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A Comparative Study of Crude Palm Oil Exports to Main Producing Countries in ASEAN

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ABSTRACT
This study aims to analyze and compare the export performance of Crude Palm Oil (CPO) from Indonesia, Malaysia, and Thailand, as the leading producers in ASEAN, from 2014 to 2023. This research uses a descriptive quantitative approach to evaluate production, consumption, export volume, export value, and competitiveness through the Market Share Index (MSI) indicator. The results indicate that Indonesia dominates the global CPO market, with the highest average export volume and export value compared to Malaysia and Thailand. Domestic policies, such as export restrictions, and global market dynamics influence Indonesia's export value fluctuations. Malaysia demonstrates stable production and domestic consumption but faces challenges in enhancing its international competitiveness. As the smallest producer, Thailand shows steady growth but contributes significantly less than the other two countries. Factors such as government policies, changes in global prices, and extreme weather conditions affect the export performance of all three countries. This study is expected to provide strategic insights for improving the competitiveness of CPO exports in the international market.

Keywords: Crude Palm Oil (CPO), Export Performance, Market Share Index (MSI).

I. Introduction

A country's economic health can be assessed by the contribution of its exports to national economic growth. The higher the volume and value of exports, the greater their impact on increasing foreign exchange reserves, creating jobs, and developing local industries. One of Indonesia's key export commodities is Crude Palm Oil (CPO). Its production is concentrated in Sumatra, Kalimantan, and Riau (BPS, 2023). In the context of international trade, Indonesia's CPO exports significantly contribute to the national economy. Susila (2004) stated that "CPO exports not only enhance the country's foreign exchange earnings but also strengthen Indonesia's position in the global market, particularly in the trade of vegetable oils." CPO exports also have a broad economic impact, ranging from improving the welfare of farmers to creating jobs in the processing industry.

Indonesia's CPO, classified under HS code (151110), accounts for 13.13% of the total types of CPO available. Furthermore, our CPO is widely exported to various countries, including ASEAN nations such as Malaysia and Thailand. CPO exports represent a significant portion of Indonesia's total non-oil and gas exports, contributing significantly to the country's foreign exchange earnings (BPS, 2023).

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Indonesia is the world's largest producer of Crude Palm Oil (CPO), with total production exceeding 44 million metric tons, which accounts for 57% of the global output. Malaysia ranks second, producing 19.71 million metric tons and controlling 26% of the worldwide market. Thailand is third with a 3.6 million metric tons production, representing a 5% share of the global output (USDA 2023/2024).

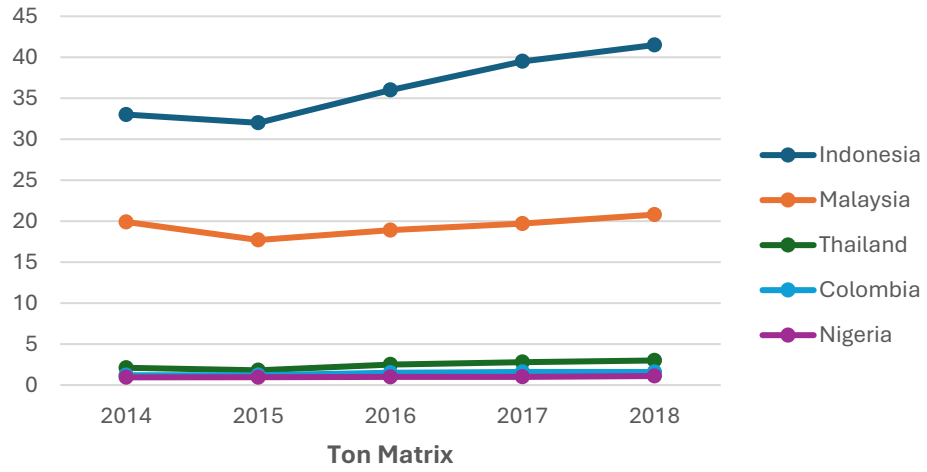

Figure 1. CPO Production in Indonesia, Malaysia, and Thailand from 2014 to 2018
Source: U.S. Department of Agriculture (2014-2018)

Based on the data in Figure 1, Indonesia is the world's largest producer of Crude Palm Oil (CPO), contributing 57% to global production, with the highest output reaching 41.5 million metric tons in 2018. Malaysia ranks second, accounting for 26% of the global output, with its peak CPO production reaching 20.8 million metric tons in 2018. Thailand is third, contributing 5% to global production, with a maximum output of 3 million metric tons in 2018. Following Thailand, Colombia ranks fourth, with a peak production of 1.6 million metric tons in 2018, contributing 2% to global production. In fifth place is Nigeria, with a maximum output of 1.1 million metric tons in 2018, contributing 2% to global production.

The production gap between Indonesia and Thailand is significant, indicating that Indonesia dominates the global CPO market.

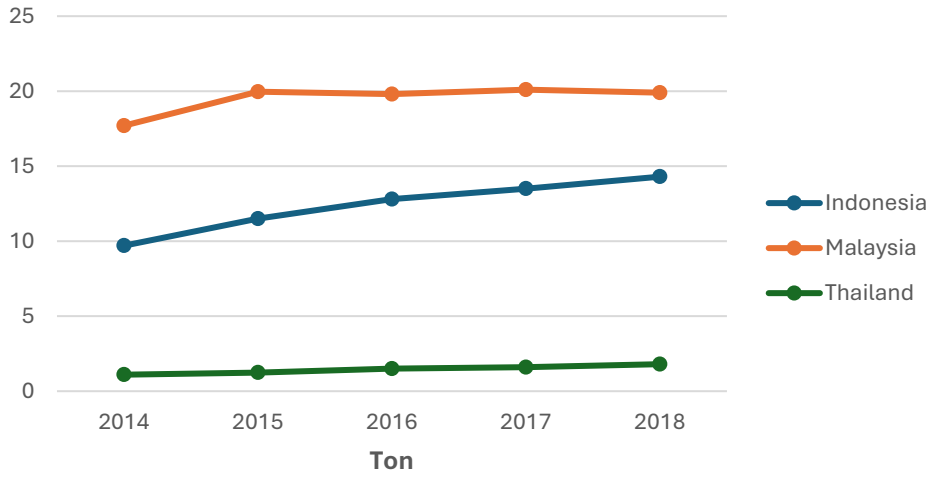

Figure 2. CPO Consumption in Indonesia, Malaysia, and Thailand from 2014 to 2018
Source: U.S. Department of Agriculture (2014-2018)

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The consumption of CPO in Indonesia, Malaysia, and Thailand from 2014 to 2018 shows significant differences, reflecting each country's market dynamics and policies. During this period, Indonesia's CPO consumption was recorded at 9.7 million tons in 2014 and continued to rise, reaching 11.5 million tons in 2015. Indonesia's consumption increased steadily in the following years, reaching 14.3 million tons by 2018.

Meanwhile, Malaysia had relatively stable CPO consumption, which was higher than that of Indonesia. In 2014, Malaysia recorded consumption of around 17.7 million tons, with slight increases in subsequent years. However, by 2018, Malaysia's consumption slightly decreased to 19.9 million tons. On the other hand, Thailand recorded the lowest consumption among the three countries. 2014 Thailand's CPO consumption was only 1.1 million tons, increasing gradually yearly. The highest consumption for Thailand during these five years was recorded in 2018 at 1.8 million tons, although this figure remained significantly below the consumption levels of Indonesia and Malaysia.

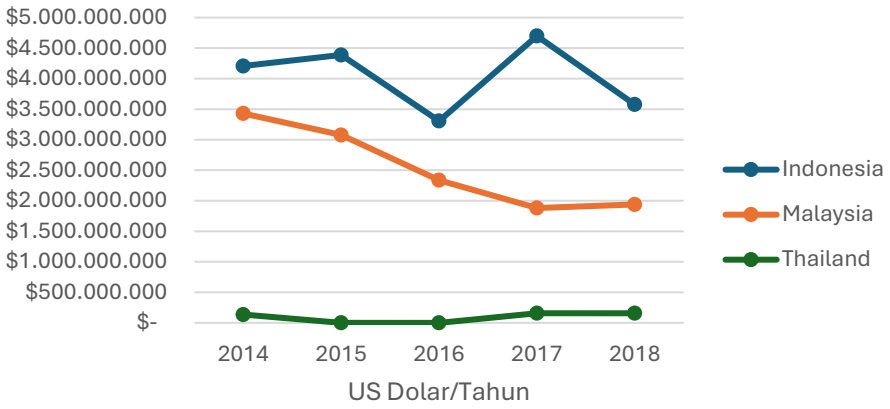

Figure 3. Export Value of CPO in Indonesia, Malaysia, and Thailand from 2014 to 2018
Source: UN Comtrade (2014-2018).

Based on the data over the five years, Indonesia dominated the export value of CPO, with an average export value of $3.771,954.813 billion. This figure fluctuated from 2014 to 2018. Malaysia ranked second, with an average export value of $2.999,892.072 billion, which decreased from 2014 to 2017 but surged in 2018. Thailand was in the third position, with an average export value of $320.695,804 million. This value fluctuated between 2014 and 2018, reaching its highest point at $157.246,958 million in 2017. The data indicates that Indonesia led in CPO export volume compared to Malaysia and Thailand.

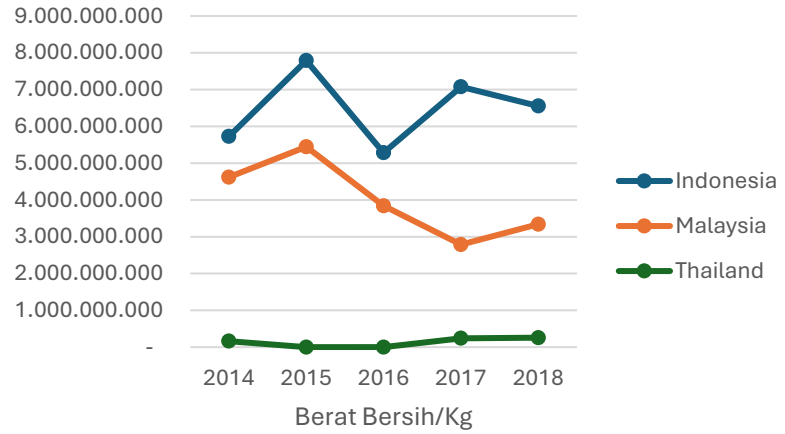

Figure 4. Export Volume of CPO in Indonesia, Malaysia, and Thailand from 2014 to 2018
Source: UN Comtrade (2014-2018).

ISSN [Online]: 2797-5827

Based on the data, Indonesia still dominates with an average export volume of 5,655,809,283 kilograms, fluctuating from 2014 to 2018. Malaysia ranked second, with an average export volume of 4,049,426,395 kilograms, which also fluctuated annually. Thailand was in third place, with an average export volume of 331,276,013 kilograms, which fluctuated yearly. This study compares the production, consumption, export volume, and export value of CPO among Indonesia, Malaysia, and Thailand using historical data from the U.S. Department of Agriculture, UN Comtrade, BPS, and other sources. The primary focus of this research is to analyze the differences in export production, consumption, export volume, and export value, and assess the export competitiveness of CPO from the three countries using the Market Share Index (MSI). By understanding the trade dynamics among CPO-producing countries in ASEAN, this study is expected to provide relevant insights.

II. Literature Review and Hypothesis Development

2.1 International Trade Theory

International trade is defined as trade between nations, encompassing exports and imports. It involves transactions of goods and services between countries, conducted by individuals or institutions engaged in such trade (Naufal, 2021).

2.2 Export Theory

Exports refer to the shipment of goods from Indonesia's customs area to other countries, adhering to applicable regulations, particularly those related to customs procedures (Tanjung, 2011).

2.3 Production Theory

The production theory, also known as the factor proportions theory, explains that differences in productivity among countries are caused by the quantity or proportion of productive factors they possess. This theory also suggests that countries specialize in producing and exporting certain goods (Heckscher & Ohlin, 1933).

2.4 Export Volume Theory

This theory is related to the theory of supply and demand, explaining that the interaction between international demand and domestic supply determines export volume. When global demand for a product increases, the export volume also tends to increase (Marshall, 1890).

2.5 Export Value Theory

This theory is also related to the theory of supply and demand. According to this theory, a country's export value is determined by the international market demand for the goods and services it produces and the quantity of goods available for export. Changes in global economic conditions, such as recessions or economic growth, can influence demand and export value (Krugman & Obstfeld, 2009).

2.6 Role of Literature Review and Hypothesis Development

The Literature Review and Hypothesis Development section positions your research within the existing body of knowledge, identifies gaps, and logically develops your hypotheses. Begin by summarizing the main themes and topics related to your research, highlighting the most relevant theories, models, or findings in the field. This demonstrates a comprehensive understanding of the academic landscape and contextualizes your study.

ISSN [Online]: 2797-5827

2.7 Hypotheses

The hypotheses proposed in this study are formulated based on the research objectives and variables under investigation. These hypotheses reflect the expected relationships between the variables involved in importing Crude Palm Oil (CPO) in Indonesia, Malaysia, and Thailand. The three main hypotheses are as follows:

- Hypothesis 1: There is a significant difference in CPO production among Indonesia, Malaysia, and Thailand from 2014 to 2023. This study assumes that, as the largest producer, Indonesia will demonstrate production figures significantly higher than those of Malaysia and Thailand.
- Hypothesis 2: The consumption of CPO in Indonesia is higher than in other major producing countries in ASEAN.
- Hypothesis 3: The export value and volume of CPO from Indonesia are higher than those of other major producing countries in ASEAN. By analyzing the export value data, Indonesia is expected to show higher figures than Malaysia and Thailand.

2.8 State of the Art (SOTA)

Table 1. State of the Art

No	Title, Author(s), Year	Variables/Theory/Phenomenon	Findings
1	Comparative Study of Determinants of Crude Palm Oil (CPO) Export Performance Between Indonesia and Malaysia, Sri Pertiwi Permadani, 2017	**Variables:** Importing countries' GDP per capita, product prices, inflation in importing countries, and export value.	• Global CPO prices influence the world's largest CPO exporters. • Price determines the export value. • Influenced by inflation and GDP per capita of importing countries.
2	Comparison of the Competitiveness of Indonesian and Malaysian Palm Oil in the Pakistani Market (Firdaus et al., 2022)	**Variables:** Competitiveness, Palm Oil Export	• Indonesia's palm oil performance is highly influenced by output (GDP). • Import tariffs play a significant role.
3	Comparative Competitiveness of Indonesian and Malaysian Crude Palm Oil in Major Export Destinations (Saban & Novianti, 2023)	**Phenomenon:** Competitiveness analysis between Indonesian and Malaysian CPO measured using RCA (Revealed Comparative Advantage) and MSI (Market Share Index).	• Indonesia has a higher comparative advantage than Malaysia overall. • In the Italian and Kenyan markets, Indonesia shows a lower comparative advantage. • The 2020–2021 MSI values are higher.
4	Competitiveness Analysis of Indonesian and Malaysian Palm Oil Exports in the International Market (Hadi & Ermi Tety, n.d)	**Variables:** Competitiveness, palm oil exports of Indonesia, and Malaysia	• The standard growth effect is positive. • Indonesian palm oil is more competitive. • The RCA index for Indonesian palm oil is lower than Malaysia's. • Net export ratio and total trade value of palm oil are favorable.
5	Competitiveness and Export Trends of Indonesian CPO in the Indian and Chinese Markets	**Variables:** Competitiveness, CPO export, Indian and Chinese markets	• China is a potential market. • The model predicts a decline in CPO prices.

No	Title, Author(s), Year	Variables/Theory/Phenomenon	Findings
	(Wahyuningsih & Budiarto, 2020)		
6	The Performance of Indonesian Crude Palm Oil Export (Mora et al., 2021)	**Variables:** CPO, palm oil export	• Indonesia's CPO production and export trends are increasing. • Indonesian CPO has higher competitiveness. • Changes in CPO export volume influence international CPO prices, Indonesia's GDP, and population size.
7	The Competitiveness of Indonesian Crude Palm Oil in the International Market (Zuhdi et al., 2021)	**Variables:** CPO, International Market	• Indonesian palm oil has a comparative advantage in international markets. • Technological and scientific resources support the enhancement of palm oil competitiveness.

2.9 Research Framework

This study analyzes Indonesia's position in the export of Crude Palm Oil (CPO) compared with other major producing countries in ASEAN, such as Malaysia and Thailand. The volume of exports, factors influencing supply and demand, and the marketing strategies employed by each country are important issues to be examined. By understanding the export dynamics of these three countries, the production volume, consumption quantity, and export value can be evaluated to assess the success of CPO exports in Indonesia compared to its neighboring countries.

Furthermore, this study will discuss the challenges and opportunities faced by Indonesia in increasing its global market share of CPO. An evaluation of government policies in each country will provide insights into the significant differences in their approaches to CPO exports. In addition, understanding effective marketing strategies will help identify steps Indonesia can take to strengthen its position in the international market. Thus, this study focuses on descriptive quantitative data related to export volume and value and qualitative analysis of factors influencing the CPO industry. The conceptual framework of this study is presented in the following diagram:

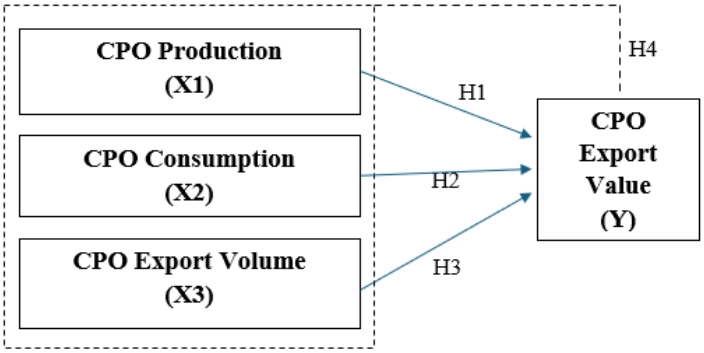

Figure 5. Research Framework

Conclude this section by summarizing how the literature review and hypotheses align with your research objectives, emphasizing the potential contribution of the study to theory, practice, or policy.

ISSN [Online]: 2797-5827

Therefore, based on this relationship, the hypotheses proposed in this study are based on the diagram presented.

III. Research Method

The research method used in this study is a descriptive quantitative method, designed to test the relationship between variables related to the export of Crude Palm Oil (CPO) in Indonesia. The descriptive quantitative method describes or depicts a phenomenon using measurable or recordable data in numerical form. This method aims to provide a clear picture of the condition or characteristics of the research object (Sugiyono, 2016). The quantitative approach was chosen for its ability to collect and analyze numerical data systematically. Through this method, researchers can extract measurable data that can be statistically analyzed, providing a clearer understanding of the dynamics of CPO exports in Indonesia. This study's descriptive analysis will provide a general overview of the data characteristics, including production quantity, export volume, production volume, and CPO export value.

West, Ford, and Ibrahim (2015) stated that market share represents the percentage of a company's control over a product's total market (market segmentation). There are several functions of market share analysis, including measuring the company's scale (Indonesia as an exporter), measuring the percentage of success (market control), and serving as evaluation material (CPO trade). Analyzing the market share of a commodity can be done by calculating the market share using the formula (Hardianti, 2019):

$$MSI = \frac{X_{ia}}{M_{ib}}$$

Description:

- MSI: market share of a country's product
- X: total export of product i to country b
- M: total import of product i
- a: exporting country
- b: importing country
- i: product i (CPO)

The higher the MSI value, the broader the market share of a company or a country's commodity. Conversely, the lower the MSI value, the smaller the company's or country's market share for the export commodity (CPO). The research object includes CPO production, volume, consumption, and export value data in Indonesia, Malaysia, and Thailand. The primary focus of this study is to analyze the comparison between Indonesia and other major CPO-producing countries in ASEAN. In this context, the study aims to understand how Indonesia's CPO export performance compares with that of neighboring countries, which are also major producers. The research variables identified consist of three important aspects:

1. CPO production will be measured in metric tons (MT), covering annual data from 2014 to 2023.
2. CPO consumption will be measured in million tons, covering annual data from 2014 to 2023.
3. Export volume will also be measured in metric tons, indicating the amount of CPO exported by each country, with annual data covering the period from 2014 to 2023.
4. Export value will be measured in USD, representing the total export value of CPO from each country, covering annual data from 2014 to 2023.

Thus, this study will provide a comprehensive overview of CPO export performance at the regional level.

ISSN [Online]: 2797-5827

The data sources used in this study are crucial to ensure the accuracy and relevance of the information analyzed. Primary data are obtained from official and recognized sources, including the Central Bureau of Statistics (BPS). Additionally, data from the U.S. Department of Agriculture (USDA) and UN Comtrade will be utilized to obtain historical information on production volume, export volume, production quantity, and export value of CPO, including the significant contributions of Indonesia, Malaysia, and Thailand.

IV. Results and Discussion

4.1. Analysis Result

This study employs a descriptive quantitative approach, where this chapter presents the analysis results related to comparing Crude Palm Oil (CPO) exports between Indonesia, Malaysia, and Thailand as the three major producing countries in the ASEAN region. The data analyzed spans ten years from 2014 to 2023. The resulting data will be presented numerically and derived from accurate sources. The analysis is based on production data, consumption, export volume, export value, and competitiveness by calculating the Market Share Index (MSI). The comparative analysis of CPO exports from Indonesia, Malaysia, and Thailand is determined using a descriptive quantitative approach and is organized using tables. The results will be discussed and compared to identify which country excels in CPO exports within the ASEAN region, as well as the factors that contribute to the fluctuations in the figures for production, consumption, export volume, and export value.

Table 2. Descriptive Statistics of Research Variables

Indonesian CPO (Crude Palm Oil)				
Year	**CPO Production (X1) in Million Metric Tons**	**CPO Consumption (X2) in Million Tons**	**Export Volume (X3) in Kilograms**	**Export Value (Y1) in USD**
2014	33	9,7	5.726.820.329	$4.206.741.340
2015	32	11,5	7.788.549.862	$4.388.094.011
2016	36	12,8	5.283.953.440	$3.305.575.089
2017	39,5	13,5	7.076.062.634	$4.698.219.582
2018	41,5	14,3	6.554.497.185	$3.576.824.756
2019	42,5	15,1	7.401.795.461	$3.641.686.781
2020	43,5	17,5	7.169.593.663	$4.743.566.753
2021	42	18,4	2.498.058.201	$2.693.579.210
2022	45	20,97	3.462.817.892	$3.410.127.000
2023	44	21,1	3.595.944.162	$3.055.133.606
Malaysian CPO				
Year	**CPO Production (X1) in Million Metric Tons**	**CPO Consumption (X2) in Million Tons**	**Export Volume (X3) in Kilograms**	**Export Value (Y1) in USD**
2014	19,9	17,7	4.619.336.518	$3.428.710.388
2015	17,7	1996	5.445.707.850	$3.076.580.116
2016	18,9	19,8	3.840.769.980	$2.335.674.952
2017	19,7	20,1	2.787.556.620	$1.880.314.679
2018	20,8	19,9	3.341.772.210	$1.938.244.011
2019	19,3	19,86	3.933.770.120	$1.944.917.178
2020	17,9	18,11	4.501.501.380	$2.928.961.161
2021	18,2	16,4	4.705.519.408	$4.953.335.498
2022	18,4	17,5	3.775.194.512	$4.491.560.163
2023	19,7	18,1	3.543.135.350	$3.020.622.571

ISSN [Online]: 2797-5827

Thai CPO				
Year	**CPO Production (X1) in Million Metric Tons**	**CPO Consumption (X2) in Million Tons**	**Export Volume (X3) in Kilograms**	**Export Value (Y1) in USD**
2014	2,1	1,1	163.691.936	$ 135.713.554
2015	1,8	1,24	-	$ 772
2016	2,5	1,5	141.451	$ 68.883
2017	2,8	1,6	242.248.034	$ 157.246.958
2018	3	1,8	257.017.131	$ 156.747.512
2019	2,7	2	217.247.765	$ 104.672.518
2020	3	2,3	177.184.300	$ 114.342.121
2021	3,4	2,5	563.196.094	$ 644.914.934
2022	3,3	2,7	888.335.470	$1.160.858.639
2023	3,6	2,9	803.697.950	$ 732.392.150

Based on the data above, the analysis of production, consumption, export volume, and export value of crude palm oil (CPO) for Indonesia, Malaysia, and Thailand from 2014 to 2023, as well as the factors influencing the fluctuations in the data, is as follows:

Indonesia's CPO production increased steadily from 33 million metric tons in 2014 to 44 million metric tons in 2023, with a peak of 45 million metric tons in 2022. Domestic consumption also saw significant growth, rising from 9.7 million tons in 2014 to 21.1 million metric tons in 2023, reflecting increased domestic usage, including for biodiesel. Indonesia's export volume showed fluctuations, with a sharp decline in 2021 to 2,498 million kilograms, influenced by export restriction policies. The export value peaked in 2020 at $4.743 billion, reflecting high global CPO prices.

In Malaysia, CPO production remained relatively stable, ranging between 17.7 million and 20.1 million metric tons. Domestic consumption stayed within the range of 16.4 million to 18.1 million tons. Export volume declined in certain years, such as 2016 and 2017, but began to recover by 2021. Export value saw a significant increase in 2021, reaching $4.953 billion, driven by the recovery in global demand.

As a smaller CPO producer, Thailand recorded a production increase from 2.1 million metric tons in 2014 to 3.6 million in 2023. Domestic consumption grew from 1.1 million to 2.9 million tons during the same period. Thailand's export volume and value showed extreme fluctuations, with significant spikes in 2021 and 2022. Notably, in 2015, Thailand did not export CPO due to efforts to meet domestic consumption. Several factors influence fluctuations in the data presented in table 2. Government policies, such as the export restrictions in Indonesia in 2021, significantly impacted export volume. Global market conditions, including changes in CPO prices in international markets, also affected export value.

Additionally, extreme weather conditions, such as El Niño, impacted production levels. Furthermore, the increase in domestic demand, particularly biodiesel, reduced export volumes in producing countries. The COVID-19 pandemic also affected global supply chains, leading to declining export volumes during 2020-2021. These domestic and international factors reflect the complex dynamics within the palm oil industry in the three countries. Based on the data published by the USDA (2023/2024), CPO production in Indonesia, Malaysia, and Thailand has experienced year-to-year variations. As the largest producer, Indonesia recorded an increase in production from 33 million metric tons in 2014 to 45 million metric tons in 2023. This increase was driven by the expansion of plantation land and the adoption of modern agricultural practices. However, the decline in production in 2023 can be attributed to inefficiencies within the CPO industry, as indicated by the rising number of companies with low technical efficiency each year (Wulan Sari et al., 2022).

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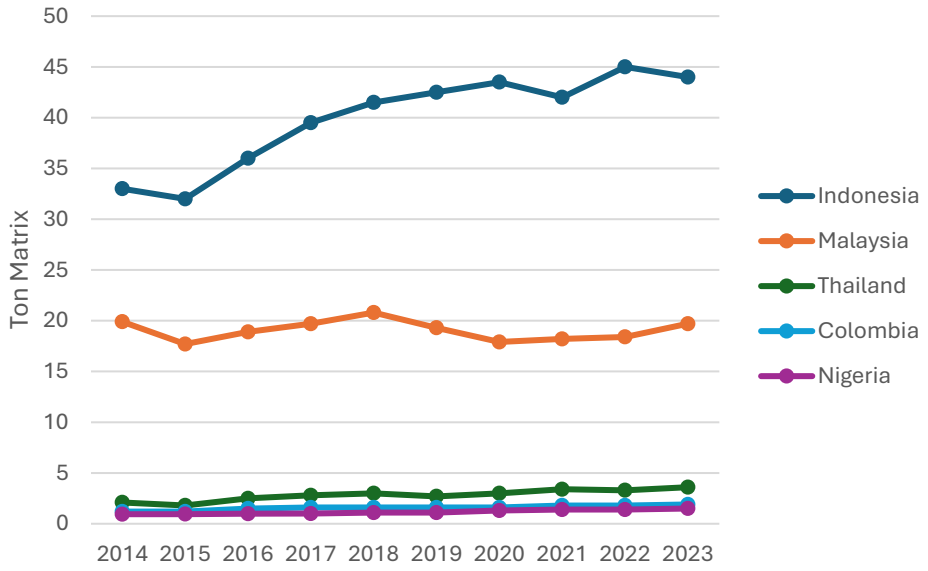

Figure 6. CPO Production in Indonesia, Malaysia, and Thailand from 2014 to 2023.
Source: U.S. Department of Agriculture (2014-2023)

Malaysia's production showed moderate fluctuations, decreasing from 19.9 million metric tons in 2014 to 19.7 million metric tons in 2023, with a sharp decline in 2020 (17.9 million metric tons) associated with the COVID-19 pandemic. The productivity of Malaysian palm oil plantations is better than that of Indonesia, with a land productivity of 3.96 tons/ha/year compared to 2.70 tons/ha/year in Indonesia (Elfira et al., 2023). As a smaller producer, Thailand experienced steady production growth from 2.1 million metric tons in 2014 to 3.6 million in 2023. Factors influencing Thailand's production include increased demand for vegetable oil and competitive palm oil prices (Dallinger, 2012).

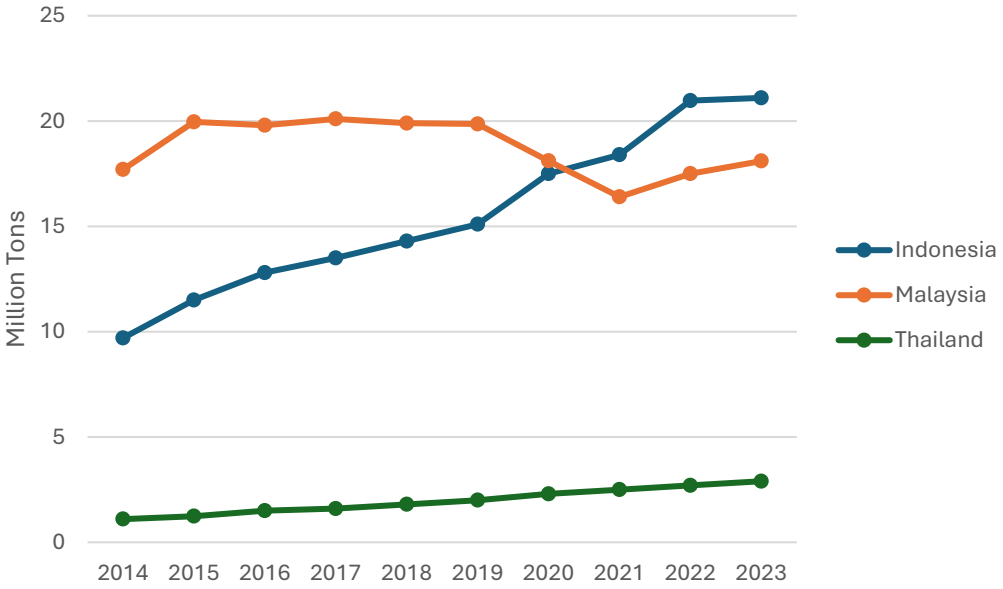

Figure 7. CPO Consumption in Indonesia, Malaysia, and Thailand from 2014 to 2023
Source: U.S. Department of Agriculture (2014-2023).

ISSN [Online]: 2797-5827

Over the past ten years, CPO consumption in Indonesia, Malaysia, and Thailand shows significant differences in consumption volume and the factors influencing it. Indonesia leads in CPO consumption, reaching 21.1 million tons in 2023. This increase is driven by government policies promoting the use of biodiesel, high domestic demand, and the extensive area of palm oil plantations that support both production and consumption. Additionally, Indonesia has more substantial export competitiveness than Malaysia and Thailand.

Meanwhile, Malaysia ranks second with CPO consumption of approximately 18.1 million tons in 2023. Although land productivity in Malaysia is higher than in Indonesia, the country faces challenges in increasing domestic consumption. Malaysia's focus on developing palm oil derivative products and downstream industries also contributes to its consumption figures. On the other hand, Thailand recorded the lowest consumption at 2.9 million tons in 2023. The reasons for Thailand's lower consumption compared to the other two countries include its smaller production capacity and a different industrial focus. Thailand relies more on exporting other agricultural products and does not fully concentrate on developing the palm oil industry as Indonesia and Malaysia do.

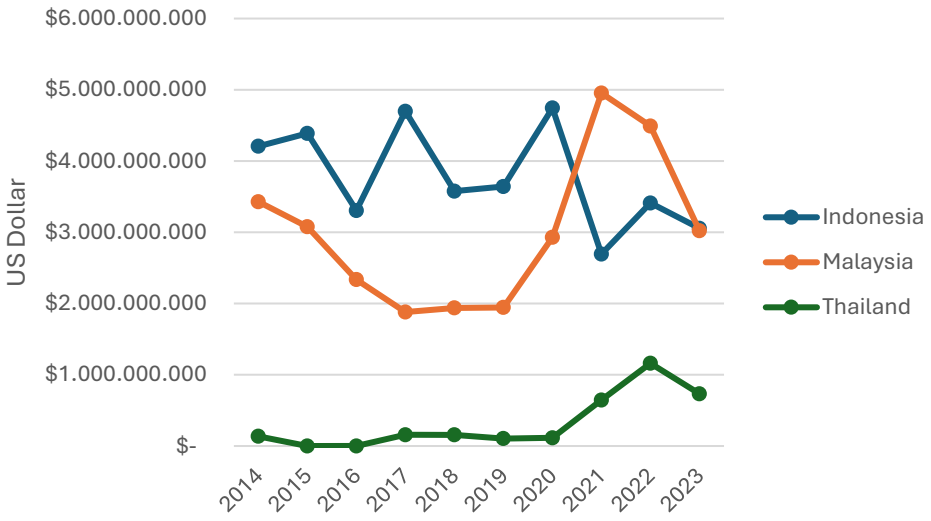

Figure 8. CPO Export Value in Indonesia, Malaysia, and Thailand from 2014 to 2023
Source: UN Comtrade (2014-2023).

From the data above, Indonesia dominates in export value, with an average export value of $3,771,954,813. This figure has fluctuated from 2014 to 2023, with Indonesia's highest export value recorded in 2020 at $4.74 billion, while the lowest occurred in 2021 at $2.69 billion due to a temporary export ban on CPO to ensure the availability of cooking oil domestically. These fluctuations are attributed to changes in global CPO prices, domestic policies, and international market demand (CNBC INDONESIA, 2022).

Malaysia ranks second with an average export value of $2,999,892,072. Malaysia recorded its highest export value in 2021 at $4.95 billion, which decreased to $3.02 billion in 2023. This decline was influenced by increased demand from countries such as India and regions in Europe and North America. However, reduced production and increased domestic consumption also affected this fluctuation.

Thirdly, Thailand has an average export value of $320,695,804. Thailand's CPO export value exhibited more extreme fluctuations; in 2014, the export value reached $135 million, but it drastically increased to $1.16 billion in 2022 before falling back to $732 million in 2023. This volatility is attributed to the temporary export ban on CPO, production, and changes in global demand.

ISSN [Online]: 2797-5827

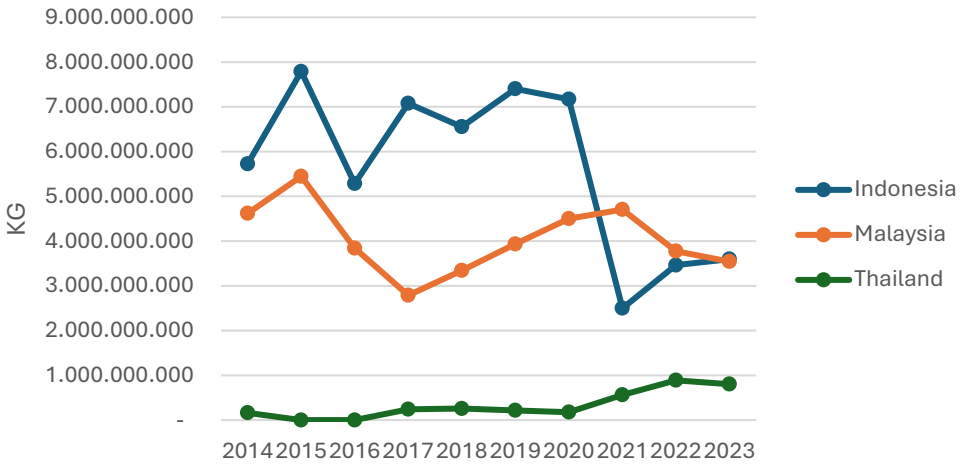

Figure 9. CPO Export Volume in Indonesia, Malaysia, and Thailand from 2014 to 2023
Source: UN Comtrade (2014-2023)

Based on the data, Indonesia continues to dominate in export volume, with an average export volume of 5,655,809,283 kg. This figure has fluctuated from 2014 to 2023; however, in 2021, it saw a drastic decline to 2,498,058,201 kg due to the impact of COVID-19, which led to a decrease in CPO production and consequently affected Indonesia's export volume. Malaysia ranks second with an average export volume of 4,049,426,395 kg. This figure has varied each year, with the highest volume recorded in 2015 at 5,445,707,850 kg and the lowest in 2017 at 2,787,556,620 kg, attributed to a decline in production.In third place is Thailand, with an average export volume of 331,276,013 kg. This figure has also fluctuated, with the highest volume in 2023 at 803,697,950 kg and the lowest in 2015, when no CPO was exported due to dry weather conditions, prompting the Thai government to maintain domestic price stability.

The competitiveness of Indonesian CPO products can also be analyzed by calculating the Market Share Index (MSI). This market share is calculated based on Indonesia's CPO export destinations, which are compared with those of competitors from other ASEAN countries, Malaysia, and Thailand. A higher MSI indicates a larger market share for CPO in the primary export destinations. The three main export destinations for CPO, for which the market share is calculated, are India, Spain, and Italy. Figure 4 compares the MSI indicators for CPO from Indonesia, Malaysia, and Thailand globally.

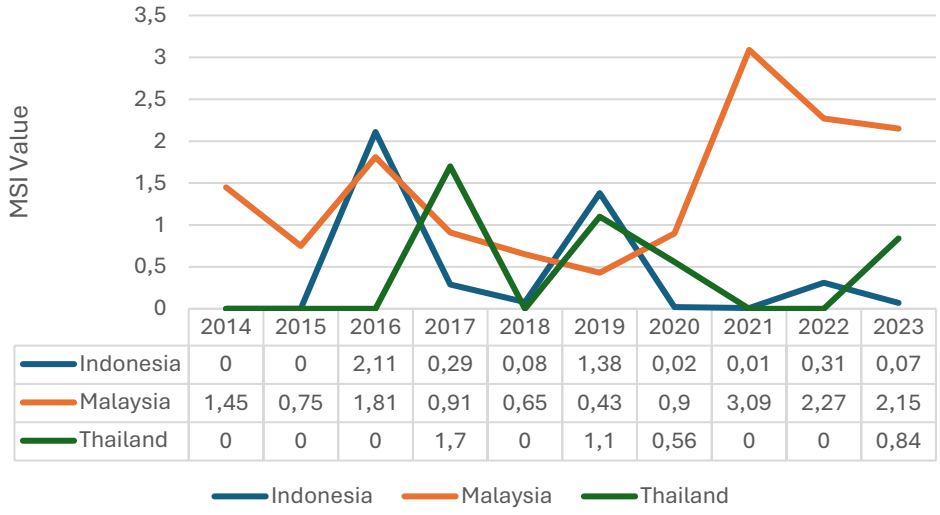

Figure 10. CPO's Market Share Index (MSI) in Indonesia, Malaysia, and Thailand from 2014 to 2023
Source: UN Comtrade (2014-2023).

The Market Share Index (MSI) illustrates the dynamics of the CPO market share from the three major ASEAN producing countries—Indonesia, Malaysia, and Thailand—from 2014 to 2023. Indonesia recorded the highest MSI in 2016 at 2.11, indicating its market dominance. However, this figure drastically declined in the following years, reaching a low of 0.01 in 2021. Although there was a slight increase in 2022 to 0.31, the number fell again to 0.07 in 2023, reflecting a significant downward trend in Indonesia's market share.In contrast, Malaysia demonstrated relatively stable performance with an MSI that tended to be higher than the other two countries. Its peak occurred in 2021, with an MSI of 3.09, indicating dominance in the global market that year. However, this figure decreased to 2.27 in 2022 and 2.15 in 2023. Nevertheless, Malaysia maintained its dominant position among the three ASEAN producing countries. As a producer with a smaller global market share, Thailand achieved its highest MSI in 2017 at 1.7. However, this value fluctuated, dropping to 1.1 in 2019 and reaching a low of 0.56 in 2020. In 2023, Thailand's MSI slightly increased to 0.84, although it remained below Malaysia, indicating a limited role in the global market. Overall, the MSI data shows Malaysia is currently the market leader among the three countries. At the same time, Indonesia, which was dominant in 2016, has experienced a decline, and Thailand plays a minor role with fluctuating MSI values from year to year.

V. Conclusion

Based on the analysis conducted, this study yields several key conclusions. Indonesia dominates CPO production in ASEAN, contributing over 50% to global production. CPO production in Indonesia has shown significant growth from 2014 to 2023, supported by the expansion of plantation land and the adoption of modern technology. In contrast, Malaysia has experienced moderate fluctuations in production, while Thailand has recorded steady growth, albeit at a smaller scale. Domestic CPO consumption in Indonesia is the highest compared to Malaysia and Thailand. This is driven by government policies related to biodiesel usage and increasing domestic demand. Malaysia maintains a stable consumption level, focusing on developing palm oil derivative products, while Thailand has the lowest consumption due to its limited production capacity. Regarding export volume and value, Indonesia remains superior to Malaysia and Thailand. However, fluctuations occur due to changes in domestic export policies and global market price dynamics. Malaysia ranks second with relatively stable performance, while Thailand has a significantly smaller export volume with fluctuating trends.

According to the Market Share Index (MSI), Malaysia has a more stable market share performance than Indonesia and Thailand. Although Indonesia has a production advantage, its competitiveness in the global market tends to decline during specific periods due to inconsistent domestic policies. Key factors influencing the dynamics of CPO exports include government policies, weather conditions, the COVID-19 pandemic, and changes in international market prices. These factors affect each country's production, consumption, and export volumes in ASEAN.

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