Original Article

Competitiveness Analysis of Indonesian Clove in the Malaysian Market

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Abstract: Cloves are one of the commodities derived from Indonesian plantations that have been exported to various countries. Indonesia's clove exports have increased in line with the increase in production. The high level of competition, along with the increase in world clove exports, requires Indonesia to increase its competitiveness. The purpose of the study was to analyze the level of competitiveness of Indonesian clove exports in 2003-2022 in the Malaysian market. The type of research used is descriptive quantitative with RCA, RSCA and ISP analysis tools. The results showed that clove commodities have a comparative advantage and strong competitiveness in the Malaysian market. The position of competitiveness with the highest RCA average value is in the Madagascar producer with an average RCA value of 8.173, then in second place and so on followed by the Indonesian market of 4.619, Sri Lanka of 3.015, Comoros of 1.904, India of 0.702 and finally China of 0.021. Indonesia, Madagascar, Comoros, and Sri Lanka from 2003-2022 have RSCA values > 0, so it can be said that the country has a comparative advantage. China and India have RSCA values < 0, so it can be said that the country is weakly competitive and does not have a comparative advantage for clove commodities. The average value of Indonesia's clove ISP in 2003-2022 has a value of 0.235 with this entering the growth stage. The occurrence of fluctuations in the ISP value of Indonesian cloves is due to Indonesia being one of the largest clove producers in the world. It uses most of its production to meet domestic industrial demand. The occurrence of fluctuations in the ISP value of Indonesian cloves is due to Indonesia being one of the largest clove producers in the world. It uses most of its production to meet domestic industrial demand.

Keywords: Clove, Competitiveness, ISP, RCA.

I. INTRODUCTION

Indonesia is one of the largest producers of cloves in the world. The economic value of cloves lies in their flowers, stalks, and leaves as raw materials for tobacco blends in the production of clove cigarettes, spices, essential oils, raw materials for the pharmaceutical industry, fragrances, and various food products. Another use of clove products in industry is clove oil. Raw materials for clove oil can come from clove flowers, stalks, and leaves [1]. When the price of clove flowers is high, the clove flowers used should be of low quality or sorted. About 66.84% of clove plants in Indonesia are cultivated by the population in the form of smallholder plantations spread throughout the province, and private plantations and state plantations cultivate the remaining five percent. Indonesia's clove commodity occupies the position of the world's top two clove exporters. The contribution of Indonesian cloves reached 12.75 thousand tons, which is equivalent to 22.78 percent of the world's total clove exports. Nutmeg, star anise, and cardamom commodities in Indonesia's exports are also in the second largest position, with an export contribution of 19.96 thousand tons, which is equivalent to 23.70 percent of total world exports [2].

Cloves are one of the commodities derived from Indonesian plantations that have been exported to various countries. Indonesia's clove exports have increased in line with the increase in production [3]. In 2018, Indonesia managed to record clove production of 123,399 tons and exported cloves to the world of 20,249 tons in the same year [4]. Clove *(Syzygium Aromaticum),* or clove in English, is a versatile plant for human life. Clove has been a trade commodity that has long had economic and historical value for the Indonesian people. Not only known as a spice, clove has also been widely used for dental treatment and maintenance, as the essential oil of clove has anaesthetic and antimicrobial functions. Most famously, cloves are the main ingredient for making kretek cigarettes. Clove is also a raw material in the manufacture of vanillin, perfume, and a mixture of cosmetics. Clove oil can also be used to clean preparations for easy viewing with a microscope. Clove wood from dead trees can be used for camphor chests [5].

The export competitiveness of a commodity is the ability of a commodity to enter a foreign market and then have the ability to maintain the market. The competitiveness of a commodity can be measured by comparing the market share of the commodity under fixed market conditions. Two factors—the competitive advantage factor and the comparative advantage factor—determine a nation's level of competence in the realm of international commerce. Comparative advantage factors can be considered natural factors, while competitive advantage factors can be considered as factors that are obtained or

developed/created [6]. The high level of competition, along with the increase in world clove exports, requires Indonesia to increase its competitiveness, which is why an analysis of Indonesia's clove competitiveness was conducted. One of the efforts that can be made to increase exports is by increasing the competitiveness of these export products. Competitiveness is a general concept in economics that refers to the commitment of market competition with its success in international competition.

An increase in competitiveness reflects the success in increasing commodity exports in a country and is one indication of the development of entrepreneurship in a country; in other words, a decrease and increase in competitiveness affect exports in a country. A country can be said to be successful in international trade if seen from the level of competitiveness, so in this case, increasing exports is included as a necessity, not just an option [7]. Export products that have a high level of competitiveness will excel in global market competition and gain market share in the international market. This is because the global market is competitive. Increasing the level of competitiveness requires improving the quality of export products to avoid rejection by export destination countries. These factors become problems and challenges as well as opportunities for a country to develop export competitiveness in order to compete with other countries in the international market [8].

ASEAN free trade, which has been in effect since 2016, also provides a great opportunity for the export of Indonesian clove commodities to Malaysia. Through the agreement, import duty rates for clove commodities become cheaper so that the price of Indonesian cloves can be more competitive in the Malaysian market. Malaysia is not just a neighboring country but a very potential place and consumer for Indonesian export products. Indonesia and Malaysia have many similarities, both in terms of demographics and geography, that allow Indonesian products to be accepted by the Malaysian people. The Indonesian government also negotiated with the Malaysian government to establish cooperation in the field of cloves. Indonesia's clove exports to Malaysia have great potential to improve the economy of both countries [6]. This research is to examine the level of competitiveness of Indonesian clove exports with competing countries namely Madagascar, Sri Lanka, India, Comoros, and China in the Malaysian market.

[9], conducted research on the analysis of the competitiveness of Indonesian cloves in the international market, the results showed that Indonesia's dried cloves for the period January 2010-December 2014 had a low comparative advantage (RCTA value -16.94) compared to Madagascar (7,344.46), Singapore (13.60), and Brazil (7.69) had a high comparative advantage. The status of these four countries is as exporting countries. Madagascar as a country in the maturity stage, is the most exporting country, while Brazil, Indonesia, and Singapore are in the growth stage.

[10], conducted research on the competitiveness analysis of Indonesian cloves, the results showed that the RCA analysis of Indonesian cloves was in third position with an average RCA value of 9.38. The first position is occupied by Madagascar, with an average of 3440.01. The second position is occupied by Sri Lanka, with an average RCA value of 142.19. The analysis shows that the three countries have a competitive advantage over cloves.

[11], conducted research on the competitiveness of Indonesian clove exports in the global market. The results showed that the shape of the world clove market is an oligopoly market, with more than 40% of the global market share controlled by Indonesia and Madagascar. The competitiveness of Indonesia and Madagascar has increased while the competitiveness of Singapore and Comoros has decreased, as seen from the average RCA value, which has decreased in almost all periods. The calculation results also show that the average ECI index is more than one, which means that the competitive advantage of each exporting country has an increasing trend.

[12], conducted research analyzing the development of clove exports. The results showed that the RCA and EPD analysis concluded that, in general, Indonesian cloves in the main market have strong competitiveness. Markets that have optimistic market development potential are the markets of Thailand, Pakistan, and Egypt. Markets that have potential market development potential are the markets of Malaysia, the United Arab Emirates, Vietnam, Saudi Arabia, Australia, the Netherlands, and Germany. This study aims to analyze the level of competitiveness of Indonesian clove exports in 2003-2022 in the Malaysian market. The benefits of the research are 1) it can add references for writers and students regarding the analysis of clove export competitiveness, and 2) it can provide knowledge for the public regarding the competitiveness of Indonesian clove exports in the Malaysian market.

II. LITERATURE REVIEW

A) Competitiveness
Competitive is everything that is done particularly well by a company compared to its competitors [13]. Competitiveness is the ability of a commodity to enter foreign markets and the ability to survive in that market. Within that market, if a product has competitiveness, then the product will be in demand by consumers [14].

B) Export
Export is the activity of selling and shipping goods from the customs area outside the customs area because of the need

for certain goods from one country to another [15]. Exports can increase beneficial cooperative relations between one country and another. Exports are an important activity for a country's economy. Export activities can contribute to the acceleration of economic development [16].

C) Clove

Clove plant *(Syzygium aromaticum)* is a spice that is often utilized in various fields. This plant is very famous for its clove oil. The main content of clove oil clove oil is phenol compounds, namely eugenol, eugenol acetate and gallic acid, as well as flavonoids [17].

III. METHODS

The place of this research was conducted in Indonesia and the time of this research was conducted from 2003 to 2022 using time series data obtained through publications by Trade Map, FAOSTAT, Un Comtrade as well as journals and websites related to the research title. This research uses secondary data in the form of time series data. The time series data used in this study is data from 2003 to 2022. Secondary data is a type of data sourced from an agency where the agency obtains the data from related parties directly or in other words secondary data is data taken indirectly from the object of research. Secondary data is data obtained from an internet site, or from a reference that is the same as what is being researched by the author [18]. The type of clove analyzed is cloves (whole, flower, and stalk) with HS code 0907. The basis for selecting the type of clove is according to the largest export value and completeness of available data. The study analyzed Indonesia's clove exports in the Malaysian market.

This type of research uses a quantitative descriptive approach. Quantitative descriptive research is research that describes, examines, and explains a phenomenon with data (numbers) as it is without intending to test a particular hypothesis. The estimation of Indonesia's clove export competitiveness was conducted using Revealed Comparative Advantage (RCA), Revealed Symetric Comparative Advantage (RSCA) and Index of Trade Specialization analysis as well as the trend of Indonesia's clove exports. The results of the calculation of RCA, RSCA, and Index of Trade Specialization will be described in accordance with the theory of these analytical tools. In calculating the data, researchers used Microsoft Excel 2013 application.

a) Revealed Comperative Adventage (RCA)

This method is to measure the level of competitiveness of a country that shows the comparison of a country's commodities. The purpose of RCA is to determine the comparative position of producer countries in international trade and to see if a country is competitive enough in international trade. RCA will describe the export performance of cloves, which is a comparison between the share of clove exports (Indonesia). The RCA index shows the comparative advantage or export competitiveness of a country in a particular commodity [19].

To see the position of Indonesia's competitiveness in clove-producing countries in the Malaysian market, this study uses the calculation of RCA (Revealed Comparative Advantage) and RSCA (Revealed Comparative Symmetric Advantage) to measure the comparative advantage of clove commodities in a competitor country. Decision-making on the results of RCA is :

➢ If the RCA index of clove exports is more than one (>1), it means that the country's clove exports have a comparative advantage above the world average.
➢ If the RCA index of clove exports is less than one (<1), it means that the country's clove exports have a lower competitiveness than the world average.

i) The formulation for obtaining the RCA index is:

$$Index\ RCAi = \left(\frac{XOi}{Xti}\right) / \left(\frac{XWOi}{XWt}\right)$$

ii) Description:

XOi = country i's clove export value (US$)
Xti = country i's total export value (US$)
XWOi = world clove export value (US$)
XWt = world total export value (US$)
i = Country

b) Revealed Symetric Comparative Advantage (RSCA)

A positive Revealed Symetric Comparative Advantage (RSCA) value indicates that the commodity product has a high comparative advantage in the market; otherwise, if the Revealed Symetric Comparative Advantage (RSCA) value is negative, the commodity is not feasible to compete because it is inefficient and has no advantage. Analysis with RSCA is a way of asymmetry in the value of the RCA index [20].

i) The stages of calculating RSCA are as follows:
- ➢ Each RCA index value obtained is subtracted by 1 (RCA-1),
- ➢ Each RCA index value obtained is added with 1 (RCA+1),

ii) The RSCA index value for each specific product is obtained with the formulation:

$$RSCAij = \frac{(RSCAij-1)}{(RSCAij+1)}$$

iii) Description:

RSCAij = Revealed Comparative Symmetric Advantage of country i in product j
RCAij = Revealed Comparative Advantage of country i in product j.
The value of the index varies from -1 to 1 (-1≤ RSCAij ≤1).

iv) The index value varies from -1 to 1 (-1≤ RSCAij ≤1). Decision-making on the RSCA results is :
- ➢ RSCA value > 0, means country i has a comparative advantage in product group j.
- ➢ RSCA value < 0, means that country i does not have a comparative advantage in product group j.

This study uses six clove-producing countries to examine Indonesia's competitiveness in the Malaysian market. The six countries are Indonesia, Madagascar, China, India, Comoros, and Sri Lanka.

c) Index of Trade Specialization

Looking at the competitive advantage of this study using the calculation of the Index of Trade Specialization, which is a common method used as a measure of the level of competitiveness. This index is used to see whether a type of product in a country tends to make an exporter country or become an importer country. This method is used to analyze the position or stage of a commodity. This method can describe a country's advantage as an exporter or importer country. The terms of the index are between 1 and +1, if the value is positive (above 0 to 1), then product I has strong competitiveness and the country has the potential to export the product, and vice versa if the index value is negative (below 0 to -1) then product I does not have competitiveness, and the country tends to be an importing country [21].

i) The ISP index is formulated as follows:

$$ISP = \frac{(XIa - MIa)}{(XIa+MIa)}$$

ii) Description:

XIa = export value of product I in a country MIa = import value of product I in a country.
In this index there are 5 stages including:
1. Introduction stage: the index value of the latercomer industry is -1.00 to -0.50.
2. Import substitution stage: the index value is between - 0.51 to 0.00.
3. Growth stage: The index value rises between 0.01 and 0.8.
4. Maturity stage: The index value is in the range of 0.81 to 1.00
5. Back to importing stage : The index value declines again between 1.00 and 0.00

IV. RESULTS AND DISCUSSION

A) Revealed Comperative Advantage (RCA)

Based on the results of the analysis using the RCA method, during the period 2003-2022, the competitiveness of Indonesian clove commodities in the Malaysian market has a fairly varied RCA value. Clove commodities have different competitiveness values in each year in each market.

The results of the analysis of the average RCA value show that clove commodities have a comparative advantage and strong competitiveness in the Malaysian market. The position of competitiveness with the highest average RCA value is in the Madagascar market with an average RCA value of 8.173, then in second place and so on, followed by the Indonesian market at 4.619, Sri Lanka at 3.015, Comoros at 1.904, India at 0.702 and finally China of 0.021. The following table analyzes the RCA of clove export producer countries to Malaysia.

Table 1: RCA Value of Clove Producers in the Malaysian Market

YEAR			RCA VALUE			
	INDONESIA	MADAGASCAR	CHINA	INDIA	COMOROS	SRI LANKA
2003	4.588	37.103	-	0.848	-	4.815
2004	1.353	2.340	0.002	-	-	-
2005	1.529	4.762	0.002	0.536	-	1.679

2006	6.684	15.433	-	0.408	-	-
2007	9.966	-	-	-	-	-
2008	14.135	-	0.007	0.117	-	-
2009	2.411	2.806	-	0.614	-	-
2010	2.698	7.452	-	0.490	-	2.398
2011	6.841	3.257	0.001	1.517	-	1.584
2012	2.981	12.724	0.005	0.689	-	1.113
2013	5.704	24.202	0.032	2.379	-	6.445
2014	6.329	2.047	0.036	0.266	-	5.617
2015	5.749	9.920	0.023	1.929	-	2.126
2016	2.088	8.612	0.011	1.166	16.838	2.394
2017	1.672	3.196	0.010	0.458	2.227	2.855
2018	1.841	4.138	0.012	0.452	9.811	4.815
2019	7.335	2.590	0.044	1.155	4.733	9.375
2020	2.111	4.205	0.011	0.257	-	1.768
2021	4.648	1.570	0.160	0.736	4.475	6.428
2022	1.716	17.104	0.061	0.020	-	6.895
Total	**92.380**	**163.462**	**0.415**	**14.037**	**38.083**	**60.307**
Average	**4.619**	**8.173**	**0.021**	**0.702**	**1.904**	**3.015**

Source: *Secondary Data Processed, 2023*

Based on Table 1. The RCA value of clove commodities in the Malaysian market has a comparative advantage from the 2003-2022 period of the six clove-producing countries in the Malaysian market, namely Indonesia, Madagascar, India, Comoros and Sri Lanka, which have an RCA value > 1. However, China and India do not have a comparative advantage for clove commodities because the RCA value < 1. Madagascar is the largest clove-exporting country in the Malaysian market. The highest RCA value of cloves made by the country of Madagascar in 2003 amounted to 37,103, and the lowest occurred in 2021, which amounted to 1,570. At that time, there was Covid-19, so there was an export border.

The second country exporting cloves to the Malaysian market is Indonesia. Indonesia's highest RCA value occurred in 2008, with a value of 12,135, and the lowest, with a value of 1,353 in 2004. The RCA value of Indonesian cloves with competing countries, namely Madagascar in the Malaysian market, looks lower, but Indonesia is able to compete with China, India, Comoros, and Sri Lanka. Indonesia, in the period 2003-2022, continues to export every year even though the value fluctuates because Indonesia is a clove-producing country. One of the top products in the plantation sector, a subsection of the agricultural sector, was this particular one [22].

China has a lower competitiveness than the world average for clove commodities where from the period 2003-2022, the RCA value <1. The weak competitiveness of cloves in the Malaysian market can be caused by China itself as a clove consumer country. It is mostly used for industrial raw materials and medicines in its own country, and the rest is exported to various countries [3].

India also has a competitiveness that is lower than the world average but higher than China for clove commodities, where the RCA value is <1 from 2003-2010, 2012, 2016, 2017 and 2020-2022. This is because Malaysia is not India's main export destination but China, and India is a clove consumer country [23]. The highest RCA value occurred in 2013, with a value of 2.379 with an average of 0.702.

Comoros exported clove commodities to the Malaysian market in 2016-2021. Comoros has a comparative advantage with an RCA value> 1. The highest competitiveness occurred in 2016, with an RCA value of 16.838 and an average of 1.904. Sri Lanka is the 3rd largest clove exporter in the Malaysian market with an RCA value> 1, and the highest competitiveness value occurred in 2019 with a value of 9.375.

Increasing clove competitiveness can be done by providing added value, productivity, and quality through technological innovation accompanied by quality improvement and improving post-harvest handling of clove products. Improve and develop clove products in potential and highly competitive countries so that export products do not experience quality deterioration, which can affect export demand and value [24].

This research is in line with the research of [10], the title of the research analyzing the competitiveness of Indonesian cloves; the results showed that the RCA analysis of Indonesian cloves was in third position with an average RCA value of 9.38. The first position is occupied by Madagascar, with an average of 3440.01. The second position is occupied by Sri Lanka, with an average RCA value of 142.19. The analysis shows that the three countries have a competitive advantage over cloves.

B) Revealed Symetric Comparative Advantage (RSCA)

RSCA analysis is able to show the comparative ability of Indonesian cloves in the Malaysian market. Based on the results of the analysis using RSCA during the period 2003-2022 can be seen in the following table:

Table 2: RSCA Value of Clove Producers in the Malaysian Market

YEAR	RSCA VALUE					
	INDONESIA	MADAGASCAR	CHINA	INDIA	COMOROS	SRI LANKA
2003	0.642	0.948	-	-0.082	-	0.656
2004	0.150	0.401	-0.997	-	-	-
2005	0.209	0.653	-0.996	-0.302	-	0.253
2006	0.740	0.878	-	-0.421	-	-
2007	0.818	-	-	-	-	-
2008	0.868	-	-0.987	-0.791	-	-
2009	0.414	0.475	-	-0.239	-	-
2010	0.459	0.763	-	-0.342	-	0.411
2011	0.745	0.530	-0.999	0.206	-	0.226
2012	0.498	0.854	-0.990	-0.184	-	0.053
2013	0.702	0.921	-0.938	0.408	-	0.731
2014	0.727	0.344	-0.930	-0.580	-	0.698
2015	0.704	0.817	-0.956	0.317	-	0.360
2016	0.352	0.792	-0.978	0.077	0.888	0.411
2017	0.252	0.523	-0.981	-0.372	0.380	0.481
2018	0.296	0.611	-0.977	-0.377	0.815	0.656
2019	0.760	0.443	-0.916	0.072	0.651	0.807
2020	0.357	0.616	-0.979	-0.591	-	0.277
2021	0.646	0.222	-0.724	-0.152	0.635	0.731
2022	0.264	0.890	-0.885	-0.961	-	0.747
Total	**10.6010**	**11.679**	**-14.232**	**-4.315**	**3.369**	**7.500**
Average	**0.530**	**0.584**	**-0.712**	**-0.216**	**0.168**	**0.375**

Source: Secondary Data Processed,2023

Based on the analysis of Revealed Symmetric Comparative Advantage (RSCA) processing of Revealed Comparative Advantage (RCA) data in Table 2. that clove commodity exports of Indonesia, Madagascar, Comoros, and Sri Lanka from 2003-2022 have a positive value, namely RSCA> 0, so it can be said that the country has a comparative advantage. China and India have negative values, namely RSCA < 0, so it can be said that the country is weakly competitive and does not have a comparative advantage for clove commodities.

The average value of Indonesia's RSCA is 0.530 because the RSCA value is above zero or positive, meaning that Indonesia has a comparative advantage over the clove commodity in the Malaysian market. However, its competitor Madagascar has an average RSCA value close to one and higher than Indonesia, which is 0.584. One of the reasons can be seen from the value of Indonesia's clove exports, which is smaller than that of Madagascar. This is due to the fact that Indonesia, one of the world's top producers of cloves, uses the majority of its harvest to satisfy demand from the home market. The kretek cigarette industry, which employs cloves as one of its basic components, is mostly responsible for the demand itself. This sort of prioritization is what prevents shipments of cloves. The quantity of cloves shipped varies yearly based on the clove harvest, which also affects the value of Indonesia's clove exports [5].

Sri Lanka's average RSCA value reached 0.375, which states that Sri Lanka also has a comparative advantage, although it is still below Indonesia and Madagascar. Sri Lanka is the same as Indonesia, namely, using most of its production to meet domestic industrial demand, while China and India's RSCA average values are -0.712 and -0.216 because the RSCA value is below zero or negative, meaning that China and India do not have a comparative advantage for the clove commodity. China and India's clove production is only used for domestic purposes and does not play a role in world trade so it does not have competitiveness in the global market. [6].

Cloves are one of the prospective commodities that the government can cultivate in an attempt to make Indonesia's exports more competitive. The government needs to conduct training and assistance to farmers and maintain the stability of clove prices so that farmers are more intensive in cultivating cloves. Increasing the competitiveness of cloves can be done through increasing intensification, rehabilitation, and rejuvenation of Indonesian clove plants so as to produce quality cloves [11].

This research is in line with research conducted by [5] entitled Competitiveness Analysis of Indonesian Clove Exports in the Indonesian Market, the results showed that the average result of Indonesia's RSCA value for the clove commodity was 0.811. This shows that Indonesia has a comparative advantage, however, this figure is still below Madagascar which has an average RSCA value of 0.999, while Singapore is in third place after Indonesia with an average RSCA value of 0.750.

C) ISP (Index of Trade Specialization)

ISP analyzes the position or stage of development of a commodity by describing whether, for clove commodities, Indonesia's position tends to be an exporter or importer country. Indonesia's clove ISP data for 2003-2022 can be seen in the following table:

Table 3. Indonesian Clove ISP Data (Index of Trade Specialization)

Year	ISP
2003	0,821
2004	0,989
2005	1,000
2006	0,999
2007	1,000
2008	1,000
2009	0,680
2010	-0,126
2011	-0,982
2012	-0,709
2013	0,748
2014	-0,990
2015	0,178
2016	-0,225
2017	-0,616
2018	-0,649
2019	0,617
2020	0,868
2021	0,098
2022	-0,606
Average	0,205

Source: Secondary Data Processed,2023

Based on Table 3. Over the past twenty years, Indonesia has shown a fluctuating ISP value with an average ISP of Indonesian cloves in 2003-2022, which has a value of 0.205, with this entering the growth stage. In 2003-2008, Indonesia's ISP value showed a range of 0.821-1.000, and this shows that Indonesia's clove commodity is in the maturity stage. At this stage, Indonesia is a net exporter country (selling more abroad). However, in 2009, the ISP value of Indonesian cloves decreased from 1.000 to 0.680, indicating that Indonesia was in the stage of re-importing.

In 2010, Indonesia's ISP value was -0.126, which showed that Indonesia was in the import substitution stage. In 2011-2012, the ISP value of Indonesia's cloves was at the introduction stage, but in 2013, it increased again to 0.748, which shows the growth stage. In 2014, the ISP value fell again to -0.990, but the following year, the ISP value rose again to 0.178. In 2016-2018, the ISP value was at the import substitution stage; however, in the following three years, the ISP value of Indonesian clove commodities increased and had the opportunity as an exporting country because it was at the maturity stage. The ISP value of Indonesian clove commodities then decreased again in 2022 to -0.606 at the introduction stage.

Given that Indonesia is one of the world's top producers of cloves. It utilizes the majority of its crop to satisfy domestic industrial demand; fluctuations in the ISP value of Indonesian cloves are common. Additionally, the amount of Indonesian cloves transported varies based on the harvest of cloves each year, which affects the export value of the crop [5].

The strategy to increase comparative advantage, strengthen specialization and Indonesia's competitive position on the clove commodity, it is necessary to increase productivity and quality, so that Indonesia not only meets domestic demand but also export market demand. One way is to improve the factors of production in clove cultivation, several ways, namely: (1) Rehabilitate non-producing or damaged plants; (2) Increase efforts to use superior seeds, plant maintenance, counseling to clove farmers regarding quality and good clove cultivation, as well as other efforts that can encourage farmers' interest; (3) Increase research in overcoming pests and diseases encountered in clove plants, the development of superior seeds, processed clove products and easy access to information, as well as the introduction of technology that supports the plantation

management process from pre-harvest to post-harvest; and (4) Support the availability of infrastructure and capital needed by clove farmers.

This research is in line with research conducted by [22] entitled Competitiveness Analysis of Indonesian Pepper, Clove, and Nutmeg Against Malaysia and Singapore in International Trade in 2010-2018. The results showed that Indonesian cloves have a state at the growth stage with a value of 0.14, Malaysian cloves at the introduction stage with a value of -0.74 and Singapore with a value of 0.06, including at the substitution stage. Indonesian clove imports have better competitiveness than Malaysia and Singapore; however, there is a need to increase production and expand marketing to increase competitiveness.

V. CONCLUSION

The results of the analysis of the average RCA value show that clove commodities have a comparative advantage and firm competitiveness in the Malaysian market. The position of competitiveness with the highest average RCA value is in Madagascar, with an average RCA value of 8.173, then in second place and so on, followed by Indonesia at 4.619, Sri Lanka at 3.015, Comoros at 1.904, India at 0.702 and finally China at 0.021. Indonesia, Madagascar, Comoros and Sri Lanka from 2003-2022 have positive values, namely RSCA> 0, so it can be said that the country has a comparative advantage, while China and India have negative values, namely RSCA < 1, so it can be said that the country is weakly competitive and has no comparative advantage for clove commodities. The average value of Indonesia's clove ISP in 2003-2022 has a value of 0.205 with this entering the growth stage. The occurrence of fluctuations in the ISP value of Indonesian cloves is based on Indonesia being one of the largest clove producers in the world. It uses most of its production to meet domestic industrial demand. Increasing competitiveness can be done by providing added value to productivity, improving quality through technological innovation, conducting training and assistance to farmers, maintaining price stability and rehabilitating clove plants.

VI. REFERENCES

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