



Organic Fertilizer Use Strategy in Corn Farming in Ulu Ere, Bantaeng

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ABSTRAK

This study aims to analyze the strategy of organic fertilizer use in corn farming in Ulu Ere District, Bantaeng Regency. The study involved eight farmers, two extension workers from the Department of Agriculture, and two consumers of mustard greens who used organic fertilizer as informants. Data were collected through in-depth interviews and a SWOT analysis to assess the internal and external conditions in the use of organic fertilizer. The results showed that the external value (opportunities and threats) was at 2.76, while the internal value (strengths and weaknesses) reached 2.92. The proposed strategy is to increase socialization regarding the use of organic fertilizer, reduce dependence on chemical fertilizers, and increase farmers' knowledge and skills in the use of organic fertilizers. This is expected to help farmers reach export markets and improve land management systems for sustainable agriculture. Organic fertilizer is considered to have great potential to improve the quality and productivity of corn farming in Ulu Ere District, while supporting agricultural sustainability.

INTRODUCTION

According to David (2011), strategy refers to the steps chosen to achieve organizational goals, which include identifying objectives, making decisions, and allocating resources effectively and efficiently. This strategy is directed toward achieving the organization's vision and mission by considering various internal and external factors that may influence its success.

In the agricultural context, as illustrated in "The Strategy for the Use of Organic Fertilizers in Corn Farming in Ulu Ere, Bantaeng," strategy encompasses a series of actions aimed at maximizing agricultural production through the use of environmentally friendly organic fertilizers. This involves planning efforts to reduce dependence on chemical fertilizers, optimizing the sustainable use of natural resources, and enhancing farmers' skills and knowledge in utilizing organic fertilizers to support sustainable agriculture (Hitt, Ireland, & Hoskisson, 2017).

Agricultural development in Bantaeng Regency aims to create an advanced and resilient agricultural sector capable of increasing production yields and quality, as well as improving farmers' welfare. However, excessive use of external inputs such as chemical fertilizers, pesticides, hybrid seeds, and mechanization can cause negative environmental impacts, including pollution and soil degradation that affect soil fertility and crop productivity. Soil degradation also directly affects crop quality, such as mustard greens, which may experience inhibited growth and produce suboptimal yields.

The global increase in fertilizer use has occurred alongside agricultural land expansion, population growth, and agricultural intensification. However, excessive use of chemical fertilizers can increase soil pollution, which in turn may affect human health (Lingga & Marsono, 2000). Therefore, this study aims to identify internal strengths and weaknesses, as well as external opportunities and threats related to the use of organic fertilizers in efforts toward sustainable agriculture in Bantaeng Regency.

Organic agriculture is an important component of the sustainable agriculture approach. This system includes various techniques, such as intercropping, mulching, and crop and post-harvest management. Organic agriculture has specific characteristics related to legal frameworks, certification, and restrictions on the use of synthetic materials, all of which aim to maintain and enhance soil productivity. According to Stevenson (1994), soil organic matter consists of various types of organic compounds that play an important role in improving soil fertility. If soil organic matter content declines, crop productivity will be disrupted, making it necessary to maintain or even increase soil organic matter levels.

Soil degradation, which often results from excessive use of chemical fertilizers, can be categorized into three main types: chemical, physical, and biological degradation. Chemical degradation, such as soil acidification and salt accumulation, can occur due to excessive application of nitrogen fertilizers (Brady, 1990). Physical degradation, such as soil compaction, may result from improper tillage practices. Biological degradation, which includes a decline in soil biodiversity, generally arises from prolonged physical or chemical damage.

For example, excessive nitrogen fertilizer use over many years can cause soil acidification and reduce populations of soil organisms, such as earthworms (Brady, 1990).

In this regard, the use of organic fertilizers is expected to provide solutions for improving soil management systems by increasing beneficial organic matter content for plant growth. Organic fertilizers are also believed to enhance the quality and quantity of corn production in Ulu Ere District, Bantaeng, while supporting sustainable agriculture. Therefore, this study aims to formulate effective strategies for the use of organic fertilizers to support the sustainability of corn farming in the region, while also improving soil conditions that have been degraded by excessive use of chemical fertilizers.

Ulu Ere District, located in Bantaeng Regency, is one of the areas with considerable agricultural potential, particularly in corn production. Corn is one of the leading crops widely cultivated by farmers in this area, both for local consumption and market supply. However, in corn farming practices, farmers in Ulu Ere District still face various challenges in achieving sustainable production increases. One of the main challenges is the excessive dependence on chemical fertilizers, which can potentially damage long-term soil fertility and environmental quality.

The use of organic fertilizers as an alternative in agriculture has begun to receive attention, as it is believed to reduce the negative impacts of chemical fertilizer use. Organic fertilizers not only improve soil quality but also support environmentally friendly sustainable agriculture principles. Nevertheless, the utilization of organic fertilizers in Ulu Ere District has not yet been optimal. Many farmers are still reluctant to switch from chemical fertilizers due to limited knowledge and skills in proper organic fertilizer application. In addition, there is still a lack of socialization regarding the benefits of organic fertilizers and effective application methods.

Under these conditions, this study focuses on developing strategies for the use of organic fertilizers in corn farming in Ulu Ere District. Wider adoption of organic fertilizers is expected to help farmers increase corn yields sustainably, improve soil quality, and reduce dependence on chemical fertilizers. This study also aims to identify opportunities and challenges in the application of organic fertilizers, as well as strategies that can be implemented to optimize their use. In this context, it is important to involve various stakeholders, including farmers, agricultural extension officers, and consumers, to create a supportive environment for the transition toward more environmentally friendly and sustainable agriculture in Ulu Ere District, Bantaeng Regency.

LITERATURE REVIEW

Strategy

The term strategy originates from the Greek word *strategia*, meaning “the art of the general,” which was commonly used in warfare. In general terms, strategy refers to a way of achieving victory or accomplishing objectives. Strategy is essentially the art and science of using and developing power (political, economic, socio-cultural, and defense and security) to achieve predetermined

goals. Strategy represents how an organization or institution achieves its objectives in accordance with external environmental opportunities and threats, as well as internal resources and capabilities (Sukino, 2013).

Maintaining and enhancing biodiversity and ecosystems is crucial, particularly in sustaining and improving the health of human populations and other living organisms. Economic viability means that farmers are able to produce sufficient output to meet their own needs and generate enough income to pay labor wages and other production costs. Economic benefits are not only measured directly by farm output, but also by the function of resource conservation and the reduction of environmental risks.

Organic Agriculture

Organic agriculture is a system characterized by working in harmony with nature to meet the need for healthy food for humanity (Daryanto in Winangun, 2005).

Organic agriculture is part of the sustainable agriculture approach, encompassing various farming techniques such as intercropping, mulching, and crop and post-harvest handling. It is distinguished by legal and certification requirements, restrictions on synthetic materials, and efforts to maintain soil productivity. Organic agriculture aims to:

- a) Produce high-quality agricultural products in adequate quantities;
- b) Cultivate crops naturally;
- c) Encourage and enhance biological life cycles within ecosystems;
- d) Maintain and improve long-term soil fertility;
- e) Avoid all forms of contamination resulting from agricultural practices;
- f) Preserve genetic diversity within and around agricultural systems; and
- g) Consider broader social and ecological impacts within farming systems.

According to Sutanto (2002), Western agricultural experts describe organic farming systems as the “law of return,” meaning a system that seeks to return all types of organic materials to the soil, whether from crop residues or livestock waste, with the aim of providing nutrients to plants. The philosophy underlying organic agriculture is to feed the soil so that the soil can feed the plants (feeding the soil that feeds the plants), rather than directly feeding the plants.

The strategy of organic agriculture involves rapidly transferring nutrients from crop residues, compost, and manure into soil biomass, which after mineralization processes become nutrients in the soil solution. This differs from conventional or inorganic agriculture, which supplies nutrients directly and rapidly in soluble form, *allowing immediate absorption according to crop needs and application timing* (Sutanto, 2002).

Organic Fertilizers

The use of organic fertilizers, such as manure derived from animal waste, provides complete essential nutrients required by plants. Manure contains both macro- and micronutrients. Solid manure is rich in phosphorus, while nitrogen and potassium are largely obtained from livestock urine. Nutrients contained in

manure include potassium, magnesium, sulfur, sodium, iron, copper, and molybdenum. Nitrogen content in livestock urine is three times higher than that found in solid manure.

Based on composition, poultry manure contains three times more nutrients than mammalian manure. Additionally, poultry manure has higher phosphorus content and decomposes more easily than other types of livestock manure.

The use of organic fertilizers, especially in agricultural land, provides several advantages, including:

- a. Improving soil chemical properties;
- b. Improving soil physical properties;
- c. Increasing soil water-holding capacity;
- d. Enhancing soil microorganism effectiveness;
- e. Serving as a nutrient source for plants;
- f. Being environmentally friendly;
- g. Being more economical; and
- h. Improving production quality.

Fertilizer use worldwide continues to increase in line with agricultural land expansion, population growth, increased intensification, and the diversification of fertilizer applications aimed at boosting agricultural yields. Environmental experts are concerned that chemical fertilizer use will increase soil pollution, ultimately affecting human health (Lingga & Marsono, 2000).

Environmental Analysis

Environmental analysis is a process used by strategic planners to monitor environmental sectors in determining regional opportunities and threats. The monitored factors include both external and internal factors. Demographic and technological environments are part of external environmental factors, while research and development are included as internal factors. By monitoring these environmental factors, strategists can identify opportunities and challenges and determine the nature, function, and interrelationships among them.

SWOT analysis is a systematic identification of various factors used to formulate regional strategies. This analysis is based on logic that maximizes strengths and opportunities while simultaneously minimizing weaknesses and threats. Strategic policy decision-making is always related to the development of missions, objectives, strategies, and regions. Therefore, strategic planners must analyze strategic regional factors (strengths, weaknesses, opportunities, and threats) under current conditions. This process is referred to as situational analysis, with SWOT analysis being the most popular model (Rangkuti, 2001).

Strengths are elements that can be leveraged within a region, such as reliable product advantages and distinctive skills that make it stronger than competitors.

Weaknesses refer to limitations or deficiencies in regional resources. Opportunities are favorable conditions or situations that benefit a region.

Threats are unfavorable environmental factors that, if not addressed, can hinder regional performance both in the present and future.

Rangkuti (2006) states that external strategic factor analysis focuses on existing conditions and emerging trends from outside the organization that may influence performance. After identifying external strategic factors, an External Strategic Factors Analysis Summary (EFAS) table is developed through the following steps:

1. List strengths/opportunities and weaknesses/threats in Column 1.
2. Assign weights to each factor in Column 2, ranging from 1.0 (very important) to 0.0 (not important), with total weights equal to 1.
3. Assign ratings in Column 3, ranging from 4 (very good/outstanding) to 1 (very poor), based on the factor's influence on organizational conditions.
4. Multiply the weight by the rating to obtain the weighted score.
5. Sum the weighted scores to determine the organization's position in the SWOT analysis diagram.

Internal strategic factor analysis evaluates performance related to strengths and weaknesses in achieving organizational goals. Similar to external analysis, an Internal Strategic Factors Analysis Summary (IFAS) table is constructed.

According to Rangkuti, 2006, the values from the weighting results are then matched to the SWOT diagram:

Opportunity

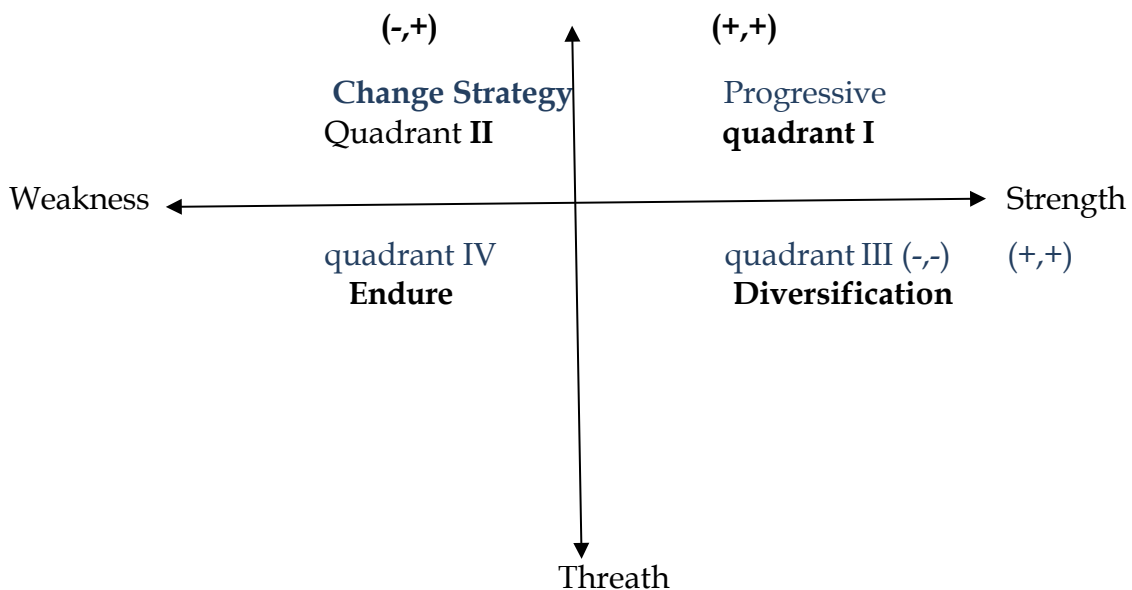


Figure 1: SWOT Diagram

Quadrant I (Positive, Positive)

This position indicates an organization that is strong and has significant opportunities. The recommended strategy is a Progressive Strategy, meaning that the organization is in a stable and excellent condition, making it highly feasible to continue expanding, increasing growth, and achieving maximum progress.

Quadrant II (Positive, Negative)

This position indicates an organization that is strong but faces major challenges. The recommended strategy is Strategy Diversification, meaning that although the organization is in a stable condition, it encounters serious challenges. Relying solely on previous strategies may hinder organizational performance; therefore, the organization is advised to diversify and expand its range of tactical strategies.

Quadrant III (Negative, Positive)

This position indicates an organization that is weak but has substantial opportunities. The recommended strategy is Strategy Change, meaning that the organization is advised to revise its previous strategies. Existing strategies may not be sufficient to capture available opportunities while simultaneously improving organizational performance.

Quadrant IV (Negative, Negative)

This position indicates an organization that is weak and faces major threats. The recommended strategy is a Defensive Strategy, meaning that the organization is in a dilemmatic internal condition. Therefore, it is advised to adopt defensive measures, control internal performance, and prevent further decline. This strategy should be maintained while continuously making internal improvements.

The tool used to formulate strategic factors is the SWOT matrix. This matrix clearly illustrates how external opportunities and threats faced by an organization can be aligned with its internal strengths and weaknesses. The SWOT matrix produces four sets of possible strategic alternatives.

Table 1. SWOT Matrix

IFAS / EFAS	STRENGTHS (S)	WEAKNESSES (W)
OPPORTUNITIES (O)	SO Strategy Formulate strategies that use strengths to take advantage of opportunities	WO Strategy Formulate strategies that minimize weaknesses to exploit opportunities
THREATS (T)	ST Strategy Formulate strategies that use strengths to overcome threats	WT Strategy Formulate strategies that minimize weaknesses and avoid threats

SWOT Strategy Formulation

1. SO Strategy
 This strategy is developed by utilizing all organizational strengths to seize and maximize available opportunities.
2. ST Strategy
 This strategy focuses on using organizational strengths to overcome external threats.
3. WO Strategy
 This strategy is implemented by taking advantage of existing opportunities while minimizing organizational weaknesses.
4. WT Strategy

This strategy is defensive in nature and aims to minimize weaknesses while avoiding threats.

The Role of Organic Fertilizers in Corn Farming

Organic fertilizers play an important role in improving soil quality and increasing corn productivity. Merga Boru (2025) states that the use of organic fertilizers enhances soil health by improving physical, chemical, and biological soil properties, thereby supporting more optimal plant growth and economically increasing productivity. Organic fertilizers contain essential nutrients that are gradually released through microbial processes, making them more environmentally friendly and sustainable compared to the exclusive use of chemical fertilizers.

Integrated Organic and Mineral Fertilization Strategy

Fertilization strategies that combine organic and mineral fertilizers can improve corn yields and soil quality. Research by Abrol et al. (2024) indicates that organic fertilization integrated with mineral inputs can increase corn yields and enhance soil quality, even under drought conditions. The combination of fertilizers such as farmyard manure and specific nitrogen doses provides more stable long-term corn productivity.

METHODOLOGY

Research Approach

This study employs a quantitative descriptive approach using SWOT analysis (Strengths, Weaknesses, Opportunities, Threats), IFAS (Internal Factor Analysis Summary), and EFAS (External Factor Analysis Summary). This approach aims to describe internal and external factors influencing the Strategy for the Use of Organic Fertilizers in Corn Farming in Ulu Ere, Bantaeng.

Research Informant Technique

The informants in this study were selected using purposive sampling (deliberate selection). The informants involved in this study consisted of:

- a. Farmers: 8 individuals
- b. Agricultural Office staff: 2 individuals
- c. Consumers of corn farmers who use organic fertilizers: 2 individuals

This study is an evaluative type of research that examines internal factors (strengths and weaknesses) and external factors (opportunities and threats) related to the use of organic fertilizers in Ulu Ere District, Bantaeng Regency.

2. Data Collection Methods

The data collection methods used in this study are as follows:

1. Observation

Observation is a data collection method conducted through direct and careful field observation.

2. Interviews

Interviews are directed conversations focused on specific issues and conducted intentionally. This activity involves a verbal question-and-

answer process between two or more individuals who are physically present (face-to-face). Therefore, the quality of interview results is influenced by the interviewer, respondents, the questions asked, and the interview situation.

3. Documentation

Documentation involves collecting data by recording or retrieving information from notes, documents, and administrative records relevant to the research problem. In this study, documentation was obtained from official documents or archives of the institutions involved.

The types of data required in this study consist of primary data and secondary data, as described below:

- Primary data were obtained directly through field observations and interviews with parties related to the research topic.
- Secondary data were obtained from the Agriculture and Plantation Office of Bantaeng Regency.

3. Data Analysis

Based on the primary and secondary data collected, the data were analyzed using SWOT analysis by systematically identifying various factors to formulate appropriate strategies. SWOT stands for internal environmental factors—Strengths and Weaknesses—and external environmental factors—Opportunities and Threats. SWOT analysis compares external factors (opportunities and threats) with internal factors (strengths and weaknesses) to support strategic decision-making.

The definitions of Strengths, Weaknesses, Opportunities, and Threats are as follows:

1. Strengths

Strengths refer to the conditions of strength that exist within an organization or project. The strengths analyzed are internal factors found within the organization or project itself.

2. Weaknesses

Weaknesses refer to the conditions of weakness that exist within an organization or project. The weaknesses analyzed are internal factors found within the organization or project itself.

3. Opportunities

Opportunities refer to conditions that provide potential for growth in the future. These conditions represent favorable situations that may be utilized to support the development of the organization or project.

4. Threats

Threats refer to external conditions that pose risks or challenges. These threats may disrupt or negatively affect the organization or project.

To obtain the weighting values, the formula proposed by Yantu (2012) is used, as follows:

RESEARCH RESULTS

SWOT Analysis for the Strategy of Organic Fertilizer Use in Corn Farming in Ulu Ere, Bantaeng

A. IFAS Matrix (Internal Factor Analysis Summary)

The IFAS (Internal Factor Analysis Summary) matrix is used to analyze internal factors that influence the strategy for using organic fertilizers in corn farming in Ulu Ere, Bantaeng. These factors consist of strengths and weaknesses possessed by farmers and agricultural practices in the area.

The following is the Internal Factor Matrix (IFAS), which includes strengths and weaknesses related to the strategy for organic fertilizer use in corn farming in Ulu Ere.

Table 1. IFAS Matrix (Internal Factor Analysis Summary)

Internal Factors Matrix		
IFAS IFAS	STRENGTHS (S) ▪ Determine 5-10 internal strength factors	WEAKNESSES (W) Determine 5-10 internal weakness factors
OPPORTUNIES (O) ▪ Determine 5-10 external opportunity factors	STRATEGY (SO) Create strategies that use strengths to take advantage of opportunities	STRATEGY (WO) Create a strategy that eliminates weaknesses to take advantage of opportunities
THREATS (T) ▪ Determine 5-10 external threat factors	STRATEGI (ST) Create strategies that use strengths to overcome threats.	STRATEGY (WT) Create strategies that minimize weaknesses and avoid threats.

No	Strengths	Weight	Rating	Score
1	The use of organic fertilizers can improve soil fertility	0.16	4	0.64
2	Organic materials are relatively inexpensive and easily available	0.16	4	0.64
3	Large human resources in the agricultural sector	0.12	3	0.36
4	Reduces environmental pollution	0.08	2	0.16
5	Reduces environmental erosion problems	0.08	2	0.16

No	Weaknesses	Weight	Rating	Score
1	Limited knowledge and skills of farmers	0.04	1	0.04
2	Farmers' habitual use of chemical fertilizers	0.04	1	0.04
3	Lack of socialization on organic fertilizer use by agricultural extension officers	0.08	2	0.16
4	Low level of farmer adoption	0.12	3	0.36
5	Farmers' perception that chemical fertilizers increase production	0.12	3	0.36

Total

Weight = **1.00**

Rating = **25**

Score = **2.92**

Based on Table 1, the internal factors indicate that there are five strengths and five weaknesses influencing the strategy for organic fertilizer use in corn farming in Bonto Tallasa Village, Ulu Ere District, Bantaeng Regency. These strengths and weaknesses were arranged according to their impact weights, ranging from very important to less important.

The data show that the total weight of strengths is greater than that of weaknesses, clearly illustrating that the research location possesses stronger internal strengths than weaknesses in implementing the organic fertilizer strategy.

The strengths were rated on a scale from **1 to 4**, with **4 representing the strongest influence**, based on interviews with farmers as users and practitioners of organic fertilizers, as well as officials from the Agricultural Office. The multiplication of weight and rating produces the score for each strength and weakness factor. The total combined score for strengths and weaknesses is 2.92.

Table 2. EFAS Matrix (External Factor Analysis Summary)

External Factors Matrix		Weight	Rating	Score
No Opportunities				
1	High consumer demand for corn products produced using organic fertilizers	0.16	4	0.64
2	Healthy lifestyle trends prioritizing agricultural products free from chemical fertilizers	0.12	3	0.36
3	Export market tendencies toward organically certified products	0.12	3	0.36
4	Government support	0.08	2	0.16
5	Competitive prices from the use of organic fertilizers	0.08	2	0.16

No	Threats	Weight	Rating	Score
1	Chemical fertilizer distributors selling products to farmers	0.04	1	0.04
2	Continued availability of inorganic fertilizers through the Agricultural Office	0.08	2	0.16
3	Farmers' practice of directly burying crop residues from previous harvests	0.08	2	0.16
4	Use of immature organic fertilizers	0.12	3	0.36
5	Organic waste materials containing organic acids	0.12	3	0.36

Total

Weight = **1.00**

Rating = **25**

Score = **2.76**

Based on Table 2, there are five opportunities and five threats faced in the use of organic fertilizers for corn cultivation. These factors were weighted from very important to less important based on their impact on the organic fertilizer strategy.

The total weight of opportunity factors is greater than that of threat factors, indicating that this village has greater opportunities than threats in implementing organic fertilizer use in corn farming.

Opportunities were assigned ratings on a scale from 4 (highest) to 1 (lowest). Each opportunity was rated on a scale of 1 to 4 based on the results of interviews with informants (farmers and officials from the Department of Agriculture) as well as the conditions at the research location. The multiplication of the weight and the rating produces the score for each opportunity and threat factor. The total score for opportunities and threats is 2.76. This score is required to determine the position of the village in the External-Internal matrix regarding the use of organic fertilizer in corn farming.

The EFAS and IFAS values of the entity in the External-Internal matrix can be identified in Matrix 5 (2.92 - 2.76).

Figure 1. External-Internal (EFAS-IFAS) Matrix of Organic Fertilizer Use in Corn Farming

	Total Skor Faktor Internal↑			
		Tinggi (4-3)	Rata - rata (3-2)	Lemah (2-1)
Total External Factor Score (2,76) ←	Tall (4-3)	1 Growth	2 Growth	3 Growth
	Currently (3-2)	4 Stability	5 Growth/Stability	6 Downsizing
	Low (2-1)	7 Growth	8 Stability	9 Liquidation

The different strategic matrix positions are described as follows:

Position 1: Concentration strategy through vertical integration

Position 2: Concentration strategy through horizontal integration

Position 3: Turnaround strategy

Position 4: Stability strategy

Position 5: Concentration strategy through horizontal integration / stability

Position 6: Divestment strategy

Position 7: Concentric diversification strategy

Position 8: Conglomerate diversification strategy

Position 9: Liquidation or bankruptcy strategy

Based on the analysis, the strategy for using organic fertilizer in corn farming is positioned in Matrix Position 5, indicating that corn farming using organic fertilizer in Ulu Ere District is experiencing favorable growth. The applied strategy is a **growth** strategy, which emphasizes increased socialization of organic fertilizer use, reduced reliance on chemical fertilizers, and improved farmers' knowledge and skills in using organic fertilizers in order to reach export markets.

The EFAS-IFAS matrix can serve as a basis for alternative extension programs in Ulu Ere District, Bantaeng Regency, in determining strategies for the use of organic fertilizers. The formulation of strategic alternatives is based on elements of strengths, weaknesses, opportunities, and threats.

A summary matrix of the SWOT analysis, which describes internal and external conditions, is presented in Table 3 below.

Table 3. SWOT Analysis of Organic Fertilizer Use Strategy for Corn Plants

<p style="text-align: center;">Internal</p>	<p>Strengths :</p> <ol style="list-style-type: none"> 1. The Use Of Organic Fertilizers Can Increase Soil Fertility And Long-Term Soil Quality. 2. Organic Fertilizer Is Cheap And Easy To Obtain From Natural Materials Around Farmers. 3. The Availability Of Skilled Labor In The Agricultural Sector Supports The Massive Use Of Organic Fertilizers. 4. Organic Fertilizers Help Reduce Pollution Caused By Chemical Fertilizers. 5. The Use Of Organic Fertilizers Supports 6. Environmental Sustainability By Reducing Soil Erosion And Degradation 	<p>Weakness :</p> <ol style="list-style-type: none"> 1. Farmers' knowledge and skills are relatively low. 2. Farmers' habits of using chemical fertilizers 3. Lack of socialization of the use of organic fertilizers 4. Farmer adoption is relatively low 5. Farmers think that chemical fertilizers can increase production.
<p>Eksternal</p> <p>Opportunities:</p> <ol style="list-style-type: none"> 1. Improving soil fertility to increase agricultural yields in line with the high market demand for organic products. 2. Targeting health-conscious markets that prioritize chemical-free products. 3. Opening export market opportunities with certified organic products, which are more sought after by foreign markets. 4. Government support in the form of outreach programs can accelerate the adoption of organic fertilizers among farmers. 5. Organic fertilizers can reduce production costs in the long term by reducing dependence on chemical fertilizers. 	<p>SO</p> <ol style="list-style-type: none"> 1. Organic fertilizer can improve soil fertility, thus increasing farmer/consumer demand for organic fertilizer. 2. Increase collaboration with farmers through farmer groups and cooperatives in selling organic fertilizer. 3. Provide examples of organic materials that can be used as organic fertilizer to farmers. 4. The government and farmers partner in marketing mustard greens using organic fertilizer, primarily to reach international markets. 	<p>WO</p> <ol style="list-style-type: none"> 1. Increase demonstrations of organic fertilizer production. 2. Provide information to farmers about the benefits and advantages of using organic fertilizers and market opportunities for chemical-free mustard greens. 3. Increase outreach activities to farmers on the use of organic fertilizers.

Treahts :	ST	WT
<ol style="list-style-type: none"> 1. Chemical fertilizer distributors selling products to farmers 2. Inorganic fertilizer sales from the agricultural department are still being found 3. Farmers are directly burying the harvest from the previous crop 4. Raw organic fertilizers are available 5. Organic materials from waste containing organic acids 	<ol style="list-style-type: none"> 1. Provide farmers with an understanding of the impacts of chemical fertilizers. 2. Increase farmer empowerment through the production of compost and manure. 3. Increase farmer knowledge Regarding the production and use of organic fertilizers. 4. Implement the use of ready-to-use organic fertilizers among farmers to promote a healthy lifestyle and reduce environmental erosion. 	<ol style="list-style-type: none"> 1. Changing the mindset and attitudes of farmers to encourage them to use organic fertilizers. 2. Imposing strict sanctions on government officials who sell inorganic fertilizers to encourage the use of organic fertilizers. 3. Changing farmers' mindsets to collect agricultural waste and make compost. 4. Increasing farmer participation in producing organic fertilizers for their own use and for marketing to cooperatives.

Based on table 4, it is explained that there are four combinations of strengths and opportunities (SO), strengths and threats (ST), weaknesses and opportunities (WO), and weaknesses and threats (WT). This can be a basis for the Ulu Ere District area of Bantaeng Regency in the use of organic fertilizers on corn plants to implement a development strategy.

DISCUSSION

1. IFAS (Internal Factor Analysis Summary) Matrix

Strengths:

1. The use of organic fertilizers can improve soil fertility (Score 0.64): Organic fertilizers have the ability to improve soil structure and increase long-term soil fertility, which is crucial for the sustainability of corn farming.
2. Organic materials are inexpensive and readily available (Score 0.64): Organic fertilizers tend to be more affordable and readily available, especially if farmers use locally sourced organic materials such as compost, manure, or other agricultural waste.
3. Large human resources in agriculture (Score 0.36): The presence of human resources with experience and knowledge in agriculture is a strength for introducing and implementing organic fertilizer strategies.
4. Limiting environmental pollution (Score 0.16): The use of organic fertilizers can reduce environmental pollution compared to chemical fertilizers, which can pollute soil and water.
5. Reducing environmental erosion problems (Score 0.16): Organic fertilizers also play a role in reducing soil erosion by improving soil structure and resistance to erosion.

Weaknesses:

1. Lack of farmer knowledge and skills (Score 0.04): Many farmers in Ulu Ere may not yet have adequate knowledge about the effective use of organic fertilizers.
2. Farmer habits of using chemical fertilizers (Score 0.04): Long-standing habits of using chemical fertilizers can hinder the adoption of organic fertilizers, as farmers are more accustomed to them and believe they provide faster results.
3. Lack of socialization of organic fertilizer use by extension workers (Score 0.16): Insufficient socialization of the benefits and uses of organic fertilizers can slow the adoption of organic fertilizers by farmers in Ulu Ere.
4. Low farmer adoption (Score 0.36): Despite the many benefits of organic fertilizers, farmer adoption of organic fertilizers in Ulu Ere remains low due to a lack of information or skills in their use.
5. Farmers' perception that chemical fertilizers increase production (Score 0.36): Many farmers still believe that chemical fertilizers provide faster and more optimal results, making them hesitant to switch to organic fertilizers.

From the IFAS matrix, the total strengths score was 2.92, while the total weaknesses score was 0.96. This indicates that while there are several significant strengths in the use of organic fertilizers, there are still many weaknesses that need to be addressed, such as lack of knowledge, long-standing habits of using chemical fertilizers, and low adoption of organic fertilizers. Therefore, to optimize the strategy of using organic fertilizers in corn farming in Ulu Ere, efforts are needed to increase farmer knowledge, conduct more outreach, and provide training to farmers to introduce the benefits and how to use organic fertilizers effectively.

2. EFAS (External Factor Analysis Summary)

Opportunities:

1. High consumer demand for mustard greens using organic fertilizers (0.16 weight, 4 ratings): Market demand for products using organic fertilizers is increasing, indicating that consumers are increasingly aware of the health benefits of chemical-free products. This presents a significant opportunity for corn farmers in Ulu Ere to implement organic fertilizers.
2. The community's healthy lifestyle concept prioritizes agricultural products free of chemical fertilizers (0.12 weight, 3 ratings): Growing public awareness of a healthy lifestyle presents an opportunity to introduce organic fertilizer-based agricultural products as a safer and healthier alternative.
3. Export market trend for organically certified products (0.12 weight, 3 ratings): Many countries are increasingly recognizing the importance of organic products, so the export market for organic agricultural products

has significant potential for growth, especially for farmers who can meet organic certification standards.

4. Government support (0.08 weight, 2 ratings): Government support, whether in the form of policies, subsidies, or technical assistance, provides opportunities for farmers to utilize organic fertilizers more widely.
5. Competitive prices for organic fertilizers (0.08 weight, 2 ratings): Although organic fertilizers are more expensive initially, their use can be more profitable in the long term by reducing dependence on chemical fertilizers and improving soil quality.

Threats:

1. Chemical fertilizer distributors selling products to farmers (0.04 weight, 1 rating): Existing chemical fertilizer distributors in the market pose a threat that could influence organic fertilizer adoption. The more affordable price of chemical fertilizers could tempt farmers to continue using them.
2. The continued sale of inorganic fertilizers by the Department of Agriculture (0.08 weight, 2 ratings): Despite efforts to promote organic fertilizers, the distribution of chemical fertilizers by the Department of Agriculture still occurs, which could hinder organic fertilizer adoption by farmers.
3. Farmers' direct application of crop waste from the previous crop (0.08 weight, 2 ratings): Some farmers still choose to apply agricultural waste directly to the soil rather than processing it into organic fertilizer. This hinders the utilization of organic fertilizer derived from waste.
4. Presence of raw organic fertilizer (0.12 weight, 3 ratings): Organic fertilizer that has not fully decomposed can reduce the effectiveness and quality of its use, resulting in suboptimal agricultural yields.
5. Organic matter from waste contains organic acids (0.12 weight, 3 ratings): The use of poorly managed organic matter, such as waste containing organic acids, can negatively impact the soil and plants, reducing the efficiency of organic fertilizer.

Based on the EFAS matrix, the total opportunity score obtained and the total threat score were 2.76. This indicates that external factors provide more opportunities for the use of organic fertilizer in corn farming in Ulu Ere, Bantaeng. However, the threat from chemical fertilizers and farmers' lack of understanding or practice in managing waste as organic fertilizer need to be addressed with appropriate strategies. As a next step, more intensive outreach efforts on the benefits and how to use organic fertilizers should be strengthened.

3. SWOT Analysis of Organic Fertilizer Use Strategy for Corn Plants

Strengths:

1. Increased soil fertility: The use of organic fertilizers improves long-term soil quality, which allows for increased agricultural yields.

2. Affordable and readily available organic materials: Farmers have easy access to organic materials such as agricultural waste, which can be used to make organic fertilizers.
3. Large human resources in agriculture: The large number of skilled workers in the agricultural sector in this region supports the successful adoption of organic fertilizers.
4. Healthier environment: Organic fertilizers help reduce the impact of pollution and soil erosion, which supports sustainable agriculture.

Weaknesses:

1. Low farmer knowledge: Many farmers lack an understanding of the benefits and application of organic fertilizers, which hinders adoption.
2. Habit of using chemical fertilizers: Farmers are accustomed to using chemical fertilizers due to the rapid results, and this habit is difficult to change.
3. Lack of socialization: Information about organic fertilizers is still poorly disseminated to farmers.
4. Low adoption: Only a small proportion of farmers are willing to switch from chemical fertilizers to organic fertilizers.

Opportunities:

1. High demand for organic products: People increasingly desire healthy products, and the organic market is growing rapidly.
2. Awareness of healthy living: Healthy lifestyle trends support increased demand for chemical-free agricultural products.
3. Export market opportunities: Organic certification can open up significant opportunities for exporting corn products to international markets.
4. Government support: The government provides support through outreach and policies to encourage the use of organic fertilizers.

Threats:

1. Competition from chemical fertilizer distributors: Chemical fertilizers remain the primary choice for farmers due to their more affordable prices and faster results.
2. Use of inorganic fertilizers by the Department of Agriculture: The sale of chemical fertilizers by government agencies can undermine farmers' awareness of organic fertilizers.
3. Farmers' attitudes toward crop waste: Farmers still have the habit of burying agricultural waste, which reduces the potential raw material for organic fertilizers.
4. Raw organic fertilizer: Unfermented organic fertilizer can reduce agricultural effectiveness and quality.
5. Acidic organic waste: Some organic materials used contain acidic compounds that can affect soil quality.

By expanding the use of organic fertilizer in corn farming in Ulu Ere, Bantaeng, farmers and the government can capitalize on significant opportunities stemming from increasing market demand and healthy living trends. However, they must face challenges such as farmers' long-standing habit

of using chemical fertilizers and a lack of knowledge about organic fertilizers. Therefore, more intensive outreach, direct demonstrations, and farmer empowerment are crucial to address internal weaknesses and existing external threats.

CONCLUSIONS

Based on the results of the study on the Strategy for Using Organic Fertilizer in Corn Farming in Ulu Ere, Bantaeng, the following are presented:

1. Opportunity and Threat Score: The total score for external factors (opportunities and threats) calculated was 2.76, indicating significant market potential, despite threats that must be addressed, such as competition with chemical fertilizers and a lack of awareness among farmers.
2. Strengths and Weaknesses Score: The score for internal factors (strengths and weaknesses) was 2.92, indicating that the strengths of organic fertilizer use, such as increased soil fertility and environmental benefits, outweigh the weaknesses, which are primarily related to farmers' low knowledge and habit of using chemical fertilizers.
3. Organic Fertilizer Use Strategy: The main strategy proposed in this study is to further promote the use of organic fertilizers among farmers, reduce dependence on chemical fertilizers, and improve farmers' knowledge and skills regarding the benefits and techniques of using organic fertilizers. This aims to reach a wider export market and support sustainable agriculture.
4. Benefits of Organic Fertilizer: Organic fertilizer is not only beneficial for increasing soil fertility but also plays a role in improving the overall land management system, which is essential for achieving sustainable agriculture in the future.

RECOMMENDATIONS

1. Strengthening Cooperation with Farmer Groups: Collaboration is necessary between farmers and farmer groups or cooperatives in the provision of organic fertilizer. Farmer groups can play a role in distributing organic fertilizer that they produce themselves or in collaboration with organic fertilizer producers.
2. Increasing Access to Organic Fertilizer: The government needs to increase farmers' access to organic fertilizer by reducing prices or providing subsidies, and supporting more affordable local organic fertilizer production.
3. Improving Infrastructure and Government Support: Greater government support is needed, both in terms of policy, extension, and technical assistance, to facilitate the use of organic fertilizer in corn farming in Ulu Ere. Programs such as subsidies for organic fertilizer and incentives for farmers who adopt organic techniques should be considered.

ADVANCED RESEARCH

1. Effectiveness of Organic Fertilizer Socialization and Training on Farmer Adoption
2. Impact of Organic Fertilizer on Corn Quality and Nutritional Content

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