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Shallot Farming Development Strategy At The Mandi Lumpur Farmer Group, Oesao Village, East Kupang Sub-District, Kupang Regency

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Abstract

The Mandi Lumpur Farmer Group in Oesao Village, East Kupang Sub-district, Kupang Regency is a main actor in shallot cultivation, yet still faces constraints in production, resource use, and sustainable business development. This study aims to (1) identify the internal and external factors affecting the development of shallot farming, and (2) formulate a development strategy for the Mandi Lumpur Farmer Group. Primary and secondary data were collected through interviews, observation, and documentation from 16 respondents (IFAS assessment) and 22 respondents (EFAS assessment) using the census method, then analyzed with the IFAS Matrix, EFAS Matrix, and SWOT analysis. The IFAS Matrix yielded 12 internal factors (6 strengths, 6 weaknesses) with a total score of 3.09, while the EFAS Matrix yielded 12 external factors (6 opportunities, 6 threats) with a total score of 2.72. The SWOT analysis placed the group in Quadrant I (1.09 ; 0.31), supporting an aggressive growth (SO) strategy: optimizing farmers' experience to raise production, leveraging harvest quality for better prices, pairing training outcomes with existing facilities, using regular collectors for derivative products, expanding marketing through available labor, and scheduling planting time via the irrigation system.

Keywords: SWOT Analysis, IFAS Matrix, EFAS Matrix, Development Strategy, Shallot Farming

INTRODUCTION

Indonesia is a tropical country whose conditions strongly support the growth of many types of crops, one of which is shallot. Shallot is a horticultural commodity with high economic value that plays an important role in meeting community needs and increasing

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farmers' incomes. As an agrarian country, the agricultural sector still makes a large contribution to Gross Domestic Product (GDP) and is the main source of livelihood for most of Indonesia's population (BPS, 2020), so improving farmer welfare needs to be a primary concern in development planning (Asmawati, 2018).

National shallot consumption shows a rising, though fluctuating, tendency, from 2.89 kg/capita/year in 2021 to 3.02 kg/capita/year in 2022, before falling by about 5.3% in 2023 (BAPANAS, 2024). Kupang Regency is one of the areas with significant potential for shallot cultivation in East Nusa Tenggara, supported by a dry agroclimate with high sunlight intensity. Nevertheless, shallot production in Kupang Regency has actually shown a declining trend, from 24,877 quintals in 2020 to 21,196 quintals in 2021, and 16,399 quintals in 2022, which indicates that production potential has not been optimally utilized.

Oesao Village, East Kupang Sub-district, is one of the shallot production centers in Kupang Regency, with productivity of 15–20 quintals/ha, yet its production also fluctuates, at 770 quintals (2021), 182 quintals (2022), and 192 quintals (2023). The main problems faced include limited water availability in the dry season and high production costs for seed, fertilizer, pesticides, and irrigation. The Mandi Lumpur Farmer Group, as one of the main shallot cultivation actors in Oesao Village, still faces various constraints in farm management, in terms of production, resource utilization, and sustainable business development strategy.

Based on these conditions, this study aims to (1) identify the internal and external factors affecting the development of shallot farming in the Mandi Lumpur Farmer Group, Oesao Village, East Kupang Sub-district, Kupang Regency, and (2) formulate a shallot farming development strategy for the Mandi Lumpur Farmer Group, Oesao Village, East Kupang Sub-district, Kupang Regency.

RESEARCH METHODS

Research Location Determination Method

The research was conducted from March until completion at the Mandi Lumpur Farmer Group, Oesao Village, East Kupang Sub-district, Kupang Regency. The location was determined purposively (purposive sampling) on the grounds that the area is one of the shallot-producing regions in Kupang Regency, with the group's business focused on shallots and other horticultural commodities.

Sample Determination Method

The sample was determined using the census technique, in which the entire population was used as the research sample, since according to Sugiyono (2010), when the population is fewer than 100, the whole population should be taken as the sample. The

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assessment of internal factors (IFAS) involved 16 respondents who are the core officers of the farmer group, while the assessment of external factors (EFAS) involved 22 respondents, comprising the 16 internal officers and 6 external parties (1 village government figure, 2 agricultural extension officers, and 3 traders/collectors) who understand the dynamics of the farm's external environment.

Data Collection Techniques

Primary data were collected through direct interviews using questionnaires and observation of the research object, while secondary data were recorded from relevant institutions and supporting documents.

Data Analysis Method

To address the first objective, descriptive analysis was used to identify internal and external factors using the IFAS (Internal Factor Analysis Summary) Matrix and the EFAS (External Factor Analysis Summary) Matrix. Both matrices were prepared in five stages: (1) compiling a list of strategic factors, (2) weighting each factor from 0 (not important) to 1 (very important), (3) assigning a rating from 1 to 4 according to the factor's influence on the farm's condition, (4) multiplying weight by rating to obtain each factor's score, and (5) summing all scores to obtain the matrix's total score. Total scores range from 1.0 (lowest) to 4.0 (highest)

with an average of 2.5; values above 2.5 indicate strong internal/external conditions, whereas values below 2.5 indicate weak conditions (David & Rangkuti, 2009). To address the second objective, SWOT analysis was used, systematically identifying factors to formulate a business development strategy. The strategy coordinate position (X, Y) was calculated using the following formula (Rangkuti, 2015):

X = Strength (S) Score − Weakness (W)
Score Y = Opportunity (O) Score − Threat (T) Score

These coordinates were then plotted on a SWOT diagram divided into four quadrants. Quadrant I (supporting an aggressive growth strategy) indicates a highly favorable situation in which internal strengths are used to seize external opportunities. Quadrant II (supporting a diversification strategy) applies when an organization has strengths but faces threats. Quadrant III (supporting a turn-around strategy) applies when an organization has major opportunities but is constrained by internal weaknesses. Quadrant IV (supporting a defensive strategy) applies in unfavorable situations resulting from internal weaknesses and external threats.

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RESULTS AND DISCUSSION

Respondent Characteristics

Respondent characteristics were observed in terms of age, education level, number of family dependents, and farming experience. A total of 81.25% of respondents were in the productive age group of 24–50 years, 6.25% were aged ≤23 years, and 12.5% were aged ≥51 years, which shows that all members of the farmer group are of productive age for running a farm. In terms of education, most respondents had completed elementary school (56.25%), followed by senior high school (25%), a bachelor's degree (12.5%), and junior high school (6.25%); this relatively low level of education indicates that farmers rely more on experience than on formal education in running their farms. All respondents (100%) had ≤4 family dependents and are thus classified as small families, and all respondents (100%) had ≤5 years of shallot farming experience because the farmer group has only been growing shallots for the past three years, although some members, including the group leader, have more than ten years of farming experience in general.

Identification of Internal and External Factors

Identifying internal and external factors is necessary to assess the potential for developing shallot farming in the Mandi Lumpur Farmer Group. The identification results show that the internal factors consist of 6 strengths and 6 weaknesses, while the external factors consist of 6 opportunities and 6 threats, as presented in Table 1 and Table 2.

Table 1 Identification of Internal Factors of Shallot Farming

No	Strengths	Weaknesses
1	Farmer group members have sufficient experience in shallot cultivation	Limited farming capital
2	Sufficient labor availability	Cultivation technology is still traditional
3	Shallot harvest quality is good	Farmers' dependence on chemical inputs
4	Access to production inputs (seed, fertilizer, pesticides, etc.)	No assistance from agricultural extension officers
5	Irrigation system/water availability supports successful cultivation	Relatively high production costs
6	Farmers have an established marketing network (collector traders/regular partners)	Low access to market information

Source: Processed Primary Data, 2026

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Table 2 Identification of External Factors of Shallot Farming

No	Opportunities	Threats
1	Market demand for shallots continues to increase	Very high shallot price fluctuations
2	Shallot prices are relatively favorable	Pest and disease attacks occur frequently
3	Training and capacity-building programs for farmers from agricultural agencies	Climate change affects production
4	The potential for developing shallot derivative products (e.g., fried shallots) is quite open	Competition from other shallot-producing regions
5	Opportunities for marketing outside the region	Rising prices of production inputs
6	Farmers are able to use social media to market agricultural products	No storage facilities yet

Source: Processed Primary Data, 2026

The group's main strengths lie in farmers' experience, labor availability, harvest quality, access to production inputs, the irrigation system, and an established marketing network with regular collector traders. On the other hand, the main weaknesses include limited business capital, which has so far been borne by the group leader; the continued use of traditional cultivation technology (e.g., using hoes to make beds); dependence on chemical fertilizers and pesticides; minimal extension assistance specific to shallots; and relatively high production costs. On the external side, the main opportunities come from continually rising market demand and relatively favorable selling prices, while the main threats come from climate change affecting planting schedules and competition from other shallot-producing regions, particularly Rote Ndao Regency.

IFAS Matrix Analysis

IFAS Matrix analysis is used to assess the magnitude of the influence of strengths and weaknesses on the long-term development of shallot farming (David & Rangkuti, 2009). The IFAS Matrix results are presented in Table 3.

Table 3 IFAS Matrix Analysis Results for Shallot Farming Development

Internal Strategic Factors	Weight	Rating	Score
Strengths			
Farmer group members have sufficient experience in shallot	0.09	3	0.27

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cultivation			
Sufficient labor availability	0.12	4	0.44
Shallot harvest quality is good	0.09	3	0.27
Access to production inputs (seed, fertilizer, pesticides, etc.)	0.10	4	0.40
Irrigation system/water availability supports successful cultivation	0.12	4	0.44
Farmers have an established marketing network (collector traders/regular partners)	0.10	3	0.27
Subtotal	0.61		2.09
Weaknesses			
Limited farming capital	0.05	2	0.10
Cultivation technology is still traditional	0.06	2	0.12
Farmers' dependence on chemical inputs	0.07	3	0.21
No assistance from agricultural extension officers	0.03	1	0.03
Relatively high production costs	0.09	3	0.27
Low access to market information	0.09	3	0.27
Subtotal	0.39		1.00
Total	1.00		3.09

Source: Processed Primary Data, 2026

The highest strength scores were obtained from sufficient labor availability and a supportive irrigation system (each with a score of 0.44), which shows that the farmer group has fairly adequate human resources and irrigation infrastructure to run the farm. Meanwhile, the weaknesses with the highest scores were relatively high production costs and low access to market information (each with a score of 0.27), which need attention in business development efforts. The total IFAS score of 3.09, with a strengths subtotal of 2.09 and a weaknesses subtotal of 1.00, indicates that the internal condition of shallot farming in the Mandi Lumpur Farmer Group is in the fairly strong category, in which its strengths outweigh its weaknesses.

EFAS Matrix Analysis

EFAS Matrix analysis is used to evaluate the farm's response to external opportunities and threats. The highest total weighted score that can be achieved is 4.0 and the lowest is 1.0, with an average of 2.5; scores approaching 4.0 indicate that the organization responds well to opportunities and threats, whereas scores approaching 1.0 indicate the opposite (David & Rangkuti, 2009). The EFAS Matrix results are presented in Table 4.

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Table 4 EFAS Matrix Analysis Results for Shallot Farming Development

External Strategic Factors	Weight	Rating	Score
Opportunities			
Market demand for shallots continues to increase	0.12	3	0.39
Shallot prices are relatively favorable	0.14	3	0.42
Training and capacity-building programs for farmers from agricultural agencies	0.08	2	0.16
The potential for developing shallot derivative products (e.g., fried shallots) is quite open	0.03	1	0.04
Opportunities for marketing outside the region	0.08	2	0.16
Farmers are able to use social media to market agricultural products	0.10	2	0.20
Subtotal	0.54		1.37
Threats			
Very high shallot price fluctuations	0.09	2	0.18
Pest and disease attacks occur frequently	0.06	2	0.12
Climate change affects production	0.10	3	0.30
Competition from other shallot-producing regions	0.09	3	0.27
Rising prices of production inputs	0.07	2	0.14
No storage facilities yet	0.05	1	0.05
Subtotal	0.46		1.06
Total	1.00		2.72

Cource: Processed Primary Data, 2026

The opportunities with the highest scores were relatively favorable shallot prices (score 0.42) and continually rising market demand (score 0.39), which shows that price stability and market demand are the main external drivers for increasing farm income. The threats with the highest scores were climate change affecting production (score 0.30) and competition from other shallot-producing regions, particularly Rote Ndao Regency (score 0.27). The total EFAS score of 2.72, with an opportunities subtotal of 1.37 and a threats subtotal of 1.06, indicates that externally, shallot farming is in a fairly favorable condition because the available opportunities outweigh the threats faced.

SWOT Quadrant Analysis and Alternative Strategies

The position of the shallot farming development strategy was determined through the SWOT diagram based on the differences between strength–weakness scores and opportunity–threat scores (Lastari, 2016), calculated as follows:

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X = Strengths (S) − Weaknesses (W) = 2.09 − 1.00 = 1.09 Y = Opportunities (O) − Threats (T) = 1.37 − 1.06 = 0.31

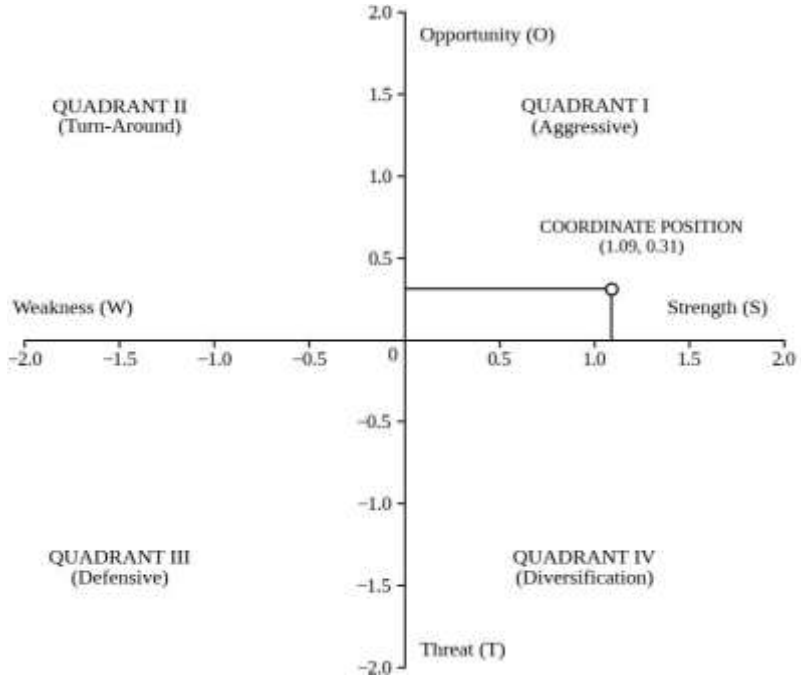


Figure 1 SWOT Coordinate Position Diagram

Figure 1 shows that shallot farming in the Mandi Lumpur Farmer Group is in Quadrant I (Strength–Opportunity) with coordinates (1.09 ; 0.31). This position indicates that the farm is in a favorable situation, in which its strengths and opportunities can be used to overcome existing weaknesses and threats. The strategy recommended for this position is the SO strategy, namely using all internal strengths to seize and optimize the available external opportunities (an aggressive growth policy).

Based on the results of the identification of internal and external factors analyzed through the SWOT matrix, the alternative SO (Strengths–Opportunities) strategies that can be applied in developing shallot farming in the Mandi Lumpur Farmer Group are as follows:

a. Optimizing farmers' experience to increase production volume in order to meet market demand.
b. Leveraging the advantage of harvest quality as a basis for setting relatively profitable selling prices.
c. Optimizing the knowledge gained from training programs by making use of

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the existing production inputs.

d. Utilizing regular collectors/loyal buyers to support the development of shallot derivative products.
e. Using labor to help market shallots inside and outside the region.
f. Utilizing the good irrigation system to schedule planting at the right time when shallot prices are high so that farmers earn greater profits.

CONCLUSION

1. The internal factors affecting the development of shallot farming in the Mandi Lumpur Farmer Group include strengths in the form of farmers' experience, labor availability, harvest quality, access to production inputs, the irrigation system, and an established marketing network; and weaknesses in the form of limited capital, traditional cultivation technology, dependence on chemical inputs, minimal extension assistance, high production costs, and low access to market information. The external factors include opportunities in the form of rising market demand, profitable selling prices, training programs from relevant agencies, the potential for derivative products, out-of-region market opportunities, and the use of social media; while the threats include climate change, pest and disease attacks, competition among producing regions, rising prices of production inputs, and the lack of storage facilities.
2. The IFAS and EFAS matrix analyses yielded total scores of 3.09 and 2.72, respectively, with SWOT coordinates of (1.09 ; 0.31) that place the Mandi Lumpur Farmer Group in Quadrant I. The main recommended strategy is the SO strategy, namely using internal strengths to capture external opportunities, covering the optimization of farmers' experience, the use of harvest quality, the optimization of training outcomes, the use of regular collectors, the use of labor to expand marketing, and the use of the irrigation system to schedule planting at the right time.

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