



## ANALYSIS OF SECTORAL ADVANTAGES OF PALM OIL AND RUBBER COMMODITIES IN MUARO JAMBI REGENCY, JAMBI PROVINCE

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### Abstract

*The background of this research is that Muaro Jambi Regency is a Regency that has a potential sector, namely the plantation sector, especially palm oil and rubber commodities. This can be seen from the data from the Central Statistics Agency (BPS) of Jambi Province. The analysis method used is Location Quotient (LQ) Analysis. The type of data used in this study is secondary data, all data used in this study includes the area of oil palm and rubber, production and productivity of oil palm and rubber plantations, production of oil palm and rubber plantations and production data for the last six years, namely 2018 to 2023. The results of the Location Quotient (LQ) analysis show that in Muaro Jambi Regency as a base area for oil palm, namely (i) 2018 with an LQ value of 1.13 (ii) 2020 with an LQ value of 1.19 (iii) 2021 with an LQ value of 1.16 (iv) 2022 with an LQ value of 1.06 (v) 2029 with an LQ value of 1.08. The results of the analysis show that oil palm is a base sector while rubber is a non-base sector.*

**Keywords:** *Location Quotient (LQ), palm oil and rubber*

### Abstrak

Hal yang melatar belakangi penelitian ini adalah Kabupaten muaro jambi merupakan Kabupaten yang memiliki sektor potensial yaitu sektor perkebunan khususnya komoditi kelapa sawit dan karet. Hal ini dapat dilihat pada data Badan Pusat Statistik (BPS) Provinsi jambi. Metode analisis yang digunakan Analisis *Location Quotient* (LQ). Jenis data yang digunakan dalam penelitian ini adalah data sekunder, keseluruhan data yang digunakan dalam penelitian ini meliputi luas kelapa sawit dan karet, produksi dan produktivitas perkebunan kelapa sawit dan karet, produksi perkebunan kelapa sawit dan karet dan data produksi selama kurun waktu enam tahun terakhir yaitu 2018 sampai dengan 2023. Hasil Analisis *Location Quotient*(LQ) menunjukkan bahwa di Kabupaten muaro jambi sebagai wilayah basis kelapa sawit yaitu (i) tahun 2018 dengan nilai LQ 1,13 (ii) tahun 2020 dengan nilai LQ 1,19 (iii) tahun 2021 dengan nilai LQ 1,16 (iv) tahun 2022 dengan nilai LQ 1,06 (V) tahun 2023 dengan nilai LQ 1,08. Hasil Analisis menunjukan bahwa kelapa sawit menjadi sektor basis sedangkan karet merupakan sektor non basis.

**Kata Kunci:** *Location Quotient (LQ), Kelapa sawit dan karet*

## I. INTRODUCTION

Indonesia is known as an agricultural country, meaning that agriculture plays a vital role in the overall national economy. This is demonstrated by the large population and



workers in the agricultural sector, as well as the national products derived from it. Agricultural productivity is a central issue in the economy, as it is a major determinant of economic well-being. Agricultural productivity analysis holds a special place in the agricultural economy due to: (1) the agricultural sector's dependence on natural resources, (2) the limited availability of natural resources to support agricultural production, and (3) the long-term implications of agricultural productivity for poverty reduction in developing countries and global environmental challenges such as climate change. (Saragih, 2015)

Agriculture is a strategic sector in efforts to improve food security in Muaro Jambi Regency. Therefore, efforts to increase agricultural productivity in the agricultural sector require special attention. This begins with an analysis of superior commodities, followed by improvements to the economic sector in general.

According to Sibagariang R, et al. (2013), Indonesia, a tropical country, has excellent agricultural potential in the plantation sector, particularly rubber. Plantations are the backbone of the economy in Jambi Province, particularly in Muaro Jambi Regency. Rubber plantations in Indonesia play a crucial role, both socially and economically. This is due to their widespread distribution and cultivation across various regions of Indonesia, as well as the significant labor required for various stages of management and operations (Anwar, 2006).

Oil palm is a plantation commodity that plays a crucial role in the agricultural sector. According to the Bina Karya Tani Team (2009), oil palm is the largest producer of vegetable oil, making it a highly valuable crop.

The agricultural sector is supported by ample land area. Muaro Jambi Regency's area is divided into two parts: agricultural land, consisting of 227,125 hectares of oil palm plantations, and 58,414 hectares of rubber plantations. This vast area makes Muaro Jambi Regency the largest rice-producing region and supplier of palm oil in Jambi Province. From such a vast area, we can see the extraordinary production of palm oil and rubber. The following data shows palm oil and rubber production in Muaro Jambi Regency.

Table 1. Palm Oil Production in Muaro Jambi Regency

PRODUKSI KELAPA SAWIT DAN KARET				
TAHUN	KABUPATEN MUARO JAMBI		PROVINSI JAMBI	
	KELAPA SAWIT	KARET	KELAPA SAWIT	KARET
2018	189663	29918	1123329	341313
2019	189663	30260	2254156	323383
2020	232725	34293	983496	357488
2021	232725	34293	1063677	358055
2022	456 627	39631	2298301	347144
2023	457 627	24516	2312301	326407

Source: (Central Statistics Agency of Jambi Province, 2024)

Based on the table above, we can see that palm oil production in Muaro Jambi Regency has been increasing annually. In 2018, palm oil production reached 189,663 tons, continuing to increase to 457,627 tons in 2023. Similarly, rubber production reached its highest level in 2022, reaching 39,631 tons. This suggests that the production of a commodity is significantly influenced by the area of land used.

## II. THEORITICAL STUDIES

### Regional Economic Development

Regional economic development is the process of managing resources owned by local governments and communities to create new jobs and stimulate economic growth in a specific region. According to Arsyad (2010), regional economic development aims to improve community welfare by optimizing the region's superior potential. The success of regional economic development is greatly influenced by the region's ability to identify and develop superior sectors or commodities that significantly contribute to the regional economy. (Putri, 2023)

### The Agricultural Sector in the Regional Economy

According to Todaro and Smith (2015), the agricultural sector is the primary driver of economic development in developing countries because it can stimulate the growth of other sectors through forward and backward linkages. In Jambi Province, the plantation sector, particularly palm oil and rubber, is a key commodity that contributes significantly to the Gross Regional Domestic Product (GRDP).

The agricultural sector plays a strategic role in the regional economy, particularly in agrarian-based regions. This role includes providing food, industrial raw materials, creating jobs, and providing income for rural communities. (Rahayu, 2022)

### **The Concept of Superior Commodities**

Superior commodities are mainstay commodities that have a strategic position for development in a region. Their determination is based on various technical (soil and climate conditions) and socio-economic and institutional considerations (technological mastery, resource capabilities, human resources, infrastructure, and local socio-cultural conditions) (Teknologi, n.d.).

Determining superior commodities in a region is a necessity, considering that commodities that can compete sustainably with similar commodities in other regions are those that are cultivated efficiently from a technological and socio-economic perspective and possess competitive advantages (Rezki, 2003).

### **Superior Sectors**

Superior sectors are certain to have greater potential to grow faster than other sectors in a region, especially when supported by supporting factors such as capital accumulation, workforce growth, and technological advancement. Investment opportunities can also be realized by leveraging the potential of the superior sectors within the region (Rachbini, 2001).

The definition of a leading sector is usually related to comparisons, whether on a regional, national, or international scale. Internationally, a sector is considered leading if it can compete with similar sectors in other countries. Nationally, a sector can be categorized as leading if a sector in a particular region can compete with similar sectors in other regions, thus generating exports (Suyatno, 2000).

### **Basic Theory**

Basic economic theory (Arsyad, 2015) states that the rate of economic growth in a region is determined by the magnitude of the increase in exports from that region. The growth of industries that utilize local resources, including labor and raw materials for export, will generate regional wealth and create job opportunities. This assumption suggests that a region will have a leading sector if it can win competition in the same sector with other regions, thus generating exports. To analyze a region's economy, one common technique is the Location Quotient (LQ). The LQ can be used to determine the degree of specialization of base or leading sectors. In the Location Quotient (LQ) technique, various variables (factors) can be used as indicators of regional growth. (Rahayu, 2021)

### III. RESEARCH METHODS

The research was conducted in Muaro Jambi Regency. The location was chosen purposively, considering that Muaro Jambi Regency has the potential for development. It is hoped that the economy of Muaro Jambi Regency will become more advanced and have a large market for developing its leading commodities. This research was conducted from September to November 2024.

Secondary data was obtained from the Central Statistics Agency (BPS) of Muaro Jambi Province and the Forestry and Agriculture Service of Muaro Jambi Regency. This secondary data was then processed using Microsoft Excel. This research focused on the regency level, with the aim of obtaining an overview of the agricultural sector and plantation commodities in determining regional development priorities.

According to Afrianto (2000), quantitative methods were used to calculate several factors related to the research objectives. The data were presented and analyzed. The two analytical tools used to address the research objectives are as follows:

#### Location Quotient (LQ) Analysis

Location Quotient (LQ) is a comparison of the role of a sector/industry in a region relative to the sector's role nationally. LQ analysis can be used to determine the relative economic potential of a region. This technique is used to identify a region's internal potential, namely which commodities are basic sectors and which are non-basic sectors.

Essentially, this technique presents a relative comparison between the investigated region and the capacity of the same commodity in a larger area. This relative comparison can be expressed mathematically as follows:

$$LQ = \frac{x_i/x_t}{X_i/X_t}$$

Where:

$x_i$ : Production of a particular commodity in Muaro Jambi Regency

$x_t$ : Total Production of Certain Commodities in Muaro Jambi Regency

$X_i$ : Amount of Production of Certain Commodities in Muaro Jambi Regency

$X_t$ : Total Production of a particular commodity in Muaro Jambi Regency

If the calculation results show an  $LQ > 1$ , it means it is a basic sector and has export potential. While an  $LQ < 1$  means it is not a basic sector (local/import sector). LQ analysis is used because of its advantages. The advantages of LQ analysis include its simplicity, its

ability to demonstrate a region's economic structure and potential import-substituting industries or products that can be developed for export, and its ability to identify potential industries (sectors) for further analysis. Its weaknesses include being a crude, descriptive indicator, a temporary conclusion, and its inability to consider the economic structure of each region. This is because production and labor productivity vary across regions, as well as the varying resources available for development.

#### IV. RESEARCH RESULTS

The results of the Location Quotient (LQ) analysis based on plantation area in Muaro Jambi Regency can be seen in Table 2.

Table 2. Values based on area, 2018-2023, Muaro Jambi Regency

LUAS LAHAN			
KABUPATEN MUARO JAMBI		PROVINSI JAMBI	
KELAPA SAWIT	KARET	KELAPA SAWIT	KARET
97749	55915	497984	669135
96587	55907	505218	667114
227125	58414	1033354	665285
224461	61274	1099191	666207
224461	61274	1099191	666207
236921	38286	1098989	586266

Source: (Figures, 2024)

Table 2 shows that the planted area of a commodity influences production. In 2022, the land area in Muara Jambi Regency was 62,174 hectares.

Table 3 LQ Values for Oil Palm and Rubber Commodities in Muara Jambi Regency, Jambi Province 2018-2023

KOMODITAS	LOCATION QUOTIENT (LQ)						RATA RATA
	2018	2019	2020	2021	2022	2023	
KELAPA SAWIT	1,13	0,12	1,19	1,16	1,06	1,08	1
KARET	0,68	0,14	0,48	0,51	0,61	0,41	0,46

From 2018-2023, as shown in Table 3, we can conclude that:

1. In 2018, the LQ value for palm oil was 1.13, indicating it was classified as a basic sector, while the LQ value for rubber was 0.68, indicating it was classified as a non-basic sector.
2. In 2019, the LQ value for palm oil was 0.12, indicating it was classified as a non-basic sector, while the LQ value for rubber was 0.14, indicating it was classified as a non-basic sector.

3. In 2020, the LQ value for palm oil was 1.19, indicating it was classified as a basic sector, while the LQ value for rubber was 0.48.
4. In 2021, the LQ value for palm oil was 1.16, indicating it was classified as a basic sector, while the LQ value for rubber was 0.51. It is declared non-basic.
5. In 2022, the LQ value for palm oil is 1.06, thus it is declared a basic sector, while the LQ value for rubber is 0.61, thus it is declared a non-basic sector.
6. In 2023, the LQ value for palm oil is 1.08, thus it is declared a basic sector, while the LQ value for rubber is 0.41, thus it is declared a non-basic sector.
7. On average, from 2018-2023, a palm oil LQ value  $> 1$  is declared a basic sector, while a rubber LQ value  $< 1 = 0.46$  is declared a non-basic sector.

## **V. CONCLUSION**

Based on the analysis of the sectoral advantages of palm oil and rubber commodities in Muaro Jambi Regency, Jambi Province, for the 2018–2023 period, the following conclusions can be drawn:

1. Palm oil is a leading (basic) commodity in Muaro Jambi Regency during the 2018–2023 period. This is demonstrated by the Location Quotient (LQ) value, which is consistently above one, indicating that palm oil has a comparative advantage and is able to meet regional needs and has the potential for export outside the region.
2. Rubber plays a relatively smaller role than palm oil, with LQ values tending to be around or below one. This indicates that rubber has not yet fully become a basic commodity and is still oriented towards meeting internal regional needs.
3. The development of palm oil and rubber commodity advantages in Muaro Jambi Regency is influenced by land area, productivity levels, and market demand. Palm oil has higher productivity and economic value, thus contributing more to the regional economy than rubber.
4. The comparative advantage of palm oil commodities makes it the main driving sector of the regional economy, while rubber commodities still require increased productivity, quality improvements, and policy support to be able to increase their competitiveness.

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