, the agricultural industries in Malaysia went through a big phase in national history, in which, Federal Land Development Authority (FELDA) was establish in Malaysia. The role of this agency is important as to help smallholders in agricultural activity. During those time, rubber tree were planted as main agriculture crop. In 1970s, rubber plantations were slowly replaced by oil palm plantation. In 2014, about 13% of palm oil production in Malaysia come from FELDA (FELDA, 2014).

#### **1.2 Problem Statement & Justification**

Malaysia is one of the world's megadiverse nations. It is likewise positioned 12th on the world ranking, as indicated by the National Biodiversity List, which depends on assessments of nation abundance and endemism in four physical vertebrate classes and vascular plants. Malaysia has an expected with 15,000 species of vascular plants, 306 species of mammals, 742 species of birds, 242 species of amphibians, 567 species of reptiles, over 449 species of freshwater fish, over 500 species of marine fish and more than 150,000 species of invertebrates (Kleijn & Sutherland, 2003).

New oil palm plantations can also create social conflicts if the rights and livelihoods of local communities are ignored by the corporate companies. It is also impact the oil palm companies involved itself, and prevent the ability of the companies to expand as planned (Yorath, 2016). Some palm oil manors were additionally created without counseling local farmers groups over the utilization of their territory particularly in African nations where property rights were inadequately settled. With plantations systematically destroying the rainforest land that the local people depend on, communities are continuously finding themselves with no choice but to become plantation workers. Faced with poor and degrading working conditions, they often earn barely enough income to survive and support their families. Instead of being able to sustain themselves, indigenous communities become reliant on the success of the palm oil industry for their income and survival, leaving these villagers incredibly vulnerable to the world market price of palm oil which they have no control over.

The issues and problems associated with oil palm industry have caused concerned among NGO and the public, which then had led toward the establishment of certification system that encourage sustainable oil palm farming practices. Examples include Roundtable on Sustainable Palm Oil (RSPO), Indonesian Sustainable Palm Oil (ISPO), and the latest certification that was established by Malaysia, Malaysian Sustainable Palm Oil (MSPO). However, certification system was noted as not suitable especially for smallholders due to the high cost associated. For example, to join RSPO scheme, there are several certification activity that when it is combined together, it is beyond smallholders' means (Asian Palm Oil Magazine, 2015).

Firstly, there are monitoring costs that is up to US\$34.66 (MYR140.60) and land assessment costs that can reach US\$22 (MYR89.24) per ha. On certification cost, World Wildlife Fund (WWF) recorded that on midsized estate, a manager have to pay US\$110,000 (MYR44,6220.50) a year for certification but the price premium for RSPO also are very weak, it is only about US\$0.0003 per kg (World Growth, 2013). These are among of the factors why smallholders cannot afford to have sustainable palm oil certification scheme.

Further, as biodiversity issues play an important role in the development of sustainable palm oil certification scheme, smallholders should at least have some knowledge towards biodiversity in their farmland. However, research has been conducted to understand oil palm smallholders' knowledge and attitude towards biodiversity are very limited. This study can give information on smallholders' knowledge and attitude towards farmland biodiversity as well as their willingness to join in sustainable palm oil certification which would help

relevant parties such as MPOB, certification bodies and NGO's to engage smallholders in conserving their farmland biodiversity and practice sustainable farming. This can help the sustainability of the palm oil industries, also for future generation environment.

## 1.3 Objectives

The objectives of the study are as follows:

- 1. To assess smallholders' attitude and knowledge on farmland biodiversity;
- 2. To assess smallholders' attitude and willingness to participate in palm oil certification scheme.

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## APPENDICES

### Appendix A: Questionnaire

### FYP RESEARCH PROJECT

Proposed title: Smallholders' Knowledge and Attitude Toward Palm Oil Farmland Biodiversity and Willingness to Participate in Sustainable Palm Oil Certification in (Your Study Site)

**Objectives:** 

- 1. To determine smallholders' knowledge and attitude toward biodiversity in palm oil farmland.
- 2. To determine smallholders' attitude and willingness to participate in sustainable palm oil certification.

### INTERVIEW QUESTION

### Section 1: Respondent's background

### A: Demographic background

- 1. Type of oil palm smallholders: Independent/Managed
- 2.

Address:\_\_\_

- 3. Sex (Gender): Male/Female
- 4. Age:\_\_\_\_
- 5. Ethnic:
- 6. Marital status: Single/Married
- 7. Education level: No education (No formal education) /Primary School (Primary education)/Secondary School (Secondary education)/College (College)/University (University)
- 8. Number of dependants: \_\_\_\_\_person

## A: Palm oil Cultivation Background

- 1. Area (Size of plantation): \_\_\_\_\_acres
- 2. No of days working in the palm, oil farm in a week: \_\_\_\_\_days
- 3. Monthly net income from the sale of palm oil:RM\_\_\_\_\_
- 4. Palm oil cultivation period or age of palm oil tree:
- Besides oil palm, do you have other crops in your oil palm farm? Yes/No
  - If yes, please state the other crops in your farm.

For sale:			
For	own	use/	consumption

### Section 2: Knowledge and Attitude Towards Biodiversity in Oil Palm Farm

- 2.1 Has there been any sightings of wild animals in your palm oil farm? Answer:
- 2.2 Please list the wild animals usually seen in your palm oil farm. Answer:
- 2.3 Does the wild animals build their home/ nest in your palm oil farm? Answer:
- 2.4 How do you feel when you see wild animals in your palm oil farm? Why? Answer:
- 2.5 How do you react when you see wild animals in your palm oil farm? (chasing away, killing the wild animals using poison, traps, firearm or do you just leave them as they are? Why?

Answer:

2.6 Do you love hunting or trap wild animals in your oil palm plantation or nearby forest?

Answer:

2.7 In your opinion, why do wildlife roam in your palm oil farm?

Answer:\_\_\_\_\_

2.8 Based on your observation, has the number of wildlife in your farm increased or decreased in the recent 5 years? Why?

Answer:\_\_\_

2.9 Besides the palm oil, are there other trees/crops or places that wildlife usually congregate in your palm oil farm.

Answer:\_\_\_\_

2.10 In your opinion, is it important to care and conserve the plant diversity and resources in your palm oil farm.

Answer:\_\_\_\_\_

## Section 3: Attitude and Willingness to Participate in Sustainable Palm Oil Certification

3.1 Have you heard of the sustainable palm oil certification scheme such as RSPO or MSPO?

#### Yes/No

3.2 If the scheme provides various benefits to the certified farm owners, what kind of benefits you would suggest? (e.g. fertilizer, seedlings, pest control, medical assistance, cluster insurance, others)

Answers:

3.3 If the scheme requires you to reduce the use of chemical insecticide, pesticide or herbicides, as a requirement to certify your farm, would you agree or disagree to the requirement?

Answer

3.4 If the scheme requires you to reduce the use of chemical fertilizer and shift towards using organic fertilizer, as a requirement to certify your farm, would you agree or disagree to the requirement?

Answer

3.5 If the scheme requires you not to contaminate rivers, waterways and pond in your oil palm farm, as a requirement for the certification, would you agree or disagree to the requirement?

#### Answer

3.6 If the scheme requires you to plant and conserve trees that function as wildlife resting and nesting places, as a requirement to certify your farm, would you agree or disagree to the requirement?

Answer:

3.7 If this scheme prohibits hunting in your oil palm farm, as a requirement to certify your farm, would you agree or disagree to the requirement?

Answer:

3.8 If the new scheme can award your farm with a sustainable palm oil farming practices certificate which enables you to sell your yield at a higher price per tonne such as RM 550 per tonne as compared to the present market price of RM 500 per tonne, are you willing to participate in the scheme?

Yes/No. If no, please state your reason.

Answer

3.9 If the scheme imposes an annual fee, would you be willing to participate in the scheme?

Yes/no.

If no, please state the reason.

Answer:

3.10 If yes, what is the annual fee that you are willing to pay to participate in the scheme?

RM\_\_\_\_/ac/year

3.11 If you are interested to participate in this scheme, would you be willing to get advice or guidance from the relevant agencies to implement the scheme?

Yes/no. If no, please state the reason.

Answer:\_