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The deployment of the Malaysian sustainable palm oil standard in the agriculture sector

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Abstract Malaysia's oil palm business is critical to the country's agricultural growth through its contributions to the country's Gross Domestic Product (GDP), foreign exchange, and employment. Oil palm is in high demand because it produces a high yield at a low cost of production. The Malaysian government declared that the Malaysian Sustainable Palm Oil Certification (MSPO) will be necessary by the end of 2020, as a result of greater awareness of environmental and sustainable issues. The objective of this study was to investigate how to deploy MSPO standards in the agriculture sector and to point out the benefit of applying MSPO standards in the agriculture sector. The case study approach and interviews were conducted based on the MSPO Certification, Oil Palm Management Certification and Supply Chain Certification. The findings demonstrated that with the guideline from the standards help to guide the farmers and the small holders to manage the waste, managing fertilizer packaging containers and poison container properly. The MSPO standards bring improvement towards the sale of palm oil and help reduce the problem regarding palm oil. MSPO certification are not only designed to address social and environmental issues but is also designed to demonstrate positive impacts as a result of implementation of better agricultural practices aimed at enhancing efficiency, farm management, improved social development and climate change adaptation.

Keywords: malaysian sustainable palm oil (MSPO), malaysian sustainable palm iil (MSPO) standard, malaysian palm oil certification council (MPOCC), case study, benefits

1. Introduction

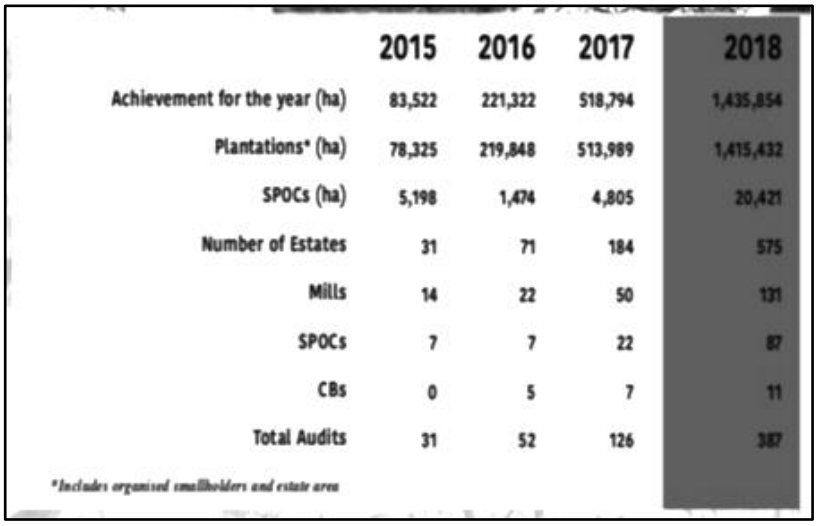
Palm oil has already been one of the world's most important sources of oils and fats (Kannan et al., 2021). The global demand for palm oil is rising in lockstep with the world's population expansion. Palm oil is one of the most sought-after vegetable oils due to its versatility as a component in goods ranging from processed meals to cosmetics and biofuel, as well as a market price that is lower than its competitors. Malaysia and Indonesia are the world's two largest palm oil producers, contributing to more than 85 percent of global production, with Thailand and Colombia following closely behind (Ramadhani & Santoso, 2019; Majid et al., 2021). The palm oil industry is one of the beauty, food, and oil industries. Palm oil has been shown to be the best option for biodiesel production among all vegetable oils (Zulqarnain et al., 2020). Palm oil is widely used as the primary cooking oil in Malaysia. Palm oil is commonly used for cooking in this country, hence demand for it is high. Palm oil is used in a variety of beauty and health products in addition to cooking. For example, palm oil is one of the constituents in a soap's ingredient list.

Malaysia Sustainable Palm Oil (MSPO) Certification is controlled by the Malaysian Palm Oil Certification Council (MPOCC). MPOCC is a non-profit organization that oversees the MSPO certification scheme process. MPOCC was founded in December 2014 and began operations in October 2015. The major goal of MPOCC is to set up and run a sustainable palm oil certification scheme in Malaysia, as well as to create a method for certifying organizations that meet the criteria of auditable sustainability standards. Malaysian Palm Oil Certification Council (2018) stated that MPOCC was also formed to work with NGOs, higher education institutions, trade associations, accreditation, and Certification Bodies (CBs) in Malaysia.

According to the Annual Report MPOCC 2018 and 2019, the trend of MSPO implementation from 2015 to 2018 was increasing. In 2015, 83,522ha of palm oil plantations were recorded already applying this scheme. This involved 78325ha of plantation and 31 Estates. The total audits by MPOCC are 31. By 2016, 221322ha was recorded for applying this scheme involving 219848ha of plantation and 71 estates. 52 audits were run in 2016. The number kept increasing in 2017 with 518794ha recorded with 513989ha of plantation and 184 estates. The total number of audits also increased to 126. In 2018,

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the achievement for this year is 1435854ha involving 1415432 plantations and 575 estates. The total of audits this year has increased twice to 387 times. Further details about MSPO scheme achievement according to years are shown in figure 1 below:



	2015	2016	2017	2018
Achievement for the year (ha)	83,522	221,322	518,794	1,435,854
Plantations* (ha)	78,325	219,848	513,989	1,415,432
SPOCs (ha)	5,198	1,474	4,805	20,421
Number of Estates	31	71	184	575
Mills	14	22	50	131
SPOCs	7	7	22	87
CBs	0	5	7	11
Total Audits	31	52	126	387

*Includes organised smallholders and estate area

Figure 1 MSPO Achievement.
Source: MPOCC Annual Report (2018).

The agriculture sector in Malaysia is divided into 6 sectors which are palm oil, livestock, fishing, rubber, forestry and logging, and other agriculture. According to the HRDF Human Capital Report 2019, palm oil was the agricultural economic activity that contributed to the highest Gross Domestic Product (GDP) in the year 2017 at 46.6 percent. The ranking was followed by other agriculture at 18.6 percent, livestock at 11.4 percent, fishing at 10.5 percent, rubber at 7.3 percent and the last one is forestry and logging at 5.6 percent for GDP contribution.

Agriculture is crucial for the economy's diversification. The agricultural sector contributes to the improvement of the country's trade balance and serves as the country's economic backbone. It also contributes to the economy's diversification and defense. Aside from that, the agriculture sector aids in the development of rural areas and contributes to the increased production of food. The agriculture in Malaysia is driven by the Ministry of Agriculture and Agro-Based Industry (MOA). Other industries support the agriculture sector as listed below:

- Federal Land Consolidation & Rehabilitation Authority (FELCRA)
- Federal Land Development Authority (FELDA)
- Malaysia Agricultural Research & Development Institute (MARDI)
- Federal Agricultural Marketing Authority (FAMA)
- Muda Agricultural Development Authority (MADA)
- Farmers' Organization Authority (FOA)
- Forest Research Institute Malaysia (FRIM)
- Rubber Research Institute of Malaysia (RRIM)
- Rubber Industry Smallholders Development Authority (RISDA)
- Fisheries Development Authority of Malaysia (LKIM)
- Malaysian Cocoa Board (MCB)

Palm oil has generated a significant amount of revenue for the country. This is one of the most important contributors to GDP. Palm oil is widely utilized in foods, cosmetics, pharmaceuticals, and biofuels, as we all know. Palm oil in Malaysia is currently one of the most hotly debated topics in our news feed. It is in response to the announcement that the United States has imposed a ban on Malaysian palm oil producers. According to Money News (2020), US Customs and Border Protection (CBP) has halted the import of palm oil from a Malaysian company due to concerns about forced labour. MSPO is designed to safeguard workers' rights by protecting their health, safety, and working conditions. There is no place for child labour, as well as forced or trafficked labour. Aside from that, there is a problem with the quality of Malaysian palm oil. In his article 'Doing more for palm oil's sustainability' in the News Straits Times, Dr. Azhari Karim (2019) explained how palm oil may fulfill world standards for quality and sustainability. The MSPO certification process comprises a set of guidelines for all employees, as well as the need for the contractor to be properly trained in order to ensure that the quality of the palm oil is assured (Annual Report, 2018).

The objective of this study is to investigate how to deploy MSPO standards in the agriculture sector and to point out the benefits of applying MSPO standards in the agriculture sector. Therefore, the research question of this study is, “How to

deploy MSPO standards in the agriculture sector?" and "What are the benefits of applying the MSPO standards in the agriculture sector?"

The rest of the paper is structured as follows: the first section provides the literature review of Malaysian Sustainable Palm Oil Standard in the agriculture sector. The second section discusses the methodology of the study. In the third section, the paper continues with the findings and discussion. The final section discusses the conclusion of the study.

2. Literature Review

2.1. Concept of Malaysian Sustainable Palm Oil (MSPO)

The Malaysian Sustainable Palm Oil (MSPO) Standards (MS 2530:2013 arrangement) were developed as a deliberate and industry-driven public certification standard aimed at defining the standards and benchmarks for sustainable palm oil production in Malaysia (Kumaran & Suparyono, 2019). The Malaysia Sustainable Palm Oil (MSPO) certification scheme is one of Malaysia's national schemes for palm oil plantations, independent and organized smallholdings, and palm oil processing facilities to be certified in accordance with MSPO standards. The MSPO standards offer an alternative to Roundtable on Sustainable Palm Oil (RSPO) certification as a verification system for sustainable practices (Mansor et al., 2016). The main goal is to achieve long-term production while also increasing market access. This scheme not only allows palm oil management and supply chain certification, but also allows for the development of certification standards, accreditation requirements, and notification of certification bodies. Additionally, it enables potential clients to apply for certification audits, addresses supply chain traceability requirements, provides auditing guidelines, and includes peer reviews of audit reports (MPOCC, 2018). The MSPO Standard MS 2530:2013 is divided into four sections: general principles, general principles for independent smallholders, general principles for oil palm plantations, and organized smallholders, as well as general principles for palm oil mills (Kumaran, 2019). In order to better meet local requirements, the MSPO standards were produced through a standards development process with participation from pertinent oil palm sector players. Constant work towards improved standards and quality is required for MSPO certification to grow, gain international recognition, and continue to be relevant.

2.2. Malaysian Palm Oil Certification Council (MPOCC)

According to Kumaran and Suparyono (2019), the Malaysian Palm Oil Certification Council (MPOCC) is an independent non-profit organization. The MPOCC was established in 2014 to oversee the implementation of the MSPO certification scheme (Senawi et al., 2019), MPOCC has been charged with the implementation and operation of the national program across the country. The main goal of MPOCC is to facilitate and enhance the implementation of MSPO certification in terms of certified areas and production of certified palm oil (Kumaran & Suparyono, 2019). MPOCC is governed by a large multi-stakeholder Board of Trustees that includes representatives from the oil palm industry, government, university, R&D institutions, non-governmental organizations, smallholder organizations, and civil society (Senawi et al., 2019). MPOCC is responsible for developing and implementing the MSPO Certification Scheme and scheme documents, as well as creating awareness among system users, stakeholders, certification body auditors, and Department of Standards Malaysia assessors through briefings and training sessions (Kumaran, 2019).

According to Kumaran and Suparyono (2019), the main goal of the MPOCC is to establish and operate a sustainable palm oil certification scheme in Malaysia, to collaborate with non-governmental organizations, institutions of higher learning, trade associations, and accreditation and certification bodies in Malaysia. Additionally, it seeks to create a mechanism for the certification of entities that meet auditable sustainability standards. Consequently, we can infer that the MPOCC's vision for palm oil certification emphasizes compliance with legal and regulatory requirements, inclusive decision-making, and good oil palm management.

2.3. Types of Certifications

According to the MPOCC (2022), there are two types of certifications available. The first is Oil Palm Management Certification, which establishes standards for responsible palm oil plantation, smallholder, and processing facility management. An approved third-party certification authority is in charge of this process. The responsible party evaluates and verifies that the palm oil management meets MSPO standards.

The second one is Supply Chain Certification. This certification applies to the party who processes, trades or manufactures palm oil. It encompasses the entire process from the mill to the finished product, as well as ensuring the value of certification all the way to the customers (MPOCC, 2022). Oil palm certification serves as a system for tracking,labeling palm oil products and monitoring oil palm management practices. The quality of management and supply chain traceability are evaluated.

2.4. History and key milestone of Malaysia Sustainable Palm Oil (MSPO)

The MSPO Criteria, which are now utilized under the MSPO Qualification Scheme, were developed by two committees with the help of the Malaysian Palm Oil Board (MPOB), which serves as the Standards Writing Organization (SWO) (Kumaran & Suparyono, 2019). The MSPO Technical Working Group was in charge of finalizing and submitting the oil palm qualification requirements to the MSPO National Committee for approval (Kumaran & Suparyono, 2019). The finalised standards were examined by the Technical Committee on Fat and Oil Safety before being released for public review (Kumaran & Suparyono, 2019). In 2012 and again in 2013, the final draft of the MSPO Standards was given to SIRIM Berhad and made available for public feedback on the SIRIM website (Standard and Industrial Science Institute of Malaysia). The public comments received were compiled and included in the final draughts of the MSPO Standards requirements. Finally, on September 5, 2013, the Honourable Minister of Science, Technology, and Innovation adopted the MSPO Standards. Then, on November 19, 2013, during the MPOB International Palm Oil Congress and Exhibition (PIPOC) 2013, the Honourable Deputy Prime Minister officially unveiled the MSPO Standards (Kumaran & Suparyono, 2019).

According to Aziz et al. (2021), the Malaysia Sustainable Palm Oil Scheme was officially launched in January 2015 by the Minister of Plantation Industries and Commodities (MPIC). MPOCC was given the responsibility of drafting and evaluating certification standards and scheme documents in January 2016. The MSPO Certification Scheme is the national programme in Malaysia that allows palm oil processing facilities, independent and organised smallholdings, and oil palm farms to be certified in accordance with the MSPO Standards (table 1).

Table 1 MSPO Certification Milestones.

2013	2014	2015	2016	2017	2018	2019
-MSPO Standard launched	-MSPO Pilot audit -MSPO Registered	-MSPO implemented voluntarily -MSPO Chaired and Board Director appointed	-MPOCC first-year operation -MSPO accreditation program launched	-Mandatory MSPO implementation announces -MSPO- RSPO combined audit guidance	-MSPO Supply Chain Certification launched	-MSPO Standard review begins -MSPO scheme to be implemented as mandatory

Source: The Planter (2019), Kuala Lumpur, 95 (1117):239-249, (Kumaran & Suparyono, 2019).

2.5. 7 Principles of Malaysian Sustainable Palm Oil (MSPO)

The MSPO standards for oil palm management certification contain seven principles that create the general requirements of a management system framework based on the three benchmarks of sustainability which are economic viability, social acceptability, and environmental accountability (Kumaran & Suparyono, 2019). For independent smallholders, the sustainability requirements are embedded within the following principles (Arshad et al., 2020). The 7 MSPO Principles cover the themes of management, social equity, environmental protection, and economic progress (Senawi et al., 2019). According to Kumaran and Suparyono (2019), the general requirements for the MS2530:2013 series started with principle 1 which is management commitment and responsibility. The organization's management is committed to the implementation of MSPO, as well as to continual improvement following the MSPO requirements. The second principle is transparency. The organization management shall ensure that adequate information is publicly available, as well as ensure open consultation and communication with stakeholders, and traceability along the supply chain. Principle 3, compliance with legal requirements, means the organization's management must abide by local and ratified international laws and regulations, such as land use rights and customary rights.

Principle 4 entails social responsibility for health, safety, and employment conditions. Every organization's management shall comply with adequate employment conditions, occupational safety, and health requirements. Other than that, they need to provide relevant training for their employees. Moving on to principle 5, which focuses on the environment, natural resources, biodiversity, and ecosystem services. The organization needs to consider environmental management, energy use, waste and pollution management, water resources, and the protection of species or habitats. The next principle highlighted about best practices. The organization's management shall implement standard best practices throughout its operation, and the last one is principle 7, which focuses on the development of new planting. The organization's management needs to implement appropriate agronomic practices for new planting to ensure the areas are not developed on disputed customary land or land with high biodiversity value. The criteria under these seven principles assist the independent smallholders in implementing the MSPO requirements. A set of guidelines has also been drawn up by the Technical Working Committee to guarantee harmonious and credible auditing of the standard (Arshad et al., 2020). The certification bodies will use certain criteria and indicators for each of the seven general principles during audits to assess compliance and decide whether to provide certification.

2.6. Malaysian Sustainable Palm Oil Certification Process

According to Kumaran (2019), the MSPO certification procedure requires auditing and certification by qualified third-party certification bodies. A client who applies to a certification body needs to undergo an audit against the applicable MS 2530:2013 Standard to ascertain its compliance with the certification requirements (Mansor et al., 2016). The auditing procedures fulfill the requirements of MS ISO/IEC 17021:2015 (for oil palm management certification) and ISO/IEC 17065:2012 (for supply chain certification). During initial and re-certification audits, the audit report is subjected to peer review, which is exclusively relevant for oil palm management certification. If there are no serious nonconformities with certifying bodies, the client will be awarded a certificate of compliance with the particular MSPO Standard or, in the case of recertification audits, the certificate will be renewed. The certification bodies must make available to the public the established internal auditing and certification procedures, as well as information about the auditing and certification processes for granting and maintaining certification, expanding, or reducing the scope of certification, renewing, suspending, restoring, or withdrawing certification (Senawi et al., 2019). The certification bodies notify MPOCC of all certificates they have granted, as well as any modifications to the certificates' validity or scope.

2.7. Strategies for Malaysian Sustainable Palm Oil Certification

Multiple methods are now being used under the MSPO Qualification Program to ensure its complete acceptance through a multi-pronged approach (Senawi et al., 2019). The MSPO Qualification Program uses a multi-pronged approach to ensure acceptance, including independent certification audits, peer reviewer training, training providers endorsement, workshops, roadshows, and NGOs engagement. Malaysian legal organizations must conduct MSPO audits, and MPOCC has developed an audit guide for joint audits of MSPO and RSPO processes.

2.8. Agriculture Sector in Malaysia

The agriculture sector is a significant development factor in Malaysia. According to Bujang and Bakar (2019), Malaysia's recent national agendas are primed toward achieving triple-bottom-line development, in line with principles stipulated in the SDGs. Ahmad and Badril (2019) and Bujang and Bakar (2019) explain that to achieve this goal, the agriculture sector needs to be robust, efficient, and cost-effective. Jongbo (2014) explains that the rising concern on environmental sustainability and green consumerism concerns increasing the number of unprecedented challenges, which further impinges upon the agriculture sector in Malaysia. Malaysia's agriculture sector is powered by its primary commodities which are palm oil, rubber, paddy, and other food crops (Bujang & Bakar, 2019).

The spread of COVID-19 in 2020 has resulted in a drop in palm oil demand. The pandemic has also wreaked havoc on global economic, political, social, and financial institutions, destabilising global food consumption (Nandi et al., 2021). The industry has been obliged to adapt to the new normal and digitalize the supply chain due to these unstable conditions (Mohammed et. al., 2020). As a result of the positive influence of digitization on business in various areas, the demand for palm oil is projected to expand (Abdul-Hamid et al., 2021).

The importance of palm oil for Malaysia cannot be understated. In 2019, agriculture contributed 7.1 percent to Malaysia’s GDP (constant 2015 prices of RM 101.5 billion), with palm oil accounting for 37.5 percent of the total agricultural output. However, in 2020, Malaysia's Gross Domestic Product (GDP) fell by 56 percent due to a drop in all sectors of the economy, compared to positive growth of 4.4 percent in 2019. In 2020, the agriculture sector contributed 7.4 percent of Malaysia's GDP. This sector's percentage growth slowed to 2.2 from 20 percent the year before. The drop was attributed to the commodities sub-sector, particularly oil palm, which saw a negative growth rate of 3.6 percent. (2019 15 percent). Despite a slowing growth rate, oil palm accounted for the majority of the agriculture sector's value-added, accounting for RM36 billion or 37.1 percent of total value added (DOSM, 2021). In terms of total GDP, palm oil contributed 2.7 percent (constant 2015 prices) in 2019. In 2020, palm oil constituted nearly 38 percent of the value of Malaysia’s agricultural output and contributed three percent to its gross domestic product. Malaysia's largest agricultural export is palm oil, which is one of the country's primary industries (Hirschmann, 2022). Overall, the Malaysian palm oil industry had remarkable economic performance, as numerous oil palm plantation corporations declared substantial profits from their operations.

3. Methodology

This research uses a qualitative approach to study the impact of MSPO Standard implementation in the agriculture sector. As for qualitative methodology, this research collects primary data from respective respondents through observation, interview sessions, and the case study. Thematic Analysis is the data analysis approach used in this study.

The analysis will be based on the research objectives and will be clustered into two themes; how to deploy MSPO in the agriculture sector, and the benefit of MSPO. The Malaysia Sustainable Palm Oil certification consists of 2 types of certifications which are Oil Palm Management Certification and Supply Chain Certification. Oil Palm Management Certification sets the standard for responsible management of palm oil plantation, smallholding, and palm oil processing facilities. Supply Chain Certification applies to parties or companies who process, trade, or manufacture palm oil from certified oil palm management units. The research sampling for potential respondents in this research is selected based on

this certification. Potential respondents are chosen based on whether they have fulfilled the research criteria stated above. For this research, primary data is collected through interviews, internal reports, and data from *Pertubuhan Peladang Kawasan Parit Raja*. The source of secondary data comes from company information, previous researchers, books, and the internet. It also provides relevant information to the researcher in accomplishing their research. The subsequent strategy suggested by Braun and Clarke (2006) for evaluating qualitative data served as the basis for this study's data analysis. There are six fundamental steps in the iterative thematic approach to this study. There are 1. familiarization with the data, 2. generating initial codes 3. constructing potential categories, 4. revising the categories, 5. defining and naming themes, 6. producing a report.

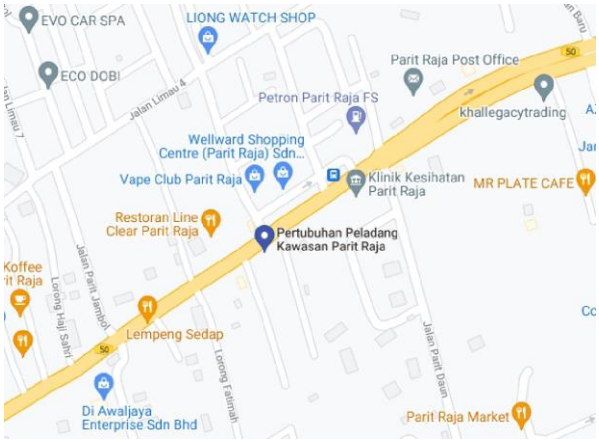
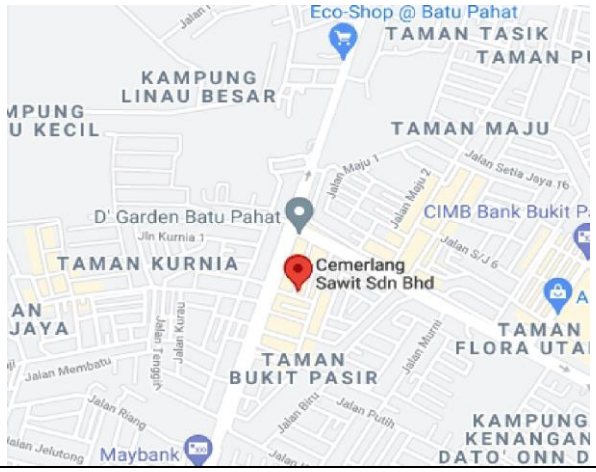
This study used the qualitative method to conduct an in-depth interview with 7 companies that have implemented MSPO Certifications in their company. In this way, the researcher can get so much information and data from the different respondents' different perspectives. From this, the researcher uses the opportunity to determine the deployment of MSPO Certification in the agriculture sector and its benefits. Besides, this can also improve the validity of the data collected from these participants. Therefore, these respondents were considered qualified to be the investigation subjects. The respondents consist of the employees from the company t including the owner or founder, manager, marketing, sales and operation management, and Human Resources Management (HRM). Each interview was conducted for a duration of 15 to 40 minutes, and all were recorded on audio with permission. The audio-recorded data was separately transcribed by the researcher prior to thematic analysis. The transcripts were read aloud and listened to several times to maintain their meaning and to develop themes.

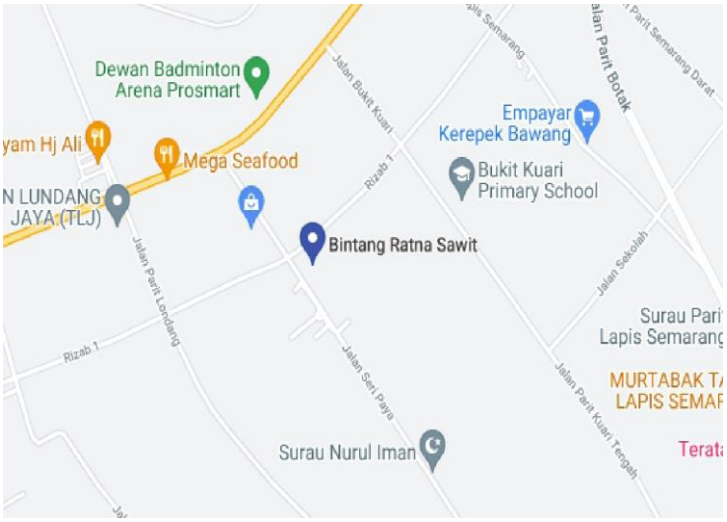
4. Results and Discussion

4.1. Respondents Information

The table 2 and 3 below shows the profile background of the selected seven companies involved with MSPO Certification.

Table 2 Respondent Information.

No	Company Name	Address
1	Pertubuhan Peladang Kawasan Parit Raja	 Lot 9128, Jalan Besar, 86400 Parit Raja, Batu Pahat, Johor
2	Cemerlang Sawit Sdn Bhd	

		5, Jalan Kundang 2, Taman Bukit Pasir, 83000 Batu Pahat, Johor
3	Syarikat Perniagaan Sawit Tinta	 Jalan Kangkar Senangar, 83500 Parit Sulong, Johor, Malaysia, 83000 Batu Pahat
4	Bintang Ratna Sawit Sdn Bhd	 Kampung Seri Paya, 86400 Parit Raja, Johor, Malaysia, 83000 Batu Pahat
5	Perniagaan Sawit Seri Medan Sdn Bhd	

		No. 47, Jalan Besar, Seri Medan, Johor, 83000 Batu Pahat
6	Perniagaan Sawit Rimbunan Bukti Sdn Bhd	 Lot 3516, Parit Separap, MK 4, Batu Pahat, 83000, Johor, 83000 Batu Pahat
7	B S Hong Kelapa Sawit Sdn Bhd	 No. 497, Johor, 86400 Parit Raja, Batu Pahat, Johor

Table 3 Coding and Schematic Description of Malaysia Sustainable Palm Oil Standard.

No	Cases	Code
1	Pertubuhan Peladang Kawasan Parit Raja	PPR
2	Cemerlang Sawit Sdn Bhd	CS
3	Syarikat Perniagaan Sawit Tinta	PST
4	Bintang Ratna Sawit Sdn Bhd	BRS
5	Perniagaan Sawit Seri Medan Sdn Bhd	SSM
6	Perniagaan Sawit Rimbunan Bukti Sdn Bhd	SRB
7	B S Hong Kelapa Sawit Sdn Bhd	BSH

4.2. Research Objective 1: To investigate how to deploy the MSPO standard in the agriculture sector.

The first objective of this study is to investigate how to deploy the MSPO standard in the agriculture sector. In this section, data analysis and discussion are driven by chapter two's conceptual framework. Besides, to provide a detailed view of the MSPO Standard, primary data, secondary data and summary from academic scholars and industrial practitioners are included in the relevant section's discussion.

The Malaysian Sustainable Palm Oil (MSPO) Standards (MS 2530:2013 arrangement) were created as an intentional and industry-driven public accreditation standard aimed toward characterizing the standards and measures for supportable palm oil production. The Malaysian Palm Oil (MSPO) certification scheme is one of the national schemes in Malaysia specialized for certifying palm oil plantations, independent and organized smallholdings, as well as palm oil processing facilities to be certified according to the requirements of the MSPO standards. The MSPO standard provides an alternative verification system of sustainable practice for the palm oil sector. The MSPO Standards utilized in the program encompass a variety of Principles and Criteria in oil palm plantation management, palm oil processing, and supply chain traceability systems that take into consideration environmental, social, and economic factors.

The MSPO certification program was launched in 2014 and all the companies interviewed by researchers started to implement this certification in the first phase after launching. This program is well received by all companies and farmers that

are involved with palm oil producers. Pertubuhan Peladang Kawasan Parit Raja is one of the big organizations that are involved widely in the palm oil sector and started to implement this certification in their company in 2020. This company is a third party that is involved in the middle of palm oil transactions between farmers and palm oil factories. As a good company, they put in a tremendous effort to give the best service in their field.

Pertubuhan Peladang Kawasan Parit Raja brought an initiative to call out their customers to get exposure to MSPO Certification by inviting a representative from MPOB to give a seminar. This company also helps every farmer to apply for this certification by giving a form to make things easier for some people with limited access to the internet. There are a few problems faced by the farmer to apply for the certification. Some of the customers are elderly and some of them do not know how to access the internet. According to a representative from this company, some of the farmers have an issue with their land grant. They still did not get land grants even though they already cultivated the land for a long time. In order to ensure this campaign's success, this company appointed 2 staff to handle this application who are the Marketing Manager and the Palm Oil Input Manager. To make sure all the farmers get the information, this company takes the initiative to educate and influence the farmers using a prolonged campaign, unit meetings and make verification with all the registered customers in this company.

"We will start to implement this certification in this company starting in early 2020. We welcomed the government's call to implement the MSPO standard in our company. To make sure all our customers know about these certification requirements, we call every customer and make confirmation about their certification whether they already have the certification or not. If not, they need to bring their documents which are the photocopy of identification card and land grant. We help them to apply for the certification and hand it over to the owner when ready. We are taking this action because some of our customers do not have access to the Internet and most of them are elderly people. Some of our customers are having difficulties with their documentation because some of them still did not get the grant land even though they already cultivated the land for a long time. Just that, we are also inviting a representative from the nearest MPOB branch to give a seminar on MSPO certification. Given the substantial number of customers we handle, we have designated two staff members to oversee this campaign: the Marketing Manager and the Palm Oil Input Manager. We also make this awareness continuous through campaigns and unit meetings every place under this company."

(Respondent 1, Pertubuhan Peladang Kawasan Parit Raja)

According to Cemerlang Sawit, they started to implement this certification from 2020. This company gets exposure and information from the government itself about the order that obligates all farmers to apply for this certification before 2020 ends. This company appointed 1 staff to handle this certification which is from the Palm Oil Management unit. Cemerlang Sawit approaches their customers using flyers, calls and updating their information from time to time.

"We started to apply for this certification right after the government announced that these certifications are mandatory for all smallholding and farmers before the end of 2020. We get exposure and information from the government itself. To cater to this plan in our company, we appointed 1 staff to handle the process of MSPO implementation. We are also responsible for making sure all our customers know about the certification and they must have the documentation. So, we take an initiative to approach our customers by giving a flyer, making a call and keep updating their information from time to time"

(Respondent 2, Cemerlang Sawit Sdn Bhd)

Perniagaan Sawit Tinta is one of the companies selected by the interviewer as a respondent for this research. This company started to apply for this certification in early 2020. According to this company, there is no special staff appointed to handle this certification because they are still new to this certification process. They take the initiative to approach their customers by calling and asking them to provide a required document and send it to be proceeded by the staff.

"We started to apply for this certification in early 2020. We are still new and are trying to adapt to this certification as well as possible. Even though we are new, we also take action quickly to make sure we can manage this certification. We call our customers and ask them to bring their documents to our company to proceed as soon as possible."

(Respondent 3, Syarikat Perniagaan Sawit Tinta)

According to Bintang Ratna Sawit, they started applying for this certification since this certification has been launched for all companies in this country. They always get exposure and information from the nearest MPOB branch which is MPOB Parit Raja. They said that the procedure of MSPO Certification application is quite difficult for them because of several reasons, which are lack of documents, and the certification takes time to complete. In order to make sure all their customers have this certification to deal with them, they make sure to give exposure on MSPO Certification to all their customers and explain it clearly to them.

"We started to apply for this certification since this certification was launched by the government. We always get exposure and information from the nearest MPOB branch, which is MPOB Parit Raja because we operate in this area. If you ask whether the process of the MSPO certification application is to access or not, we will say it is quite difficult for us because some of our customers do not have complete documents and the certification takes time to be processed. We always remind and update all our customers about this certification to make sure they are all aware of this obligation."

(Respondent 4, Bintang Ratna Sawit Sdn Bhd)

Syarikat Sawit Medan, Perniagaan Sawit Rimbunan Bukti and B S Hong Kelapa Sawit Sdn Bhd said they approached all their customers by calling and updating all information about their customers in the database. They recorded all transactions with their customers with specific details such as date, time, weight and driver's name.

"As a responsible company, we make sure that we keep updating our customers to apply for this certification and we always keep updating our customers database. Right now, we make sure we record every data for every transaction to make sure we can trace any problem in the future. We will take specific details such as a customer's name, date, time, weight and driver's name. Usually, our customers will call our driver to pick up their palm fruit from their field and bring it to our weighing center."

(Respondent 5, Perniagaan Sawit Seri Medan)

From the analysis discussed in this study, all the case studies which are Pertubuhan Peladang Kawasan Parit Raja, Cemerlang Sawit Sdn Bhd, Syarikat Perniagaan Sawit Tinta, Bintang Ratna Sawit Sdn Bhd, Perniagaan Sawit Seri Medan Sdn Bhd, Perniagaan Sawit Rimbunan Bukti Sdn Bhd, and B S Hong Kelapa Sawit Sdn Bhd are already implemented the Malaysia Sustainable Standard Palm Oil Standard in their company. As buyers of palm fruit from independent farmers, they take various initiatives to make sure all their customers have this certificate before dealing with them. The summary of how to deploy the MSPO Standard in the agriculture sector is shown in the table 4 below.

Table 4 The Summary of Case Study How to Deploy MSPO Standard in the Agriculture Sector.

MSPO implementation	PPR	CS	PST	BRS	SSM	SRB	BSH
Government Support	Yes	No	No	Yes	No	No	No
Cost	Yes	No	Yes	No	Yes	No	Yes
Educational Level	Yes	Yes	No	Yes	Yes	Yes	No
Documentations	Yes	Yes	Yes	No	Yes	Yes	Yes
Expertise in the Company	Yes	Yes	No	Yes	Yes	Yes	Yes

All above show that the implementation of MSPO standards in the agriculture sector are applied thoroughly from smallholding to independent farmers. Most respondents indicate that they are taking maximum steps to convey information and raise awareness among all farmers about MSPO standard. They focus on maximizing the number of the MSPO certification holders as soon as possible because the certification is compulsory by the end of 2020. In line with the discussion, the implementation of MSPO standard in the agriculture sector not only affected palm oil processing facilities, but also has implication for independent and organized smallholding.

4.3. Research Objective 2: To Point Out the Benefit of Applying MSPO Standards in The Agriculture Sector

Objective two is to point out the benefits of applying the MSPO standard in the agriculture sector. Throughout this section, the researcher presents the benefits of the MSPO standard in all case studies.

4.3.1. Overcoming issue related to Malaysian palm oil

The implementation of the MSPO standard in the agriculture sector helps to overcome the issue related to Malaysian palm oil. Palm oil has been shown to be the most suitable option for biodiesel generation among all vegetable oils. MSPO will be implemented as a pragmatic and inclusive standard, applicable to all sectors in the oil palm supply chain. It will take the industry to a higher level of sustainability and transparency throughout the value chain of palm oil in Malaysia with the aim to improve accessibility, competitiveness and differentiation of Malaysian palm oil in the global market. The problem statement states there are a few issues regarding palm oil quality and child labour that disrupt the marketing of our palm oil internationally. According to Pertubuhan Peladang Kawasan Parit Raja, this certification helps the palm oil industry to counter the problem and defend Malaysian palm oil.

"We can see that lately there has been an issue regarding our palm oil. Some of the outside countries stopped their export of our palm oil because of certain issues. The topic of the issue is more to the quality of our palm oil and labour issue. Some of them claim that our palm oil is low quality. So, with this certification standard, we can argue them and prove that our palm oil is good to consume and the issues regarding the quality of our palm oil are manageable since we have a proper standard."

(Respondent 1, Pertubuhan Peladang Kawasan Parit Raja)

This point was also agreed by Sawit Rimbunan Bukti, who said the implementation of the MSPO standard can standardize the quality of palm oil since the MSPO standard is made for palm oil plantation, independent and organized smallholding also for processing facilities. This company argues that if all parties follow this rule, problems related to palm oil quality can be solved.

"The implementation of the MSPO standard can standardize our palm oil quality since the certifications are applied for all parties."

(Respondent 6, Perniagaan Sawit Rimbunan Bukti Sdn Bhd)

4.3.2. Traceability

Positive impressions and consequent behaviors occur throughout the implementation's life cycle, resulting in an effective implementation. If there is a negative impression of an implementation at any point during its life cycle, it may result in a low level of implementation. By implementing the MSPO standard, every detail about the farm will be recorded. Every farm detail and yield record will be updated. We can track the origin of fresh fruit bunches. According to Sawit Seri Medan, the implementation of the MSPO standard helps the company get to know every farmer who deals with them. They get clearer data about the farmers and the cultivated land. This can help the company avoid dealing with the wrong person and avoid buying the stolen palm fruit.

" What we realize, after the implementation of MSPO certification in our company and all the farmers who deal with us, we can recognize and know the details of our customers more thoroughly. Since we have recorded all the data from the certification, we can trace the owner of the palm fruit more easily and avoid confusion between the owners making the transaction. It is because some of the land is registered on shared ownership which is more than one name in the land grant."

(*Respondent 2, Cemerlang Sawit Sdn Bhd)*

4.3.3. Enhanced Productivity

The implementation of the MSPO standard in the agriculture sector helps to improve farm management. Small-scale production is a feature of the independent oil palm smallholder's sector. As a result, this sector is widely regarded as being unproductive and inefficient when compared to the estate sector's large-scale production system. According to Perniagaan Sawit Tinta, the implementation of MSPO standards in the agriculture sector which covers palm oil plantation, independent and organized smallholding also for processing facilities make a big impact on farm management. The MSPO application will enhance compliance with all legal requirements and introduce the best agricultural practices.

"As we can see, the implementation of the MSPO standard helps the farmer to manage their farm better. We have many types of customers, some of them do not really care about the quality of the palm fruit as long as the quantity of their palm fruit yield increases. Some of them never spend their money on fertilizer. After the implementation of this standard, we can see that there are improvements in farm management."

(Respondent 3, Syarikat Perniagaan Sawit Tinta)

4.3.4. Better waste management

One of the MSPO objectives is to reduce the environmental effect. According to Pertubuhan Peladang Kawasan Parit Raja, the implementation of the MSPO standard helps to manage waste better than before. They said that the guideline from the standard helps to guide the farmers and the smallholders to manage the waste. They said the guideline includes the ways to manage fertilizer packaging containers and poison containers properly.

"What we learn from the guidance, they guide us to do proper waste management towards the fertilizer packaging and poison container. Before this, we just throw away the waste without thinking about the effect on our environment."

(Respondent 1, Pertubuhan Peladang Kawasan Parit Raja)

4.3.5. Improving Company Performance

According to the data, all the respondents agree that the implementation of the MSPO standard helps improve company performance. Based on the data collected from the respondents, the implementation of the MSPO standard helps to improve the quality, and quantity which leads to an increase in company revenue. Thus, it gives a good picture of the performance of this company. Other than that, the MSPO standards help the company to manage the data of their customers more efficiently. All the data helps to trace the source of the palm oil.

"Talking about benefits, some of the benefits of MSPO that we can say is the improvement towards our company performance. The implementation of this standard helps us to increase our revenue. Other than that, we also improve our data management."

(Respondent 7, B S Hong Kelapa Sawit Sdn Bhd)

Therefore, the benefits of implementing the MSPO standard in the agriculture sector by all selected case studies are overcoming issues related to Malaysian palm oil, traceability of palm oil, enhancing productivity, better waste management and improving company's performance.

4.3.6. Overcoming issue related to Malaysian palm oil

The MSPO standards were created as Malaysia's response to the call of the agreed United Nations Sustainable Development Goals. Among the goals are sustainable production and consumption, ensuring food security and nutrition, ending poverty, combating climate change, halting biodiversity loss, land degradation and deforestation. The implementation of the MSPO standards is to determine the future direction of Malaysia's oil palm production, processing, and related policy.

The data showed that the respondents agree that the implementation of MSPO standards is bringing benefits toward the issue related to Malaysian palm oil, especially the quality of our palm oil. With this certification, we can prove our palm oil quality is the best. It also can help to increase the confidence of foreign countries to buy our palm oil and increase the country's export rate.

4.3.7. Traceability of palm oil

One of the many benefits of the MSPO standards in the agriculture sector is the traceability of palm oil. With the implementation of this certification, we can trace the origin of fresh fruit bunches. Other than that, all data about farm details and yield records will be available and updated.

From the data shown in Chapter 4, the respondent agrees that the implementation of the MSPO standards helps them to manage the information about the farm more efficiently. All the smallholders who want to buy palm fruit farmers need to record the owner's MSPO certification before buying palm fruit from their yield. If there is a problem with the palm fruit, they can trace it easily.

4.3.8. Enhanced Productivity

The implementation of the MSPO standards also brings the benefit of enhanced productivity of the yield. With these standards, all farmers can optimize yield production and gain more profit. Other than that, the respondent also agrees that the implementation of the MSPO standards can increase the quality and quantity of palm fruit production. The quality and quantity of the palm fruit depend on the harvesting procedures and the usage of fertilizer and poison. It also helps the farmer to have effective cost management in handling their yield.

4.3.9. Better waste management

Sustainability certification standards are not only designed to address social and environmental issues but are also designed to demonstrate positive impacts as a result of the implementation of better agricultural practices aimed at enhancing efficiency, farm management, improved social development and climate change adaptation. The implementation of the MSPO standards also leads to better waste management. According to the data collected in Chapter 4, the MSPO standards help guide the farmer on how to manage the waste wisely, especially harmful substances like poison and fertilizer packaging. This waste can harm the environment if not disposed of in a proper way.

4.3.10. Improving Company Performance

The benefits of the MSPO standards include improving company performance. Based on the data from respondents discussed in Chapter 4, the implementation of MSPO certification brings a good effect on this field. The MSPO standards bring improvement towards the sale of palm oil and help reduce the problem regarding palm oil. Thus, it automatically improves the company's performance in terms of income in the company. Other than that, the management of the data and information about the customers can be fixed.

5. Conclusions

The oil palm industry in Malaysia plays an important role in the growth of the agricultural sector in this country through its contribution to the Gross Domestic Product (GDP), foreign exchange, and employment. Oil palm demands are continually increasing as it can produce high yields and low production costs. The MSPO standard is one of the government initiatives for maintaining the Malaysian palm oil industry. MSPO certifications are not only designed to address social and environmental issues but are also designed to demonstrate positive impacts as a result of the implementation of better agricultural practices aimed at enhancing efficiency, farm management, improved social development and climate change adaptation. Researchers agree that the implementation of MSPO standards in the agriculture sector brings a good impact on the economy and environment.

There are several implications for practitioners and policymakers from these findings. The authorities should take into account focused initiatives publicizing the MSPO Certification Scheme to increase awareness of its presence and legitimacy to a wide spectrum of stakeholders, both local and worldwide, is imperative in order to boost consumer markets' confidence in MSPO certification.

In order to achieve sustainability as a part of the agriculture sector, the researcher conducted this case study to study how to deploy MSPO standards in the agriculture sector, the pre and post-effect of MSPO certification and the benefits of MSPO standards in the agriculture sector by targeting seven selected case study that has been implementing MSPO standard in their management and operation. In conclusion, all sectors involved with palm oil production have begun to practice this certification on their part.

6. Limitation of Study

A number of limitations were identified in this study, which actually forms the basis for some further studies. The limitations are related to the study's methodology and resource challenges. The discussion that follows will explain these limitations and the steps taken to reduce the impact they could have had on the results and findings of the study.

The study is conducted through a combination of semi-structured interviews, a case study approach, and document analysis. However, there were inadequacies in these data collection methods. Although the study agrees that these methods are complementary and capable of creating a backup for the inadequacies, there are still some challenges in their use that need to be addressed by the researcher. For example, with the busy manager schedules and other respondents involved in day-to-day reporting on their daily activities, the time given for the interview session is not completely utilized. Occasionally, due to phone calls and urgent problems, the interview session is disrupted if it is shortened or takes longer. In the researcher's opinion, due to their busy schedules, the respondents tend to answer hastily and without much thought on their answers. Nevertheless, the researcher did follow-up interventions to seek clarification and further elaborations to resolve the issue.

The implementation of MSPO standards in the agriculture sector is still new in Malaysia and there are only a few that have implemented the standards into their operation and management. In this case, the researcher chose Pertubuhan Peladang Kawasan Parit Raja, Cemerlang Sawit Sdn Bhd, Syarikat Perniagaan Sawit Tinta, Bintang Ratna Sawit Sdn Bhd, Perniagaan Sawit Seri Medan Sdn Bhd, Perniagaan Sawit Rimbunan Bukti Sdn Bhd, and B S Hong Kelapa Sawit Sdn Bhd as the case study. This is because some of the smallholdings just applied for this certificate recently.

The current study could serve as a starting point for many future studies regarding the Malaysian Sustainable Palm Oil standards. Recommendations can solve the current limitation that has been shown in the previous section. Based on the literature review, the results of the current study, the study's limitations and strengths, there are recommendations for future studies, including:

I. Conduct a study on how long time is taken to see the improvement after MSPO standards implementation.
II. Conduct a study to identify the factors that influence the level of MSPO implementation towards small farmers.

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Ethical considerations

Not applicable.

Conflict of Interest

The authors have no conflicts of interest to declare.

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