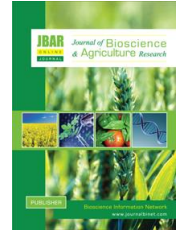


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# Oil palm smallholders and certification: exploring the knowledge level of independent oil palm smallholders to certification

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## ABSTRACT

*Oil palm is the world leading vegetable oil. It is an important player in the economic development of the country, both as a contributor to gross national product (GDP), foreign earnings and job creation. With high yields per hectare, cheap to produce and its application to food and non-food industries makes it an important product both locally and internationally. The demand for palm oil has led to expansion of oil palm plantation around the world over the past several decades, with Indonesia and Malaysia accounting for more than 85 percent of the global palm oil market. Smallholders are important players in the world oil palm industry as they contribute about 40 percent of the planted areas in the two most important oil palm countries. Current study investigated the knowledge level of certification amongst the independent smallholders in Malaysia. The study revealed that most of the independent smallholders do not have certification, with a reasonable number of them having little or no knowledge of certification bodies (RSPO/MSP0). The study revealed that though policies are in place to support smallholders to participate in certification for them to reap the enormous benefits; including wider market access, quality fresh bunches and technical skills, more should be done in terms of implementation in reaching out to the smallholders especially through sensitization programs, including, workshops and extension services to properly educate smallholders on the benefits of certification since they are important player in the global palm oil market.*

**Key Words:** *Independent, Oil palm, Smallholders, Challenges and Certification*

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## I. Introduction

Oil palm is one of the high productive oil crops in the world, with an average output of between 5 and 10 times higher per hectare than any other oil crops. Studies show that about 7 million hectares of oil palm can supply 20% of the world demand for oil and fats (1.09 billion tons) in contrast to the 80 million hectares of oilseeds required to provide just 24% of same demand (Murphy, 2003). A recent study show

that global palm oil output stands at 62 million tonnes, with a cultivation of only 17 million hectares, while the second largest global vegetable oil, soya, has a cultivation of 120 million hectares producing only 48 million tonnes of soya oil (Green Palm, 2015). Oil palm produces an average yield of 3.68 tons of crude oil per hectare per year compared to Soybean 0.36, sunflower 0.42, and rapeseed 0.59 tons per hectare per year Basiron (2007). More than one - quarter of global consumption of edible oil comes from palm oil and nearly 60 per cent of international trade in vegetable oils (World Bank, 2010) making it a critical food and energy supply to the world. On the economic aspect, over two (2) million people depend on oil palm industry for livelihood, generating over US\$200 billion dollars in revenue. A native of West Africa; oil palm is today grown in nearly all the tropical countries of the world – it has high adaptability and economic value making it an attraction to many. As at 2009, oil palm planted area was estimated at 15 million hectares (FAO, 2009; Fitzherber et al. 2008; Koh and Ghazoul, 2008; Koh and Wilcove 2008). Palm oils are globally used, accounting for 60 percent of the world-traded vegetable oils (World Bank, 2010). Certification and supply chain of agricultural crops is important for smallholder benefits (Siddique et al. 2015). However, palm oils are used in numerous regular merchandises used around the world including; margarine manufacturing, soaps making, baking, cosmetics and detergents making among others (UNEP and UNESCO, 2007). Around 74 percent of palm oil used globally is in food manufacturing with 24 percent for industrial purposes (USDA, 2010). Cultivation has since expanded in the last decades; from 43 percent in the 1990s to more than double as demands increased and current practice require inputs optimization, better soil management and resource utilization (Siddique et al. 2017; Hossain and Siddique, 2015; Sultana et al. 2015; Sultana et al. 2014). According to FAO and OECD (2013), oil palm plantation occupied 40.6 million acres (16.4 million hectares), an area more than U.S state of Georgia. The economic benefits of palm oil in terms of foreign exchange, job creation and employment provision to rural communities cannot be overemphasized (Abazue et al. 2015). It is one of the most dynamic and increasingly important subsectors of agriculture in most developing countries (Casson, 1999). However, there is concern about its negative impact – socially and environmentally. The concerns are majorly directed towards the effects on deforestation, biodiversity issues, pollution – from inputs intensification (chemical fertilizers, pesticides and others) to wastes from mills, and the social impacts including; human rights abuses, land issues/conflicts with indigenous land owners and the labour rights issues that affect migrant workers. According to MPOB, Malaysia Palm Oil Board (2014), 15 percent of the country's oil palm industry is controlled by independent smallholders. This makes them an important player in the oil palm industry. Smallholders' sustainability practices have been called into question in recent times. They are being accused on disinterest in implementing best management practices which consequence has lead to the degradation of the environment, pollution, extinction of endangered species, biodiversity losses, and forest fires. Socially, questions about – land conflicts with the indigenous land owners and misappropriation of land rights, labour rights issues in regard to migrant workers are raised.

Oil palm smallholders (Farmers) as an important part of the world palm oil supply chain that contribute roughly over 4 million tonnes of palm oil – accounting for about 9 percent of the world palm oils (Wild Asia, 2012), occupying about 40 percent of the planted area in Indonesia and Malaysia should embrace sustainable practices in with the international best practices or else lose out of the global oil market. With limited resources, they are confronted with enormous challenges in meeting the certification requirements. This is more so, considering that they receive little or no support from the government or large oil palm estates. As autonomous, self-managed and self-financed, smallholders are constrained by limited resources; technical and management knowledge, technologies, organizational skills, limited finances (unable to secure loans from banks and other financial institutions) and therefore are handicapped in meeting the RSPO certification criteria. Thus, this article attempts to explore the challenges confronting the independent oil palm smallholders as regards the regulatory requirements for certification.

## II. Materials and Methods

The study was carried out in the Sarawak State (Borneo), which is one of the frontiers for oil palm cultivation in the country (Figure 01). The study used a quantitative approach to investigate certification and the knowledge level of the independent oil palm smallholders' to certification in the state of Sarawak. Quantitative approach was adopted based on the fact that the study aimed determine the level of certification amongst the smallholders, their level of knowledge to certification and the

challenges confronting them in meeting the certification requirements and criteria. A survey was conducted using questionnaires distributed to 350 smallholders, with only 270 respondents completing and returning the questionnaire. The questionnaire was divided into three sections – the demographics of the smallholders, their knowledge level and challenges, with open-ended questions of multiple-choice answers where participants chose from. The questions included – knowledge level of certification (RSPO/MSPO), interest in certification, previous experience in certification, impact of cultivation on environment and interest in joining certification. Based on the criteria for participation in the study, the questionnaire was distributed - including an average of 5-50 hectares of planted area, owned and managed their farms, and have been independent smallholder for a period of more than 5 years, resident/native of study area. Data gathered from the survey questionnaire was processed using IBM SPSS (Statistical Package for Social Sciences) software version 23 (IBM Corp. 2015), and analysis was performed descriptively using simple percentage and frequency counts.



**Figure 01. Map of Sarawak indicating Serian District of Samarahan Division**

### III. Results and Discussion

A total of 270 respondents participated in the study with questionnaire administered to them, the questionnaire was divided into two sections; one covered the demographic characteristics of the respondents and the other covered respondents knowledge level of certification bodies such as the Round table on sustainable oil palm (RSPO) and the Malaysia sustainable oil palm (MSPO).

**Table 01** summarizes the results of the demographic characteristics of the respondents. Regarding respondents' gender; majority (80.0%) of the respondents were male, 20.0 % of the respondents were female. The male respondents dominated the independent oil palm farming community in the study area. This may not be unconnected with the labour intensive nature of oil palm farming, which the female counterparts may not find interest in doing. Further analysis revealed that with regard to age distribution of the respondents, 43.0% of the independent oil palm farmers were aged between 47 – 57 years of age. This is followed by those in the age bracket of 36-46(22.6%), those 68 years and more (18.5%) and lastly those in the range of 25-35 years (15.9%) came last. This indicates that among those that participated in the study, younger people seem to have less interest in oil palm farming as the results showed. Those between the ages of 36 and 57 representing 65.6 % of the entire respondents were higher than the rest of other age categories, followed by older people who were 68 years and more. The frequency distribution of respondents according to their marital status showed an overwhelming majority, 189(70%) as married with their spouse permanently present in the household, while 41(15.2%) single, and 40(14.8) as others – who when probed indicated loss of spouse and separation from spouse (divorced). This means that most of the farmers' survey were married one way or the other and were found to have been living steadily with their spouses and children who provided labour and

other services in the farm. In terms of education, 50.4 percent of the respondents with primary school, followed by 34.1 percent of respondents who dropped out of school/did not complete or had no primary education, 14.1 percent with high school certificates and only 1.5 percent with diploma/certificate and higher.

Further analysis as shown in Table 01, shows that in the race category of the respondents, 70.0 percent identified themselves as Sarawak Bumiputras (Budayi, Iban etc), followed by Malay Bumiputras, 12.6 percent, Chinese 10.0 percent and lastly others at 7.4. Results from the analysis further shows that on the frequency distribution according to family size, families with members between 3 to 5 represented more than half of the respondents representing 54.4 percent, this is followed by those with 6-9 family members at 31.9 percent of the respondents, 0-2 family members representing 7.1 percent, and 10 members and more respectively representing 6.1 percent of all respondents in the study. On the ownership structure of the respondents, the number of years they have been independent smallholders and their initial sources of finance. According to findings as shown in Table 01, majority of the respondents were found to be sole owners of their farmers, with 167 (62.2 %) respondents affirming their sole ownership, with 70(25.9%) of their respondents claiming the farm belonged to their family, 27(10%) of the respondents are in partnership while only 591.9%) of the respondents indicating others. On the number of years as independent oil palm smallholders, 97 (35%) have spent 36-45 years as independent farmers, followed by 54(20%) who have spent 26-35Years, 47 respondents have spent over 46 years as farmers, 46 (17%) spent between 16 and 25 years as independent oil palm smallholders, while only 26 respondents or 9.6% of the respondents have just been engaged as independent smallholders for between 5 and 15 years. Analysis to determine sources of finance showed that majority of the respondents started with family/person savings with 147 respondents representing 54.1 % of the respondents indicating that their source of finance came from the family/personal savings. This is followed by 95(35.2%) respondents who indicated that they relied on cooperatives, 15(5.6%) respondents took bank loans, and 14 respondents representing 5.2% indicated others. On the respondent's farm size(in acres), the analysis found that majority of the independent smallholders(165) or 61.1 percent of the respondents have less than 5 hectares of planted oil palm, followed by 93 or 34.4 percent of respondents who have planted area of between 5 to 10 hectares. More than 10 hectares have 11 respondents representing 4.1 percent of the respondents, and those with over 35 hectares only one farmer representing 4 percent of all those that completed their questionnaire.

**Table 01. Demographic characteristic of the respondents**

Gender	Percent (%)
Male	80
Female	20
Age	
25-35	15.9
36-46	22.6
47-57	43.0
60- Above	18.5
Marital Status	
Single	15.2
Married	70.0
Others(divorced etc)	14.8
Race	
Malay	12.6
Chinese	70.0
Indian	10.0
Others	7.40
Educational Level	
Uneducated	34.1
Primary	50.4
Secondary	14.1
Diploma/Degree/Others	1.50
Family Size	
0-2 members	7.40

	3-5 members	54.4
	6-9 members	31.9
	10 and More	6.30
Ownership Structure		
	Sole Ownership	62.2
	Family	25.9
	Partnership	10.0
	Others	1.90
Years in oil palm Farming		
	5- 15 years	9.60
	16- 25 years	17.0
	26-35 years	20.0
	36-45 years	35.9
	More than 46 years	17.4
Financial Source		
	Family/Personal	54.1
	Cooperatives	35.2
	Bank Loan	5.60
	Others	5.20
Farm Size		
	1-5 Hectares	61.1
	6-10 hectares	34.4
	11-20 hectares	4.10
	21-46 hectares	4.00

### Smallholders knowledge of local and international certification (RSPO/MSPO)

The importance of certification in today's global oil market cannot be overemphasized. This is particularly so as it comes with a wide range of benefits to the smallholders, including; access to international market acceptability. Consumers want to know where and how they products they consume are produced, and not complaining with international best practices (RSPO/MSPO) can limit entry to global oil markets. Nonetheless, certification requires huge commitments, including skills in management, administration, quality control, marketing and delivery services, which small farmers, especially independent smallholders whose primary objectives it is to make profits, find these criteria difficult to engage in without assistance (Molenaar et al. 2013). There is also the issue of high cost of certification which turn smallholder off. For example, training and certification assessment costs are not within the reach of the independent smallholders and therefore they are reluctance to participate. Even though efforts have been made in the past by RSPO through smallholders' taskforce to encourage smallholders to join RSPO, participation, nonetheless has been quite insignificant mainly because of finance, technical assistance and farm organization (RSPO, 2012).

Table 02 presents the results of analysis to determine the knowledge level of certification among the respondents. The results from the analysis indicates that among the smallholders who participated in the study, when asked if they have heard about RSPO/MSPO, 43(15.9 %) indicated "aware" 194(71.9%) indicated "Unaware", and 33(12.2%) indicated "Unsure". On the question to determine whether the respondents have been certified by either of the bodies; 19(7.0%) indicated "Aware", 210(77.8%) indicate "Unaware" and 41(15.2) said "Unsure". On training offered by any agencies – extension services, government or certification agency; 62(23%) said "Aware", 169(62.6%) stated "Unaware" while 39(14.4%) indicated "Unsure". Further analysis to establish whether the smallholders have knowledge of any other certification bodies other than Round Table on sustainable palm oil and Malaysia's sustainable Palm oil, the results show that 92(34.1 %) of the respondents were aware of other certifying bodies by indicating "Aware", with 149(55.2 %) indicating "Unaware", while 29(10.7%) indicated "Unsure". On interest in joining certification based on its benefits; 131(48.5%) indicated "Awareness" of benefits and interested to join, 107(39.6%) "Unaware" and 32(11.9%) "Unsure". Pressed to determine if they agreed that oil palm production could lead to negative impact on the environment, the result show that 42(15.6 %) indicated "Aware",191(70.7%) indicated "Unaware" and 37(13.7%) indicated "Unsure". Based on the result of the analysis, it was clear that there existed low level of awareness and knowledge of certification among the independent oil palm smallholders in the study area. Nonetheless,

interest in getting certification or joining such bodies like RSPO and MSPO, was near average considering that 48.5 percent indicated of the total participants indicated interest. However, though surprisingly 70.7 percent of the respondents did not agree that oil palm production has any negative impact on the environment.

**Table 02. Smallholders' knowledge of certification**

Certification - RSPO/MSPO	Aware	Unaware	Unsure
Have previous knowledge of RSPO/MSPO?	15.9	71.9	12.2
Do you have any certification from either of the certification bodies - RSPO/MSPO	7.0	77.8	15.2
Have you participated in any training offered by any certifying bodies or extension workers?	23.0	62.6	14.4
Other than RSPO/MSPO do you have knowledge of other certification bodies?	34.1	55.2	10.7
Do you have interest in getting certification in near future?	48.5	39.6	11.9
Do you agree that oil palm production can cause negative impact on the environmental?	15.6	70.7	13.7

### Challenges to participation in certification

Certification is an important tool for addressing some of the social and ecological issues associated with oil palm production. While certification has been embraced by big plantations and estates, smallholders are still faced with challenges in implementing certification, despite the enormous benefits that come with it. Smallholders need to participate in certification in order to reap the benefits and remain sustainable. In the country, public and private standards (MSPO and RSPO) are relevant in order to address the ecological and social concern coming from both local and international organizations and consumers. Smallholders represent an important part of the palm oil industry in the country, accounting for about 41 percent of the country's production, with its employment viability, and therefore a sustainability oriented smallholders are critical in both further development of the industry and in addressing some of the concerns raised. Certification can help smallholders increase their financial capital in terms of more income as they access wider market for their products, helps raise the quality of their fresh fruit bunches, helps them into organized groups for access to state incentives such as subsidized quality seedlings, fertilizer and extension services provisions (World Bank, 2010; Rist et al. 2010). Table 03 presents smallholders challenges to certification based on empirical study conducted in respect to this study.

**Table 03. Certification challenges**

Challenges	Frequency	Percentage
Cost Certification	123	45.6
Lack of knowledge of standard practice	107	39.6
Lack of Incentives to certification	32	11.9
Lack of Organization	8	3.0

Independent oil palm smallholders' participation on certification (RSPO/MSPO) has been found to be limited despite efforts by several certifying bodies to encourage their involvement in sustainable palm oil practices. Some of the reasons adduced include; limited financial resources (unable to secure loans due to high collateral demanded by banks), lack of technical know-how, land resources and others. Different policies have been implemented to spur independent smallholders interest in certification program including; formation of cooperatives; such as producers groups, independent smallholders association, supply chain groups – in the form of contract farmers, out-growers and other groups in the hope of supporting the independent smallholders mobilize necessary funds, organizational skills and knowledge in order to attract incentives in the form of extension services for best farming practices.

To further enhance smallholders' capacity, and as an important player in the country's economy, this study found that the government through its Ministry of Plantation Industries and Commodities established 'Sustainable Palm oil Cluster (SPOC) – a group of independent smallholders committed to sustainable production of palm oil via collaborative arrangement. Through this policy, farmers who successfully manage their oil palm plantation in accordance with the recommendation of Malaysia Palm Oil Board are being rewarded with award like 'Good Agricultural Practices' (GAP). As at 2014, 381 oil

palm smallholders received GAP award by MPOB, and the number is said to have increased over the years.

#### IV. Conclusion

A strong indication that smallholders in the study area- Sarawak have low level of awareness on certification – whether in regard to the international framework - the Roundtable on Sustainable Palm Oil and or the national framework - the Malaysian sustainable Palm Oil. Smallholders in recent times have begun to show interest in participating in oil palm certification. It is important that government and policy makers in the industry continue in their efforts at getting more smallholders participate in certification by providing the necessary incentives, more so, because of their role in the overall contribution to the country's economy. Smallholders should also be provided with facts that lack of best practices affect the environment, this becomes critical considering that majority of the farmers disagree that their farming practices have any negative impact on the environment.

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