

Session:

# **Sustainability**

# The Readiness of Secondary School Teachers for Sustainable Palm Oil Themed-Based Teaching and Learning

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## ABSTRACT

*Nowadays, most Malaysian younger generations are no longer interested in venturing into the plantation industry, especially oil palm plantations. Consequently, stakeholders have endeavoured various school-based oil palm promotion and educational programmes to increase students' interest in the industry. However, as delivery agents, teachers need to be prepared to ensure the success of these programmes. Therefore, this study aims to identify teachers' readiness to facilitate sustainable palm oil themed-based teaching and learning. The data were collected using an online survey questionnaire from 421 randomly selected secondary school teachers. The sets of online questionnaires were distributed through social media. Data were analysed descriptively to obtain frequency, percentage and means. The findings revealed that teachers' readiness in knowledge on the sustainable palm oil industry is at a moderate level. The teachers also show a moderate level of readiness to facilitate sustainable palm oil themed-based teaching and learning process. Moreover, most respondents agree that the lack of knowledge about the palm oil industry poses the biggest challenge in facilitating the palm oil themed-based teaching and learning process. The study's results highlight the need for appropriate educational programs for teachers and students to ensure the younger generation in Malaysia has adequate knowledge and is highly interested in venturing into the sustainable palm oil industry. The findings of the study also show that most respondents choose the method of teaching outside the classroom and project-based learning as the main approach in thematic teaching of the sustainable palm oil industry.*

**Keywords:** teachers' readiness, knowledge, pedagogy, sustainable palm oil industry

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# Oil Palm Planter Readiness to Adopt Green Pesticide: A Conceptualization

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## ABSTRACT

*Oil palm planters still prefer utilizing conventional pesticides in the oil palm sector based on effectiveness and economic worth despite hazardous environmental drawbacks. Current studies worldwide aim to investigate the metabolites derived from biological creatures (fungi, hormones, and animal toxins) to produce green pesticides in place of conventional counterparts. Notwithstanding, large-scale green pesticide utilization poses multiple challenges in the Malaysian oil palm industry, including climate compatibility, green pesticide obtainability, and oil palm planters' commitment to adopt sustainability principles. This research intends to adopt the theory of planned behavior or TPB (attitude, subjective norms, and perceived behavioral control or PBC) for a sound conceptualization framework of green pesticide adoption impacts among Malaysian oil palm planters. The Malaysian Sustainable Palm Oil (MSPO) was specifically employed as a moderator to optimize planters' preparedness levels and assess the research outcomes. This paper draws research propositions for oil palm planter's intentions to adopt green pesticides. The proposition will lead to future empirical findings which is anticipated to facilitate the industrial transition towards utilizing environmentally-friendly pesticides.*

**Keywords:** Oil palm planter, TPB, green pesticide, MSPO, sustainability

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## The Effects of Sustainability Practices, Innovativeness and Extension Officer Competency on Oil Palm Cooperative Performance: A Moderated Mediation Model

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### ABSTRACT

*Since the early days, cooperatives have crucial roles in eradicating poverty and empowering the community based on Rochdale's principles. Indeed, cooperative's principles and sustainable development concepts for long-term economic viability, social inclusiveness, and environmental prosperity rather than profit maximisation are indisputable. This study attempts to pursue this line of research by examining the effects of sustainability practices (SP) as a second-order construct encompassing social, economic, and environmental dimensions and how it influences cooperative performance through innovativeness that serves as the potential mediator. This study also responded to the call to examine the conditions in which extension officer competency (EOC) may create different effects on cooperative performance. The analysis focuses on the performance of oil palm cooperatives because of their pertinent roles in improving the wellbeing of the independent oil palm independent smallholders (OPISH). Based on 185 sets of data collected from the board members of oil palm cooperatives, it is revealed that SP predicted cooperative performance through a moderated (EOC) and mediation (innovativeness) relationship. The theoretical implication of this study validates a moderated mediation model that is highly relevant to cooperative performance. This model provides novel insights that cooperatives with higher SP are found to acquire higher innovativeness under the condition of strong EOC. This crucial insight posits that competent extension officers are pertinent in helping OPISH consistently, thus amplifying the significant effects of SP on cooperative performance through innovativeness.*

**Keywords:** Oil Palm Cooperatives, Sustainability Practices (SP), Innovativeness, Extension Officer Competency (EOC), Cooperative Performance

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## Toward the Sustainability: The Role of Bio-diesel Demand in Stabilizing the Palm Oil Price in Malaysia

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### ABSTRACT

*Due to the future environmental benefits, biodiesel has received significant attention as an alternative fuel. In Malaysia, palm oil is the primary feedstock for biodiesel production. Due to the palm oil industries' dynamic growth, this sector is vital to Malaysia's national economy. The palm oil industry's growth has led to an increase in Malaysia's potential as a significant player in the oleo-chemical and biodiesel industries. Thus, based on the law of demand and supply, the increase in biodiesel usage is expected to boost its feedstock price. So, higher demand for biodiesel is expected to increase the palm oil price. The latest news from The Malaysian Reserve highlighted that B20 biodiesel is expected to be available throughout Malaysia by June 2021. Thus, the biodiesel demand factors could stabilize palm oil price as the main aim of the National Biofuel Policy? What is the nature of the relationship between demand factors of bio-diesel on palm oil price? Thus, this study's objectives are to (1) conceptualize the domestic bio-diesel demand model and (2) identify the long-run relationship of selected bio-diesel demand factors to the palm oil prices in Malaysia. Some significant and interesting findings are highlighted as the research outcomes provide some insights into sustainable energy design, which is one of our national agendas on Sustainable Development Goals. The findings will roll out new initiatives in the palm oil and bio-diesel industry and development for all.*

**Keywords:** Malaysia, biofuel, Palm oil price, environmental, Sustainable Development Goals

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# Sustainable Logistics Issues in the Indonesian Palm Oil Industry: The Supply Chain Management Context

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## ABSTRACT

*The purpose of this study is to assess the implementation of Indonesian sustainable palm oil (ISPO) about the logistics sustainability of Indonesian palm oil companies by employing internal resources and maximizing stakeholder engagement. This study is conducted by qualitative approach. The study will propose a conceptual framework that can be used to effectively manage logistics sustainability, by implementing ISPO, utilizing internal resources and engaging successfully with stakeholders. An assessment of the implementation of Indonesian sustainable palm oil (ISPO) for ensuring logistics sustainability is applied.*

**Keywords:** Logistics sustainability, Indonesian sustainable palm oil (ISPO) companies, Stakeholder theory

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# The Palm Oil Industry in Nigeria and Malaysia: Decline and Sustainability

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## ABSTRACT

*Oil palm is a west African crop. The trade in palm oil has emerged during the industrial revolution led by Britain, this palm oil was used to lubricate machines. In 1960s, Nigeria was the largest producer of palm oil globally, which accounted for the 43% of palm oil production entirely, but then the entire production declined due to some factors that slowed the palm oil production growth. While in Malaysia, oil palm production serves as the leading and contributing sector to its economy; and it also achieved recognition globally. Palm oil has made a huge contribution to Malaysia economic growth by providing employment, improving infrastructure, alleviating poverty, and generating income for workers and government. This paper objective is to explore the Nigerian decline and Malaysian sustainability on palm oil. It is a qualitative paper, it used primary and secondary method to collect data. The primary method used open-ended interview to collect data, while the secondary method used documents such as: books, journal, conference papers to collect data; and it employed inductive thematic analysis for analysing the interview data collected. It used Atlas ti 8 software to help analyse the data. The finding is Nigerian decline which includes: Oil Boom in 1970s and Decline in agriculture, Civil War, and Traditional Palm Oil Production; and Malaysian sustainability on palm oil includes: Environmental Consciousness, Economic Escalation, and Social Commitment. In conclusion, Nigeria has to learn from Malaysian sustainability to recover its production.*

**Keywords:** Oil Palm, Palm Oil, Nigerian Decline, Malaysian sustainability

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## Comparative Analysis of Current Biomass Utilization by Palm Oil Mills in Peninsular Malaysia

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### ABSTRACT

*Oil palm biomass which include empty fruit bunches (EFB), mesocarp fibres (MF), palm kernel shells (PKS) and palm oil mill effluent (POME) are no longer seen as low-value residues but valuable economic resources that may contribute positive impact towards national wealth. The abundance of the oil palm biomass can be converted into high value-added products which in turn can generate additional revenue to the country. The study aims to identify current biomass utilization by palm oil mills in Peninsular Malaysia and to examine economic viability of biomass products generated by these mills under the different categories. This study uses primary data through census to all 242 MPOB registered palm oil mills in Peninsular Malaysia. The data analyse using descriptive analysis and cost-benefit analysis. The study found that incineration is the most profitable activity for EFB, followed by selling the EFB to other parties. However, due to environmental regulation and lack of market for EFB, most of the resources (62.4%) was either returned to the plantation or sent to the landfill. In addition, 92.4% of MF generated was utilised for electricity generation through in-house boiler and this alternative has been proven to give maximum profit to the palm oil mills. The study also found that although selling PKS to other parties was proven to provide better profit to the palm oil mills, due to lack of market for PKS, most of PKS have been utilised for electricity generation through in-house boiler. Lastly, there was no added benefits to the palm oil mills as there was no significant difference in utilization the sludge from POME either used for plantation or sold to other parties.*

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