Analysis of Leading Agricultural Commodities and Development Strategies in the Musi Rawas Regency, South Sumatra Province

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ABSTRACT: The Gross Regional Domestic Product (GRDP) of Musi Rawas Regency continues to increase significantly. One of the sectors contributing the second-largest share is agriculture, forestry, and fisheries. This sector accounts for 29.42% of Musi Rawas Regency's total GRDP. It includes food crop agriculture, horticulture, plantation crops, livestock, and agricultural and animal hunting services for commercial purposes. In 2021, the area of oil palm plantations in Musi Rawas Regency was 38,542.10 hectares, with a production of 106,339.69 quintals of palm oil. The purpose of this research is to analyze the leading commodities, identify internal and external factors influencing their development, and develop strategies to advance their development in the Musi Rawas Regency. The research respondents include academics and practitioners, and the study uses both primary and secondary data. The data analysis methods employed are the Analytic Hierarchy Process (AHP) and SWOT analysis. The results of the Analytic Hierarchy Process analysis indicate that the leading plantation commodity in Musi Rawas Regency is oil palm cultivation (0.377), followed by rubber plantations (0.213), coconut (0.136), coffee (0.134), cocoa (0.098), and sugarcane (0.042). The priority strategy for developing the Leading commodity of oil palm plantations in Musi Rawas Regency is to improve supporting facilities and infrastructure.

Keywords: AHP, SWOT, Strategy, Commodities, Leading

INTRODUCTION

Gross Regional Domestic Product (GRDP) is one indicator of a region's economic development. Over the past five years, the GRDP of Musi Rawas Regency has continued to grow significantly. GRDP at current prices indicates that the agriculture, forestry, and fisheries sector play an important role, accounting for 29.42% of Musi Rawas Regency's total GRDP. This primary group includes food crop agriculture, horticulture, plantation crops, livestock, and agricultural and animal-hunting services intended for sale. The total plantation area in Musi Rawas Regency in 2021 was 173,273.66 hectares, distributed across several plantations: 38,542.10 hectares of oil palm, 1,916.42 hectares of

coconut, 128,690.45 hectares of rubber, 3,833.70 hectares of coffee, 261.75 hectares of cocoa, and 29.24 hectares of sugarcane. The total production of the plantation sector in Musi Rawas Regency amounted to 240,794.69 quintals, comprising 106,339.69 quintals of palm oil, 1,711.70 quintals of coconut, 128,129.82 quintals of rubber, 3,195.88 quintals of coffee, 162.35 quintals of cocoa, and 1,255.25 quintals of sugarcane.

Given the characteristics of the Musi Rawas Regency, the agricultural sector is a key contributor to economic development. According to Salomina (2016), the capacity of this sector is crucial in assisting regional development. It serves as an essential tool for other growth sectors,

regional policies, and the income of each citizen. Agriculture is always considered vital because it plays a significant role in combining growth and equity with quality development (Daryanto and Hafizrianda, 2010). It is only natural that agriculture should be regarded as the driving force behind regional development (Keratorop et al., 2016). Sector analysis is an economic advantage of a region that is highly significant for formulating development policies, enabling the identification and prioritization of the base sector to drive regional economic growth (Arafah and Matheos, 2017).

Commodities that can be relied upon or prioritized are determined by a region's unique characteristics, such as soil fertility, geographic location, human energy sources, facilities, and infrastructure. Effectively utilizing these priority areas will undoubtedly be a key factor in boosting the local economy. Indirectly, it can drive regional development. In this regard, determining priority commodities in a region is based on specific criteria that identify which commodities are prioritized. According to Sukiyono and Widiono (2020), the criteria for determining priority commodities include production, technology, human resource development, and marketing. Meanwhile, Arifin & Rachbini (2001) state that the criteria for selecting a priority commodity include high product demand, technological innovation, increased investment in priority commodities, and the capacity to influence other sectors.

Based on the specified criteria, it is determined which commodities qualify as leading, necessitating development strategies to achieve economic growth. To efficiently expand and develop agriculture, the development of agricultural products must account for strengths, weaknesses, opportunities, and threats. It is crucial first to understand the internal and external factors that influence the creation of leading commodities. This understanding can positively drive the development of leading commodities. Despite these constraints, this research aims to identify leading commodities and to develop design strategies for them in Musi Rawas Regency.

RESEARCH METHODS

Method of Collecting Data

The data used consists of both primary and secondary sources. Primary data are collected through interviews using questionnaires. In contrast, secondary data are obtained from various sources, including the Department of Agriculture and Plantation of the research area, the Central Bureau of Statistics, and other relevant agencies.

Respondents in the study are selected from experts or key respondents, as well as parties with interests and direct involvement in activities aimed at improving leading commodities in Musi Rawas Regency. According to Putra et al (2019), stakeholders in this regard include activists/practitioners, local authorities, and educated individuals (academics).

Data analysis method

The data analysis in this research uses both qualitative and quantitative approaches. The data analysis in this research employs the Analytical Hierarchy Process (AHP) to identify leading commodities and select the most suitable alternative solutions. According to Triana et al. (2020), qualitative analysis involves examining internal and external factors simultaneously, whereas quantitative analysis employs weighting and rating methods. The most suitable analysis is the SWOT (Strengths, Weaknesses, Opportunities, and Threats) framework, which is used to select the most appropriate alternatives.

AHP is a method for determining priorities among options. The AHP begins by constructing a hierarchy for the case under investigation. Pairwise comparison matrices are used to form correlations within the structure. Then, these matrices determine the weights of each criterion through the method of normalizing paired comparisons.
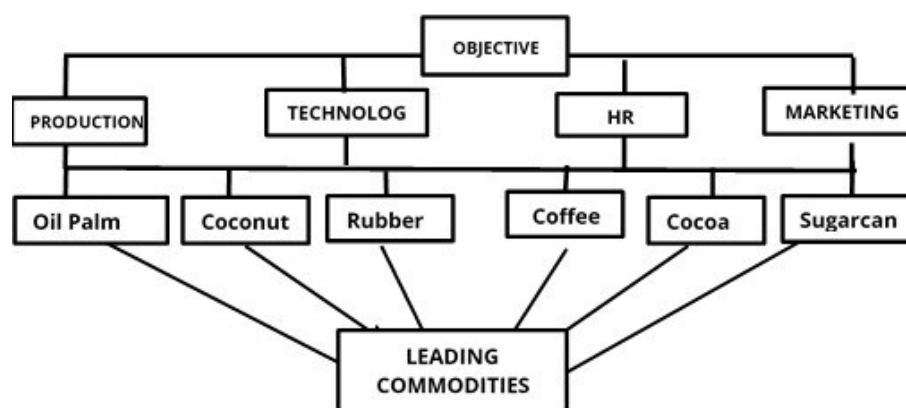
Figure 1. AHP Hierarchy Structure

The first step in conducting this AHP analysis is to construct a hierarchical structure, as shown in Figure 1. In this study, the objective is to identify the Leading commodities in Musi Rawas Regency, using criteria for production, technology, human resources, and marketing. The commodities comprise oil palm, coconut, rubber, coffee, cocoa, and sugarcane.

SWOT (Strengths, Weaknesses, Opportunities, and Threats)

According to Umar (2008), the SWOT matrix identifies the key success factors in both the internal and external environments faced by a business. This matrix yields four strategies: Strengths-Opportunities (SO); Weaknesses-Opportunities (WO); Strengths-Threats (ST); and Weaknesses-Threats (WT). The SWOT matrix is constructed by calculating IFAS (Internal Factor Analysis Summary), which comprises internal strengths and weaknesses, and EFAS (External Factor Analysis Summary), which comprises external opportunities and threats.

The IFAS (Internal Factor Analysis Strategy) and EFAS (External Factor Analysis Strategy) analyses are conducted by assigning weights and rating values. The technique involves assigning a weight to each factor on a scale from 1.0 (most important) to 0.0 (least important). Weighting is done by scoring all internal and external factors on a scale of 1-5 (1= Very Unimportant, 2= Unimportant, 3= Neutral, 4= Important, 5= Very Important). The method to obtain weight values,

according to Suryana and Eliaser (2019), is as follows:

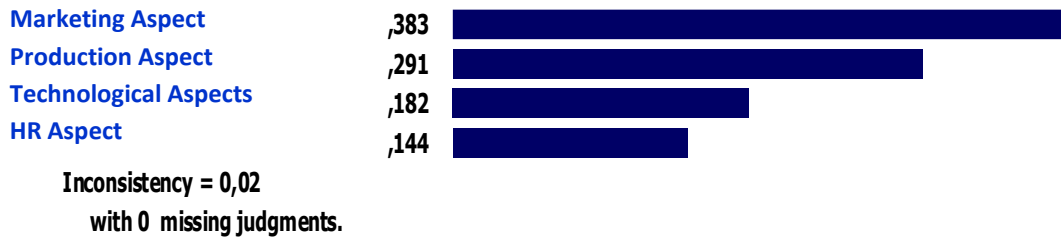$$\text{Weight} = \frac{\text{Respondent Answer Score}}{\text{Total Answer Score}}$$

The rating value is obtained by calculating rankings for each factor and assigning a score from 4 (very good) to 1 (lowest). Positive variables (all variables in the strengths category) are assigned values ranging from 1 (very good) to 4 based on their relative position to the average. In contrast, negative variables are handled differently. Weighting factors are obtained by multiplying each weight by its corresponding ranking. The result is the weighting score for each factor, ranging from 4 (outstanding) to 1 (lowest). Sum the weighting scores to obtain the total weighting score (Widnyana et al., 2020). To get the rating value for each factor, the following formula will be used. The method to obtain rating values, according to Suryana and Eliaser (2019), is as follows:

$$\text{Rating} = \frac{\text{Total Answers for Each Factor}}{\text{Number of Respondents}}$$

RESULTS AND DISCUSSION

Main Commodities

Overall, across the four aspects of marketing, technology, production, and HR for the Leading commodities in Musi Rawas District, marketing has the most significant influence, as shown in Figure 2.

Marketing Aspect ,383
Production Aspect ,291
Technological Aspects ,182
HR Aspect ,144

Inconsistency = 0,02
with 0 missing judgments.

Source: Primary data processed, 2023

Figure 2. Aspects in Determining Leading Commodities

The results of the Analytic Hierarchy Process analysis reveal that the marketing aspect plays a crucial role in determining the Leading commodities in Musi Rawas District. In the figure above, marketing has the highest value (0.383), followed by production (0.291), technology (0.182), and HR (0.144).

The inconsistency value of 0.02 indicates that the consistency ratio (CI/IR) is less than 0.1, hence the calculation results can be considered correct. Consistent with the research by Fadhilla & Hendarto (2016) and Damanik & Iskandar (2019), if the inconsistency value is below 0.10, the analysis results are considered consistent and can be accepted as a priority.

The results of the Analytic Hierarchy Process (AHP) analysis indicate that marketing plays a

crucial role in the development of palm oil plantation commodities in Musi Rawas District, as it is the primary objective of palm oil plantation stakeholders. Without the marketing component, the other elements would not be significant.

Among the four aspects of marketing, production, technology, and HR, after AHP analysis, it is found that the Leading commodity in Musi Rawas District is palm oil, with a value of 0.377, as shown in Figure 3. In Musi Rawas District, several plantation crops are grown, including rubber, palm oil, coconut, coffee, cocoa, and sugarcane. Among these six commodities, the Leading commodity is determined based on the four aspects discussed earlier, as indicated by the results of the Analytic Hierarchy Process.

Palm oil ,377
Coconut ,136
Rubber ,213
Coffee ,134
Cocoa ,098
Sugarcane ,042

Source: Primary data processed, 2023

Figure 3. Leading Commodities of Musi Rawas Regency

After conducting the Analytic Hierarchy Process analysis using Expert Choice, it was found that the leading plantation commodity in Musi Rawas District is oil palm, with a value of 0.377. The second is a rubber plantation, valued at 0.213, followed by coconut (0.136), coffee (0.134), cocoa (0.098), and sugarcane (0.42).

The oil palm commodity has the highest value of 0.377, indicating that it is currently the leading commodity in Musi Rawas District. According to BPS data (2022), oil palm plantation

production in Musi Rawas District in 2021 amounted to 106,339.69 quintals, with a plantation area of 38,542.10 hectares. The location of oil palm plantations expands every year, as does the production of oil palm.

Oil palm is a strategic perennial crop that accounts for 3.5% of Indonesia's Gross Domestic Product (GDP) and 13.5% of non-oil exports. Furthermore, 4.5 million hectares of land in Indonesia are available for sustainable oil palm development, with a production potential of 1.3

million tons per year (Purba et al., 2023). Research conducted by Purba et al. (2023) found that oil palm is a strategic commodity for regional economic development compared to mining. Additionally, economic growth, inclusivity, and environmental preservation are future policy scenarios for sustainable oil palm development.

Development Strategy

A SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) is a framework for evaluating these factors. This analysis is based on a logic that maximizes strengths and opportunities while simultaneously minimizing weaknesses and threats. The strategic decision-making process involves developing a mission, objectives, strategies, and policies (Rangkuti, 2004).

Table 1. Weight, Rating, and Score of Internal Factors Analysis: Strategic Development of Palm Oil Commodities in Musi Rawas Regency

Factors of Strategy Strengths	Weight	Rating	Score
Availability of extensive plantation land	0.100	3.857	0.384
Availability of local workforce	0.099	4.000	0.398
Support from the local government through programs and policies	0.081	2.714	0.219
Diversification of derivative products from oil palm	0.099	3.714	0.369
Availability of oil palm mills in Musi Rawas Regency	0.096	4.000	0.385
Total Strengths Score	0.475	18.286	1.755
Weaknesses			
Many people use uncertified seeds	0.098	1.286	0.126
Prohibition of forest and land burning (Law No. 18 of 2003, Law No. 30 of 2014)	0.078	2.714	0.213
Limited capital	0.098	1.143	0.112
Lack of skills and knowledge in oil palm cultivation	0.078	2.429	0.190
Need for intensive maintenance and care	0.078	2.571	0.202
Pests and diseases of oil palm plants	0.098	1.429	0.140
Total Weaknesses Score	0.529	11.571	0.983
Strengths - Weaknesses Factor	1	9.875	0.772

Source: Primary data processed, 2023

In the table above, the strength factor with the highest score is the availability of local labor, at 0.398. Based on field observations, there is a large pool of local labor available to work in the oil palm plantation sector, both at the plantation level and within companies. Meanwhile, the strength factor with the lowest score is the support of the local government through programs and policies, with a score of 0.219. This low score is due to the programs and policies implemented by the relevant departments remaining suboptimal and having little impact.

Strength factors in the development of the Leading commodity of oil palm in Musi Rawas District consist of the availability of extensive plantation land, availability of local labor, support from the local government through programs and policies, diversification of derivative products from oil palm, and the availability of oil palm mills in Musi Rawas Regency. According to Dwijatenaya et al, (2020) and Hermanto and Sri (2021), the key factors in the development of oil

palm commodities are the continued availability of land for oil palm plantations and the availability of human resources for oil palm farming.

The environmental weakness factor with the highest score is the prohibition on forest and land burning (Law No. 18/2003, Law No. 30/2014), with a score of 0.213, while the weakness factor with the lowest score is limited capital, with a score of 0.112. The prohibition on burning or land clearing issued by the Musi Rawas Regent has deterred many people from clearing land for oil palm cultivation, owing to the threat of criminal sanctions under the law.

The weakness factors consist of many people using uncertified seedlings, the prohibition of forest and land burning (Law No. 18/2003, Law No. 30/2014), limited capital, lack of skills and knowledge in oil palm cultivation, the need for intensive maintenance and cultivation, and pests and diseases of oil palm plants. According to Dwijatenaya et al, (2020) and Hermanto and Sri

(2021), weaknesses in the development of oil palm commodities include failure to use fertilizers as recommended, the use of inferior seedlings, limited capital, weak knowledge and skills among farmers, and limited availability of production tools.

The total score for internal environmental strength factors, after subtracting the weakness ecological factors, is 0.772. The scores for these internal environmental factors indicate that they are relatively strong, suggesting that they can leverage these strengths to overcome existing weaknesses.

Next is the result of the EFAS analysis on the development of oil palm commodities in Musi Rawas District, focusing on external environment Opportunities and Threats. The rating of weakness and threat factors is the opposite of that for strength and opportunity factors. Based on the EFAS analysis results, the average weight and rating are as follows.

Table 2. Weight, Rating, and Score of External Factors Analysis Strategic Development of Palm Oil Commodities in Musi Rawas Regency

Factors of Strategy	Weight	Rating	Score
Opportunities			
Availability of job opportunities for the community	0,148	3,857	0,571
Continuously advancing technology	0,135	3,857	0,519
Empowerment of women	0,109	3,143	0,342
Regional economic diversification	0,122	3,714	0,452
Total Opportunity Score	0,513	14,571	1,884
Threats			
High prices of production facilities, especially fertilizers	0,139	1,429	0,198
Fluctuations in TBS prices	0,096	2,429	0,233
Existence of land disputes between companies and communities	0,126	1,429	0,180
Environmental controversies (deforestation, forest and environmental damage)	0,126	1,286	0,162
Total Threat Score	0,487	6,571	0,774
Opportunity - Threat Factor	1	8	1,11

Source: Primary data processed, 2023

From Table 2, the external factor scores for the highest-value opportunities are the availability of community jobs (0.571) and the continually evolving technology (0.519). Meanwhile, the lowest score for opportunity factors is for women's empowerment in the oil palm plantation sector, at 0.342.

The development of oil palm commodities in Musi Rawas District indeed presents significant job opportunities for local labor, both in villages and in companies. The employment opportunities in the development of oil palm commodities include workers in oil palm plantations, processing plants, and the distribution of oil palm products.

The external environmental threat factors with the highest scores are fluctuations in TBS prices (0.233) and high production facility prices, particularly fertilizers (0.198). Among the threat factors with the lowest scores, environmental controversy (deforestation, forest, and ecological damage) has a score of 0.162. Fluctuations in TBS

prices pose a threat to the development of the oil palm commodity sector, as significant and prolonged declines can trigger an economic downturn for workers and businesses, particularly affecting their incomes.

The factors influencing the development of oil palm commodities in Musi Rawas District include the availability of employment opportunities for the community, technological change, women's empowerment, and regional economic diversification. This is consistent with the research findings written by Dwijatenaya et al, (2020), which state that opportunity factors in oil palm development include evolving technology in oil palm production, the presence of CPO mills to accommodate fresh fruit bunches (FFB), increasing income for oil palm farmers, partnerships with surrounding agricultural companies, and government policy support to enhance oil palm production and productivity. Meanwhile, threat factors include fluctuations in TBS prices, land disputes between companies and

communities, high production facility prices, especially for fertilizers, and environmental controversies (deforestation, environmental damage). According to Dwijatenaya et al (2020), threat factors in oil palm development include strict quality standards for FFB set by the CPO industry, land conversion, theft of FFB by outsiders in community plantations, frequent land burning, and price fluctuations (inconsistent TBS prices).

The total score for external environmental opportunity and threat factors affecting the development of oil palm commodities in Musi Rawas District is 1.11, which falls in the relatively strong category. This indicates that external

strategic factors can leverage opportunities to mitigate threats.

The results of the Internal Factors Analysis Strategy and External Factors Analysis Strategic analyses conducted previously will produce an internal-external matrix to help determine the position of oil palm commodity development in Musi Rawas District, thereby providing the most suitable alternative strategies to implement.

Based on the average scores of the Internal Factors Analysis Strategic and External Factors Analysis Strategic matrices, an I-E (internal-external) matrix can be constructed with an IFAS score of 0.772 and an EFAS score of 1.111. For a clearer view, please refer to Figure 3, the I-E matrix.
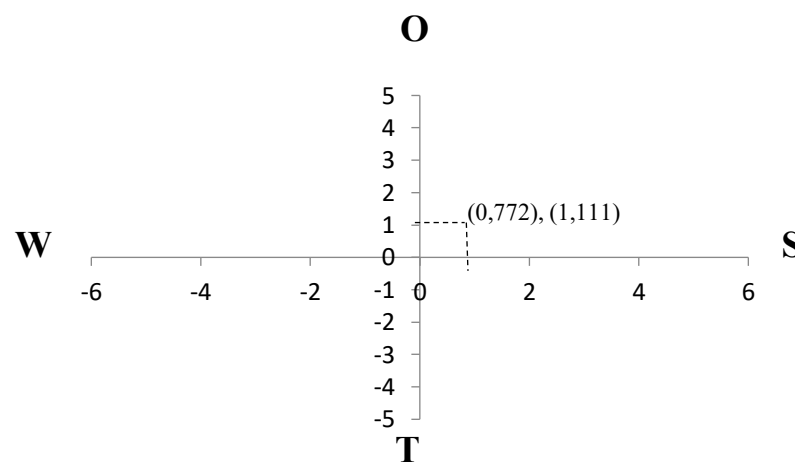
Source: Primary data processed, 2023

Figure 4. Internal-External Matrix for Palm Oil Commodity Development in Musi Rawas Regency

Based on the internal-external matrix above, the position of oil palm commodity development in Musi Rawas District is in Quadrant I, namely the Aggressive Strategy. The strategy for developing oil palm commodities is to leverage all strengths to seize the most significant opportunities.

The aggressive strategy in Quadrant I for the development of oil palm commodities is a combination of SO (Strength and Opportunity) strategies, achieved by optimizing and empowering all strengths while considering as many opportunities as possible in the surrounding environment. According to Wadoyo (2011), the goal of SWOT analysis is to generate a

range of functional strategy alternatives, making them easier to apply and implement within each Strategic Business Unit. Meanwhile, Saghaei et al. (2012) state that the grand strategy matrix aims to determine the strategic position to be taken in a business, and, according to Amarala et al. (2020), it is a tool for formulating alternative strategies to position a business.

Based on a SWOT analysis (strengths, weaknesses, opportunities, and threats), four alternative strategies were identified: SO, SW, ST, and WT. These development strategies are derived from the internal and external environmental conditions. Based on internal and external analyses, 16 alternative strategies were

identified from the SWOT (strengths, weaknesses, opportunities, and threats) analysis in cells SO, SW, ST, and WT.

The SWOT matrix from the Internal Factors Analysis and the External Factors Analysis indicates that the development of leading commodities in the Musi Rawas district falls in Quadrant I, requiring an aggressive strategy or a combination of S-O strategies. The S-O strategy leverages all strengths to seize and maximize opportunities. According to Hermanto and Sri (2021), Quadrant 1 is a highly advantageous situation in which both opportunities and strengths are present, enabling the exploitation of available opportunities. The strategy to be applied in this situation is to support aggressive growth-oriented policies or growth-oriented strategies. According to Nainggolan et al. (2021), an aggressive strategy is a survival strategy that leverages all available resources.

Table 3 SWOT Matrix for Development of Leading Commodities in Musi Rawas Regency

EXTERNAL / INTERNAL	OPOTUNITIES	TREATHS
	O1. Availability of job opportunities for the community O2. Continuously advancing technology O3. Empowerment of women O4. Regional economic diversification	T1. High prices of production facilities, especially fertilizers T2. Fluctuations in Fresh Fruit Bunch (TBS) prices T3. Existence of land disputes between companies and communities T4. Environmental controversies (deforestation, forest and environmental damage)
STRENGTHS	**SO**	**ST**
S1. Availability of extensive plantation land S2. Availability of local workforce S3. Support from the local government through programs and policies S4. Diversification of derivative products from oil palm S5. Utilization of Technology (Drones & satellites, GIS, Big data analysis, IoT, and Artificial Intelligence)	1. Creating specific regulations related to leading plantation commodities (S1, S2, S3, S4, S5, O1, O2, O3, O4) 2. Development of technological skills for human resources (S2, S3, S4, S5, O1, O2, O3) 3. Increasing and developing production and productivity based on technology (S1, S2, S4, S5, O1, O2, O3, O4) 4. Improving facilities and infrastructure to support the development of oil palm commodities (S1, S2, S3, S4, S5, O1, O2, O3, O4)	1. Enhancement of knowledge and skills of human resources in oil palm cultivation and post-harvest (S1, S2, S4, S5, T1, T2, T4) 2. Establishment of institutions for the provision of production and agricultural inputs (S1, S3, S4, S5, T1, T2, T4) 3. Development of farmers' access to existing resources (S1, S2, S4, S5, T1, T3, T4) 4. Product diversification (downstream and by-products) for value addition (S1, S4, S5, T1, T2, T4)
WEAKNESSES	**WO**	**WT**
W1. Many people use uncertified seeds W2. Prohibition of forest and land burning (Law No. 18/2003, Law No. 30/2014) W3. Limited capital W4. Lack of skills and knowledge in oil palm cultivation W5. Need for intensive maintenance and care W6. Pests and diseases of oil palm plants	1. Government policies related to farmers' rights and synergies (W1, W2, W3, W4, O1, O2, O3) 2. Training on the utilization of technology for oil palm cultivation and post-harvest (W3, W4, W5, W6, O1, O2, O3, O4) 3. Research on plant breeding and superior varieties based on local resources (W1, W3, W4, W5, W6, O1, O2, O3) 4. Enhancement of support and investment attractiveness for oil palm plantations (W1, W3, W5, W6, O1, O2, O3, O4)	1. Patenting rights and obligations between agencies and farmers (W1, W2, T1, T2, T3) 2. Implementation of sustainable farming practices (W2, W5, W6, T3, T4) 3. Utilization of waste and residues from oil palm plants for economic value (W3, W4, W5, W6, T1, T2, T4) 4. Promotion, public campaigns, and transparency in the development of the oil palm plantation industry and conflict resolution mechanisms (W2, W4, W5, W6, T1, T2, T3, T4)

Source: Primary data processed, 2023

The SO strategy in the image above combines existing strengths and opportunities to develop the Leading commodity, oil palm plantations, in Musi Rawas Regency. This SO strategy comprises 4 components: developing specific regulations for the cultivation of oil palm commodities, strengthening technological capabilities for human resources, increasing production and productivity through science and technology, and improving supporting facilities and infrastructure for the development of oil palm commodities.

The strategy of creating specific regulations for leading plantation commodities includes regulations governing the development of oil palm commodities, ranging from permits to open new land to the provision of inputs and fertilizers for oil palm cultivation. This is necessary to ensure that the development of oil palm commodities proceeds smoothly and yields optimal results in both private and community plantations.

The second strategy is the development of technology skills for human resources. This strategy is necessary to ensure that the human resources involved in developing oil palm commodities can utilize technology and adopt the latest innovations in oil palm cultivation to maximize production.

The third strategy is to increase and develop production and productivity through science and technology. Increasing production and productivity through science and technology is expected to improve time and cost efficiency in oil palm commodity production, thereby yielding optimal outcomes.
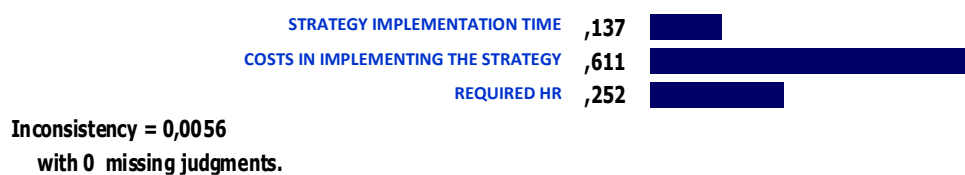
Lastly, a strategy to improve supporting facilities and infrastructure for the development of oil palm commodities should be implemented, as current facilities and infrastructure remain insufficient and at times hinder this development.

Priority Strategy

The Analytic Hierarchy Process is used to determine priority strategies for the development of the Leading commodity, oil palm, in Musi Rawas Regency. This Analytic Hierarchy Process analysis compares strategies generated by the SWOT matrix, namely the SO strategy.

Based on the results of the SWOT matrix analysis, the position of the development of the Leading commodity, oil palm, in Musi Rawas Regency falls in Quadrant I, namely an aggressive strategy, derived from the combination of S-O (Strength and Opportunity). The SO strategy comprises specific regulations related to leading plantation commodities, technology, and skills development for human resources; increasing and enhancing production and productivity through science and technology; and improving supporting facilities and infrastructure for the development of oil palm commodities.

The determination of priority strategies for the development of the Leading oil palm commodity in Musi Rawas Regency is inseparable from several supporting factors, namely the timing of implementation, the cost of implementation, and the required human resources.

STRATEGY IMPLEMENTATION TIME	,137
COSTS IN IMPLEMENTING THE STRATEGY	,611
REQUIRED HR	,252

Inconsistency = 0,0056
with 0 missing judgments.

Source: Primary data processed, 2023

Figure 4. Aspects in Determining Priority Strategies for the Development of Palm Oil Commodities in Musi Rawas Regency

Based on the results of the AHP analysis in Figure 4 above, the aspects considered in determining the priority strategies are as follows: firstly, the cost of implementing the plan with a value of 0.611, secondly, the human resources (HR) required with a value of 0.252, and thirdly, the time of implementing the strategy with a value of 0.137.

The inconsistency value of 0.00056 indicates that the consistency ratio (CI/IR) is below 0.1, suggesting that the results are valid. Consistent with the findings of Fadhilla & Hendarto (2016) and Damanik & Iskandar (2019), if the inconsistency value is below 0.10, the analysis results are considered consistent and acceptable for prioritization.

Combined instance-Synthesis with respect to:
Goal: Priority Strategy for Palm Oil Development
Overall Inconsistency=,01

Creating Special Regulations Related to Leading Commodities	,181
Development of Technological Skills for Human Resources	,274
Increase and Development of Production and Productivity	,349
Improvement of Supporting Facilities and Infrastructure	,196

Figure 5. Priority Strategy for the Development of Palm Oil Commodities Musi Rawas Regency

From the figure above, it can be concluded that a consistency ratio (CI/IR) of 0.01 (i.e., less than 0.1) indicates that the calculation results are acceptable. Consistent with the findings of Fadhilla & Hendarto (2016) and Damanik & Iskandar (2019), if the inconsistency value is below 0.10, the analysis results are considered consistent and acceptable for prioritization.

Based on the figure above, the priority strategy for developing oil palm commodities in Musi Regency is to increase production and productivity through science and technology, with a value of 0.349. The purpose of this strategy is to ensure that appropriate technologies are used throughout oil palm plantation operations to optimize production and efficiency across land preparation, cultivation, and post-harvest processing.

The second-priority strategy in the development of oil palm commodities is the development of technology skills for human resources, with a value of 0.274. This strategy remains closely related to the first strategy of using technology, whereas the second focuses on developing human resource skills in oil palm plantations.

The third strategy is to improve facilities and infrastructure to support the development of oil palm commodities, valued at 0.196. This strategy involves improving facilities and infrastructure for the development of oil palm commodities, from production to post-harvest processing. The last strategy is to create specific regulations for leading plantation commodities, with a score of 0.181. For the development of oil palm commodities, specific rules are needed, ranging from the provision of production facilities to regulations related to palm oil prices. With these

regulations, it is hoped they will assist in developing oil palm plantations in Musi Rawas Regency, especially smallholder plantations, to achieve maximum production and improve community welfare.

CONCLUSIONS AND POLICY IMPLICATIONS

Conclusions

The leading plantation commodity in Musi Rawas Regency is oil palm, with a value of 0.377. Several strengths in the development of oil palm commodities in Musi Rawas Regency include extensive plantation land, a local workforce, support from the local government through programs and policies, diversification of oil palm derivative products, and the presence of oil palm mills in the regency. Meanwhile, weaknesses consist of many people using uncertified seeds, the prohibition of forest and land burning (Law no. 18 of 2003, Law no. 30 of 2014), limited capital, lack of skills and knowledge in oil palm cultivation, the need for intensive maintenance, and pests and diseases of oil palm plants. Internal opportunity factors in the development of oil palm commodities include job opportunities for the community, technological advancement, women's empowerment, and regional economic diversification. Threats to the development of oil palm commodities in Musi Rawas Regency include high prices of production facilities, especially fertilizers, fluctuations in Fresh Fruit Bunch (FFB) prices, land disputes between companies and communities, and environmental controversies (deforestation, forest, and environmental damage). In addition, the priority strategy for developing the Leading oil palm commodity in Musi Rawas Regency is to increase

production and productivity through science and technology.

Recommendations

As discussed above, the development of the palm oil commodity sector in Musi Rawas Regency should be directed toward increasing production and productivity through scientific and technological interventions. This effort can be implemented through certified seeds, modern cultivation techniques, and digital technologies for pest control. In addition, capital and infrastructure support must be strengthened by expanding access to financing for farmers, improving transportation networks, and ensuring the availability of adequate processing plants. Diversification of palm oil derivative products is also important for increasing added value, expanding the market, and creating new business opportunities for local communities. Social and economic empowerment, including entrepreneurship training and the enhancement of women's roles, can strengthen people's well-being and reduce land conflicts through partnerships between companies and communities. On the other hand, sustainable environmental management must be prioritized through the implementation of environmentally friendly agricultural practices, ecosystem conservation, and the socialization of regulations prohibiting land burning. To mitigate economic risks, farmer cooperatives or associations should be strengthened to manage fluctuations in Fresh Fruit Bunch (FFB) prices. In contrast, subsidies and digital-based price information systems can help farmers make more informed decisions. With this integrated strategy, palm oil can remain Musi Rawas' leading commodity, supporting regional economic growth while maintaining environmental sustainability.

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