

CHAPTER 7 SUSTAINABILITY FACTORS IN MALAYSIAN PALM OIL

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7.1 INTRODUCTION

The palm oil industry has been vital to Malaysia. Malaysia subsequently plays a role in the agricultural sector's growth through the gross domestic product (GDP). However, some previous research describes the negative impact of palm oil on land in Malaysia. According to Lee et al. (2016), there were many issues in palm oil estates, such as deforestation of natural habitats, extinction of biodiversity, and global climate. Tang and Al-Qahtani (2020) also stated that the environmental sustainability of palm oil in Malaysia has an ecological impact, such as biodiversity. Alam et al. (2015) stated that the major contemporary issues of the palm oil industry are biodiversity, plant infections, forest fires, and carbon dioxide. Malaysia lost 85% of primary forest species in oil palm plantations due to the invasion of non-forest species such as ants and rats. This has caused an increase in predators such as blood pythons, barn owls, and leopard cats. There was also serious concern about plant infections caused by a soil-borne fungus, *Ganoderma*. It is a wood-decaying fungus that can affect many types of trees, including palm oil trees.

On the other hand, regarding social issues in the palm oil industry. Some research on a worker's well-being in a palm oil plantation, especially on ergonomic illness, is also severe. According to Ng et al.

(2013), injuries or disorders of the locomotor apparatus, the muscles, nerves, tendons, joints, and cartilage of the upper and lower limbs, neck, and lower back, and musculoskeletal disorder (MSD) or work-related MSD have been commonly associated with agricultural practices. Another social sustainability issue regarding palm oil plantations is more foreign workers than local workers in palm oil plantations. According to Tang and Al-Qahtani (2020), 77% of plantation workers were foreign nationals, equivalent to approximately 329,600 out of the 428,000 workers employed in the Malaysian oil palm sector.

Hence, Malaysia has developed a Malaysia Sustainable Palm Oil (MSPO) principle for smallholder and large palm oil companies to achieve palm oil sustainability in the Malaysia palm oil sector. The government has made it mandatory by the end of 2019 to align with the MSPO standard regarding company management of palm oil production with many existing national laws and regulations. The MSPO certification will provide credible, sustainable, and responsible management to bring about positive social, environmental, and economic impacts while minimizing the negative impacts.

One of the principles of MSPO is management commitment and responsibility, followed by transparency. Transparency in this context means openness between managers and workers. The following principle is social responsibility, health and safety, and employment conditions; the continued following principle is compliance with legal requirements. Subsequently, the principle is environmental: Natural resources, biodiversity, and ecosystem services. Afterward, a best practice means a set of guidelines, ethics, and ideas in the workplace in the palm oil industry. The last principle is the development of new plantings. As can be concluded, the seven principles of MSPO cover all sustainability factors. If all the owners of palm oil plantations apply and are certified by MSPO, the sustainability of palm oil will rise, and the major issue contributed by palm oil plantations can be reduced. This research aims to identify sustainability factors of palm oil and determine which factor has a higher influence on palm oil sustainability based on the young generation's perspective. This research also focuses on

determining the relationship between sustainability factors and MSPO development. The findings of this research will bring advantages to the industry. This research will be vital, especially to the palm oil plantation owner, whether a smallholder or a large company. It can help them to be more practical regarding their management of palm oil plantations.

7.2 MALAYSIAN PALM OIL

Palm oil is one of the leading vegetable oil industries worldwide. Palm oil has become commonly used in every country as cooking oil since it has no cholesterol and is very heat resistant. *Elaeis guineensis*, or palm oil, is an edible vegetable fruit that comes from the fruit of palm oil trees (Teoh, 2002). Two types of oil can be produced: Crude palm oil (CPO) and palm kernel oil (PKO). CPO is the main product for all oil palms obtained from the mesocarp and yields around 15–18% of fresh fruit bunches processing. It can be obtained by pressing the fleshy fruit.

Meanwhile, PKO is white palm oil. It was obtained from the seed known as the kernel or endosperm. It can be done by crushing the kernel or the stone in the middle of the fruit. When the oil has been extracted from the kernel, what remains is known as palm kernel cake. Palm oil trees are native to Africa, but they were introduced to Southeast Asia as an ornamental tree crop over a century ago. Indonesia and Malaysia account for more than 85% of global production from 42 other producing countries. The uses of palm oil consisted of two main parts. There are edible and inedible products. In Africa, palm oil is created as palm wine. Palm wine is a well-known commodity that can be made near the market.

The sap can be collected by tapping the growing point of a felled palm, after which the sap ferments naturally. At one time, the income received from tapping the male inflorescences for palm wine was more incredible than that from palm oil and palm kernels. Today, palm oil is used as a cooking and frying oil. Shortenings, margarine and spreads, confectionery, and non-dairy products are also palm oil products mixed with other elements. On the other hand, the inedible products of palm