

## SOCIAL SUSTAINABILITY OF OIL PALM PLANTATIONS AMONG SMALLHOLDERS IN LAHAD DATU, SABAH

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### ABSTRACT

This study examines the sustainability indicators of palm oil cultivation among the smallholders in Lahad Datu, Sabah. This study will also look at the role of the Malaysian Palm Oil Board (MPOB) and other stakeholders in helping smallholders to promote sustainable agricultural practices. The researchers have chosen the quantitative research approach using survey method. A total of 58 respondents consisting of smallholders were randomly selected and the snowball technique was also used in the selection of the respondents. Questionnaires were used as a research instrument. Data analysis by the researchers is presented using frequencies and percentages. The study found that the smallholders had achieved a good level of sustainability, particularly in participation, decision making, basic needs and amenities, and maintaining relationship.

**Keywords:** Sustainability, Oil palm cultivation, Social sustainability

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## **1. INTRODUCTION**

Palm oil is an important industrial crop that produces cooking oil, industrial oil, and fuel. Plantations generate huge profits so much so that forests and old farms have been converted into oil palm plantations. Indonesia is the largest palm oil producer in the world. The history of oil palm in Asia is said to have started in 1848 by the Dutch when four seedlings originated from Africa were planted in the Botanical Garden of Bogor, Indonesia. The seeds that was brought from Singapore to Malaysia and Rantau Panjang around 1911 to 1912, Kuala Selangor and is said to be the earliest area to be planted with oil palm trees. Subsequently, the development of palm oil as a trade product spurred the cultivation of oil palm in areas where it could grow and flourish.

Sustainable development is a development that balances economic development with social needs and the environment. The definition of sustainable development according to the 1987 Bruntland Report is a “development that meets the needs of the present without compromising the ability to meet the needs of the future” [1]. This clearly shows the importance of balancing the development and the use of environment. Pressure and exploitation of natural resources, forests, and water continue to take place in the absence of strict controls and enforcements. In a world pursuing the post-modernization era, the pressure to meet the increasing food demand has instigated the rapid development of the agricultural sector. Due to this fact, there have been various ideologies on how to create a sustainable agricultural sector in which production from this sector always promotes a profitable production and the quality of the environment is guaranteed.

In conclusion, the sustainability of palm oil industry is one of the important factors, which should be considered by all parties. This is to create balance between the economic, social, and environmental factors. Efforts to enable the palm oil industry to be sustainable must be continuously carried out. Codes of sustainability such as the sustainable agricultural codes of practice can be one of the practices for those involved in the palm oil sector. As established by the researchers, this study has several objectives that need to be achieved. The objectives are to review the indicators of social sustainability in the cultivation of oil palm among the smallholders in Lahad Datu, Sabah; and to evaluate the role of Malaysian Palm Oil Board (MPOB) and other stakeholders in helping the smallholders to embrace sustainable

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agricultural practices.

## 1.2 Literature Review

A study on the impact of tourism on sustainable living among the indigenous communities in Kg. Sg. Ruil, Cameron Highlands [2]. In this study, the researchers adopted a number of indicators to measure the sustainable living, which was developed by the United Nations Development Programme [3]. Among the indicators used are human assets, financial assets, physical assets, social assets, and risks or threats to lives of the indigenous communities. The study found that the benefits of tourism development in Cameron Highland were also enjoyed by the natives through the positive impact in terms of improvement in human assets, physical assets, and social assets. The study also shows that the natives are able to overcome the threats faced in maintaining their sustainability. The government and related authorities should play their role in the development of sustainable living among the indigenous communities.

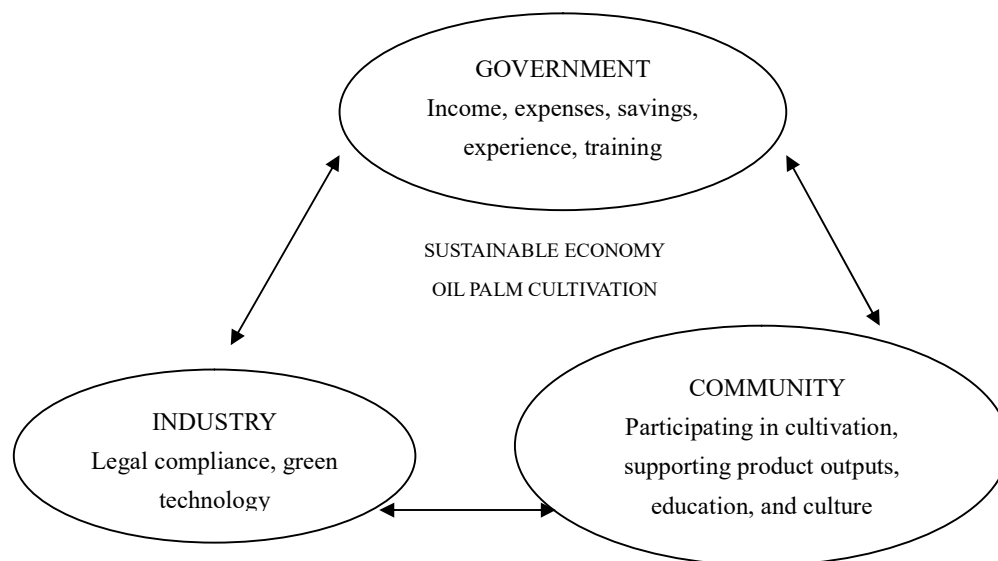
The current state of knowledge in defining a more encompassing sustainable agricultural in the field of sustainable development [4]. These researchers concluded that agricultural sustainability which includes biophysical, economical, and social factors in the fields, plantations, and water catchment areas at the regional and national scales. The study found that the challenge now is to determine the use of sustainable agriculture at the planning stage before it is implemented. In addition, the study also outlined the framework for current land valuation, environmental impacts and environmental assessment approaches in extending the planned land usage. The researchers also believed that this approach must include the sustainability criteria. The framework was also used to assess the integrated sustainability including the mosaic and hierarchical factors, which are important for agricultural sustainability

The management of sustainable agriculture, particularly for the basic food supply source, has now become the main agenda for all parties [5]. Agricultural revolution occurred to ensure the world food security. Based on research, agricultural management is becoming increasingly popular today is organic cultivation and The System of Rice Intensification (SRI). SRI is a production system that avoids the use of synthetic fertilizers and pesticides. There is a study on sustainable management and food production through innovation. In this study, the

researchers also discussed the management process model for sustainable agriculture.

### 1.3 Conceptual framework

This study reviewed many previous studies that have been deliberated and discussed in the literature review section. A conceptual framework has been established based on these studies, whereby the conceptual framework clearly describes the agriculture sustainability indicators, especially the sustainability indicators in oil palm cultivation. It is important to develop the role of the stakeholders (MPOB) to assist the smallholders to become more sustainable not only economically but also socially and environmentally. Sustainable development in agriculture need to consider three main components of the sustainability concept, namely social, economy, and environment [6]. This is to achieve a balanced economic prosperity that would last for generations to come.



**Fig.1.** Conceptual model of the study

Source: [10] [11] [12] [13] [14] [15]

Based on the previous studies, many terms that are synonymous with sustainable agriculture have been adopted. However, the term sustainable agriculture is an ideological approach that is often used in organic farming, biological farming, alternative agriculture, and ecological farming [7]. The idea of sustainable agriculture has developed rapidly as a result of the encouragement given to the farmers to be more sustainable. Therefore, smallholders should have the awareness and willingness to be engaged in sustainable farming to ensure that they always practice sustainability regardless of the various economic, social, and environmental

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aspects. Sustainable agriculture is a cooperation among three parties, the government, industry, and community. The interaction of these three parties will achieve the objectives set by the researchers. The three parties are shown in **Fig. 1**.

On the aspect of social sustainability, the implementation of good management practices will ensure the welfare of the smallholders. In addition, social sustainability from the sustainable agriculture point of view is closely related to the social interaction of the farming community and the assistance received. This is important in ensuring progress in the agricultural industry using the concept of sustainable agriculture. The National Sustainable Agriculture Information Service (ATTRA) [1], has listed a number of indicators in achieving social sustainability for the smallholders' community, namely the existence of supporting industries to generate income for farmers or smallholders, infrastructure facilities, assistance in terms of agricultural inputs and the younger generation as the heir to the agricultural sector.

The involvement of smallholders in association has become one of the factors that helped advanced the agricultural sector. The cooperation of farmers under an umbrella organization or association is more effective as a medium to voice out their problems, formulating and implementing programmes and proposals for the improvement of production activities than if performed alone. This situation will benefit the smallholders to protect their welfare when there is an uncertainty of prices that could affect their income. Basic requirements and basic facilities are very important for humans to live a more prosperous life. The study found that smallholders are sustainable in meeting basic needs and basic amenities.

In terms of keeping in touch, respondents are committed to ensure that the relationships among the families, the neighborhood, and the surrounding communities are maintained and preserved. This is important because human relationship will ensure a harmonious and prosperous environment. Meanwhile based on terms of assistance received by farmers, most respondents depend solely on themselves for survival, particularly in carrying out the cultivation activities. Assistance from stakeholders is not as extensive because there is a majority of respondents who did not get the help that can increase their productivity and income to ensure a better quality of life. Based in terms of communities participation in decision making, respondents are less directly involved in this aspect.

The community's involvement in decision-making will be instrumental in the economic and

social well-being of the families, communities, and countries [8]. In terms of security, although there is development work done in the study area, security is still at a satisfactory level. This is because the strong relationship among the community has prevented unwanted situations from happening. The development of the study area has also had a lot of effect whereby various infrastructure facilities have been built to improve the community's quality of life. A better quality of life has improved the community's standard of health leading towards a better direction. In conclusion, the respondents, who are palm oil smallholders, are generally sustainable based on the social aspect. Social development is a process of social changes designed to improve the well-being of the society [1].

## **2. FINDINGS AND DISCUSSIONS**

### **2.1 Indicators of social sustainability of oil palm**

In Tables 1 and 2, the social sustainability of the respondents will be identified based on a number of social sustainability indicators formulated by the researchers. In this section, the respondents will have to answer 16 items to allow researchers to analyze the data in order to achieve the objectives. These items are basic needs and facilities, attending briefings, participation in associations/ organizations, the implementation of family values, neighborly values, societal values, aid schemes, decision making, security, health status, and infrastructure facilities.

In daily living, basic needs and infrastructure such as a proper place to live and access to electricity, water, sanitation and good relationships are very important in improving the quality of life among the smallholders in the study area. Therefore, the creation of these needs and infrastructure will provide comfort to the smallholders. In this study, the type of needs and the category of basic amenities enjoyed by the respondents or the smallholders will be assessed. This is aimed at observing the level of the smallholders' quality of life and to what extent are they able to enjoy access to the facilities that they have. According to Table 1, there are three major items in the achievement of smallholders' needs and basic facilities, namely the type of house ownership, electricity and water supply, and sanitation.

**Table 1.** Indicators of social sustainability in terms of basic needs and facilities

Basic needs and facilities	Number (n=58)	Percentage (%)
<b>Type of House Ownership</b>		
Own house	56	96.6
Rented house	1	1.7
Government house	1	1.7
<b>Electricity supply</b>		
Received	56	98.3
Did not receive	1	1.7
<b>Type of energy source</b>		
Electricity	56	96.6
Pumped light	2	3.4
<b>Water supply</b>		
Public pipe	54	93.1
Water from wells/boreholes	1	1.7
River water	1	1.7
Rain water	2	3.4
<b>Type of toilet/sanitation</b>		
Pumped toilet	27	46.6
Manual flush toilet	31	53.4

The study found that the majority of respondents, or a total of 56 respondents (96.6 percent), own their houses. As for respondents who live in rented houses and government houses, each has the same number of respondents (1.7 percent) for each type of home ownership. Most of the respondents who own a home have inherited the house from the past generation, left by the family. In fact, some families have built houses in the same area near one another in order to facilitate keeping in touch (research respondents).

**Table 2.** Indicators of social sustainability

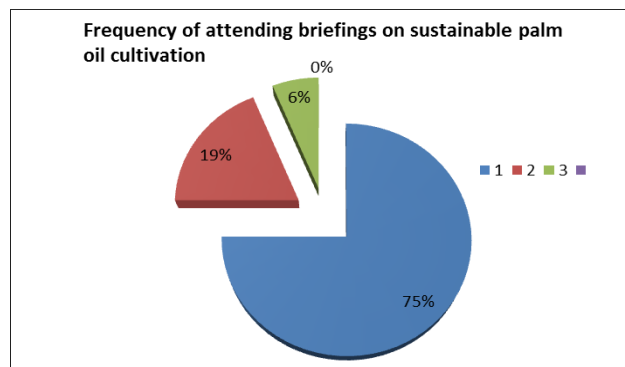
No.	Details	Number (n=58)	
		Yes (%)	No (%)
1	Attend briefing about sustainable cultivation of oil palm	34 (58.5%)	24 (41.4%)
2	Involved in an association/ organization	15 (25.8%)	43 (74.1%)
3	The application of values to maintain family relationships is still practiced.	58 (100%)	0 (0%)
4	Neighbourly relationships are featured in daily life.	58 (100%)	0 (0%)
5	Relationship with society is highlighted with respect and tolerance.	58 (100%)	0 (0%)
6	Received aid schemes.	12 (20.7%)	46 (79.3%)
7	Involved in decision-making in matters related to the community.	28 (48.3%)	30 (51.7%)
8	Security system is much better after development.	53 (91.4%)	5 (8.6%)
9	Sustainable farming practices improve the quality and health status of the smallholders.	51 (87.9%)	7 (12.1%)
10	Infrastructure facility has been set up and improvements are constantly being done.	51 (87.9%)	7 (12.1%)

For basic amenities, the study found that a total of 56 respondents (96.6 percent) received electricity supply in their homes while the remaining 2 respondents (3.4%) still do not have electricity. Respondents are not able to have the electricity because the area in which they live is far from the center of the village. The absence of electricity poles prevents them from



receiving electricity. In addition, the house they live in is considerably distant from other neighboring houses. In fact, there are houses built on 10 acres of land. Installation of electrical poles to their homes is also not taken seriously by the government. Therefore, they only use pumped light as their energy source (research respondents). Meanwhile, a total of 54 respondents (93.1 percent) received water from public pipes provided by the government. A total of 2 respondents (3.4 percent) still use rain water as their main water supply. The remaining two respondents (3.4 percent) receive water supply from well water and river water. For sanitation and toilet facilities, a total of 27 respondents (46.6 percent) use pumped toilets and the balance of 31 respondents (53.4 percent) still use the manual flush toilet which is less modern. However, overall, the respondents have met their sanitation needs well because all of the respondents have toilet facilities.

**Fig. 2** shows the frequency of those who attend briefings on sustainable oil palm cultivation in which a total of 26 respondents (75 percent) have attended twice a year, while two respondents (6 percent) have attended three times a year. The older respondents assume that their current practice is quite sustainable as they have been doing this for so long and it does not have any serious impact on the environment. However, it cannot be denied that their productivity has not increased. The lack of interest in learning new approaches has caused them to not attend the briefing (research respondents).



**Fig.2.** Frequency of attending briefings on sustainable oil palm cultivation

For the item of whether the respondents are involved in any association or organization, it is shown that 15 respondents (25.9 percent) said yes and there are various types of associations. The majority of respondents comprising of 43 respondents (74.1 percent) are not directly

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involved in any association. The involvement of farmers in associations has been a contributing factor to the progress and development of the agricultural sector in developed countries [9]. Cooperation of farmers under an association or organization is more effective as a medium to channel problems and implement programmes instead of working individually. Volatility in palm oil prices due to the rising prices of inputs, which may affect the respondents' income may have a negative impact on their welfare. However, their involvement in associations will protect their welfare to some extent (Research respondents).

There are a number of associations and organizations in which the respondents are involved including the Mosque Committee, the Workers Union, Farmer's Union, the Village Association, the Association for the Demand of Indigenous Lands, Scouts Association, the Incorporated Society of Planters (ISP), and political parties. The majority of them are only involved as ordinary members and those who are involved and hold high positions in the associations are not that many as a result of several factors such as age and poor education that made them less keen to be involved. This shows that the smallholders' level of participation in organization is low and unsustainable.

In terms of whether the application of values to maintain family relationship is still practice, all respondents involved in this study answered 'Yes'. This means that the relationship between the families is still close although some respondents did not live under the same roof with their children. Most young people in the study area live outside this area because they want to find more suitable job opportunities, and some of them have migrated for the purpose of pursuing their studies. The respondents said that the distance between parents and children cannot be the reason for not maintaining a close relationship. In this modern world, various medium of communication can be used as a medium of communication such as mobile phones (research respondents).

This result is similar to the item of relationship with the community with the attitude of respect and tolerance whereby all respondents answered 'Yes'. Although the study area has a diverse community, particularly the diversity of race, belief, culture, and religion, the close relationship in the community is still maintained. When observed in the study area, there are places of worship that are adjacent to each other. Problems such as intolerance among the community does not exist because of the culture of respect towards other people's beliefs that

remain intact. Close bond with other people is always maintained to ensure their common welfare. Therefore, sensitive issues that could lead to racial conflicts are not raised (research respondents).

Meanwhile, a total of 12 respondents (20.7 percent) received assistance in the cultivation of oil palm, especially in terms of increasing the production of sustainable palm oil. The remaining 46 respondents (79.3 percent) stated that a large majority do not receive any aid scheme. Most of those who do not receive aid are due to the lack of information about the grant schemes to help the smallholders. In addition, smallholders were not provided with a complete understanding and information about the aid scheme mainly provided by the government. Despite organizations such as MPOB, and the Department of Agriculture, respondents still do not get extensive information. In addition, some of the respondents have less confidence in their eligibility to receive the aid scheme. The type of aid that is normally received by the respondents are in terms of support for fertilizers, quality seeds, and financial aid. The aid they receive to some extent reduces the cost of agricultural expenditure and can increase their monthly gross income. The quality seeds and fertilizer aid is supplied by the MPOB to increase the productivity of palm oil. The problems such as infections of palm trees including the growth of toxic fungi that can kill the tree can be reduced (research respondents).

The respondents were also asked about their involvement in decision-making pertaining to matters related to the community. A total of 28 respondents (48.3 percent) said 'Yes' and the remainder of 30 respondents (51.7 percent) gave the 'No' answer'. Most of the respondents involved in this study are only from the average community groups. They are just passive members of the community who do not want to engage in decision-making in matters related to the community. Most of the individuals involved in decision-making are among those who have a strong influence such as the village committee, district officials, and individuals with high living standards (research respondents).

Subsequently, the next item asked if the improving security system in the study area has led to a low crime rate. The study found that a total of 53 respondents (91.4 percent) gave the answer 'Yes' to the statement. Meanwhile, a total of 5 respondents (8.6 percent) said 'No'. A good security system is able to reduce the crime rate in the study area. Mutual care for one

another is the main factor for the reduced crime rate. In addition, the eastern culture that exists within the communities in the study area makes them more respectful of their own rights. Crime such as break-ins, drug addicts, illegal racing, and sexual harassment are rare (research respondents). However, fights among young people do occur, and this is common in all places. The hot-tempered nature of the youth is the main factor for this problem.

When asked if sustainable cultivation practices improve the smallholders' quality and health status, 51 respondents (87.9 percent) gave the answer 'Yes'. Meanwhile, only 7 respondents (12.1 percent) gave the 'No' response to the statement. Cultural practices that enhance the productivity of palm oil have increased the smallholders' monthly income whereby they will be able to meet their daily needs as well as to improve their quality of life. From the aspect of health, sustainability will be able to improve their health status. With the increase in the smallholders' income, their ability level to meet their health needs can be increased (Research respondents).

For the item on the development of infrastructure facilities and continuous improvement in the study area, a total of 51 respondents (87.9 percent) gave the answer 'Yes', while the remaining 7 respondents (12.1 percent) said 'No' to the statement. The results shows that infrastructure facilities such as clinics, schools, community halls, places of worship, markets, and others have already been built in the study area. Good road networks have also been built to facilitate the movement of local residents from one area to another. The government's commitment to improve the lives of the people in the study area is evidenced from the facilities provided that is always well maintain so that it can be used by the public (Research respondents).

#### **4. CONCLUSION**

The Bruntland Report in 1987 defined sustainable development as "development that meets the needs of the present generation without compromising or denying the needs of future generations". Therefore, the development of sustainable agriculture also takes on the same meaning, which means that the development of agriculture must not destroy the quality of the existing environment. The study found that the smallholders in the study area have met the whole social sustainability aspect. The development of agricultural practices also involves

stakeholders in providing information and aid. The role of MPOB and other stakeholders in helping smallholders to foster sustainable agriculture practices was observed in this study. According to the study, the stakeholders especially MPOB were less committed in disseminating information and assisting the smallholders in this study area in relation to sustainable agriculture. Aids in terms of fertilizers, pesticides, seeds, and the help of modern technology is also lacking for the smallholders. Lack of support from the stakeholders will hinder some farmers from increasing their productivity. This is because smallholders who have low yields will not have enough rolling capital to invest in improving the productivity of palm oil. Based on the findings, a large majority of the respondents are ready to embrace the development of sustainable agriculture, particularly in the palm oil sector if the stakeholders especially MPOB creates sustainable agricultural development measures in the study area.

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