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Marketing Mix Analysis Of Interest In Oyster Mushroom Cultivation

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Abstract

Oyster mushroom is a saprophytic plant that lives on softwood and obtains food by utilizing the remains of organic matter. This study aims to analyze how much the new value of marketing has on oyster mushroom cultivation in Lapadde Village, Ujung District, Parepare City, and to find out what variables in the marketing mix influence interest in oyster mushroom cultivation in Lapadde Village, Ujung District, Parepare City. The method of determining the sample in this study used purposive sampling, purposive sampling, which is a technique based on certain considerations made by the researcher based on the characteristics or characteristics of the previously known population, then the researcher determined based on his considerations. The method of collecting data is by interviews, questionnaires, observation, and documentation. Instrument testing is done by testing the validation and reliability using the SPSS program. The data analysis method used is quantitative data analysis to identify the marketing mix in analyzing cultivation interest. So the results of this study indicate that the marketing mix which consists of price and promotion variables has a significant influence with a significance value below 0.05% while the product and place variables do not have a significant effect. While the marketing mix variable simultaneously influences cultivation interest.

Keywords: Marketing mix, oyster mushroom

A. Introduction

Oyster mushroom is a saprophytic plant that lives in softwood and obtains food by utilizing the remains of organic matter. Oyster mushroom is a plant that does not have chlorophyll (does not have green leaf substance) so life and oyster mushrooms are very dependent on organic matter absorbed for growth and development purposes.

Indonesia is a country with a tropical climate, with humidity ranging from 70-90% and an average temperature of 30%°C. These factors are optimal for the growth and development of mushrooms. The importance of mushrooms in human life varies. Some are beneficial both as food ingredients directly, such as some well-known mushrooms, including mushrooms, champignons, shitake, mulch, straw mushrooms, and so on, as well as indirect food ingredients, for example, mushrooms that are active in the process of making this type of mushroom. fermented foods such as oncom, soy sauce, tempeh, sausage, taco, yoghurt, cheese, and so on.

In the city of Parepare, especially in Ujung District, Lapadde Sub-District, mushroom cultivation has started to be carried out by one of the Jamoerin Cafe UMKMs, which apart from processing mushrooms in this cafe, also cultivates oyster mushrooms. Business opportunities for mushroom cultivation, especially in Ujung District, are still wide open due to the production of jamoerin café, which produces approximately 20 kg per month, while market demand is quite

large. This is because processed oyster mushrooms are loved so much, they are still relatively new to consuming mushrooms, and they also have many benefits so demand is sometimes not proportional to production. The method of cultivation and processing of oyster mushrooms is still very common among the public so it can be said that competitors for similar businesses are said to be minimal.

This is an opportunity for the Lapadde Village, Ujung District community to also participate in cultivating oyster mushrooms. Which is a big influence when viewed from the marketing mix. Mushroom production is the main thing regarding cultivation. There are still many people who are not or are still unfamiliar with oyster mushroom cultivation, so a deeper introduction to the community is needed, of course, through promotional channels such as what is done by Jamoerin cafe through processed mushrooms in the cafe.

The marketing mix proposed by Alma (2016) is a strategy to includes marketing activities to find the maximum combination to bring satisfactory results. The marketing mix consists of four components or is called 4P, namely Product, Price, Place, and Promotion, based on opinion (Kotler and Armstrong, 2016 in Ramadhan, 2020), the marketing mix includes four (4) main things and can be controlled by the company which includes product, price, place, and promotion. So that is the basis of the theory of how variables from the marketing mix become indicators in determining the interest in oyster mushroom cultivation for the community, especially in Ujung District, Lapadde Village, Parepare City.

The marketing mix that affects the interest in cultivating the people of Ujung District can be seen in how mushroom products can make people interested in cultivating them, and how the marketed prices can make people interested in cultivating, another variable is the place where the climate in Parepare city is also suitable for doing so. Oyster mushroom cultivation, this can be seen from how Jamoerin Cafe succeeded in cultivating oyster mushrooms. The last variable is the promotion of how Jamoerin cafes aside from cultivation, are cafes that usually sell processed food from oyster mushrooms, so indirectly promoting the results of mushroom cultivation is carried out so that it can be said that the community can experience how processed oyster mushrooms can be cultivated and of course the mushrooms can also benefit.

Research related to oyster mushroom cultivation itself has not been carried out much and not much business related to mushroom cultivation has been carried out so that is the reason for conducting research as well as introducing oyster mushroom cultivation to the community, especially to the people of Lapadde Village, Ujung District of Parepare City.

B. Methodology

Population and Research Sample

This research was conducted in Lapadde Village, Ujung District, Parepare City, research was carried out from November 2022 to January 2023. (Sugiono, 2016 Fajri, et al. 2022) suggest that the population is a generalized area consisting of objects/subjects that have certain qualities and characteristics determined by researchers to study and then draw conclusions. Determination of the sample in this study used purposive sampling, purposive sampling, namely a technique based on a certain consideration made by the researcher based on the characteristics or characteristics of the population that was previously known, then the researcher determined based on his considerations (Notoadmodjo. 2012 in Kuddus. 2019).

According to Roscoe, an appropriate sample size for research is 30 to 500. In addition, if a multivariate analysis is carried out in the study (correlation or multiple linear regression), then the number of sample members is at least 10 times the variable under study. So the sample in this study is 50 samples because it has 5 variables (4 dependent variables and 1 independent variable).

Data Analysis Techniques

The techniques used in collecting data in this study were interviews, questionnaires, observation, and documentation. (Rahayu et al, 2022). Data analysis used in this research uses quantitative data analysis which is used to analyze marketing mix elements that have a significant influence on cultivation interest. The data analysis methods used in this research include taking questionnaire data using a Likert Scale and processing data with Multiple Linear Regression Analysis, T-test, F Test.

According to Sugiono (Chandra and Suryaningsih, 2019) to find out the independent variables on the dependent variable, the Multiple Linear Regression formula is used as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e$$

Y = Community Cultivation Interests

a = Constants Of Regression Decisions

b = Regression Coefficient And Variables X1 To X4

- Variable X_1 (Product).
- Variable X_2 (Price).
- Variable X_3 (Place).
- VariableX_4 (Promotion).

e = error

The T-test was carried out to test the independent variables (Product, Price, Place, and Promotion) individually against the dependent variable (Cultivation interest). According to Sugiono (Chandra and Suryaningsih, 2019), the formula for calculating the T-test is as follows:

$$T\ Test = \frac{\sqrt{r-n}}{\sqrt{1-r^2}}$$

Information:

t = Count Value

r = Correlation Coefficient

n = Lost of Observations

The F test was carried out simultaneously to test the independent variables(Product, Price, Place, and Promotion) on the dependent variable (Cultivation Interest). According to Gujati, et al (2019), the statistics of the F Test formulation are as follows: $F\ Test \frac{R^2/K}{/(n-K-1)}$

Information:

F = Obtained from the distribution variable

K = Number of independent variables

R^2 = The coefficient of multiple determination

n = Number of samples

C. Findings and Discussion

Multiple Linear Regression Analysis

Table 1.1. Linear regression analysis output

Model	Unstandardized Coefficients		T	SIG
	B	Std. Error		
(Constant)	3.017	4.419	0,683	0,498
Product (X1)	0,048	0,138	0,346	0,731
Price (X2)	0,342	0,143	2.383	0,021
Place (X3)	0,149	0,120	1.237	0,223
Promotion(X4)	0,315	0,152	2.069	0,044

Source: *Primary data will be processed in 2023.*

Based on table 1.1. The model used in estimating the model is $Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e$. From the results of multiple linear regression in Table 1.1, we can see the multiple linear regression equation as follows:

Y = (3,017) + (0,048)X1 + (0,342)X2 + (0,149)X3 + (0,315)X4

With the following Interpretation results:

1. a = (3,017) The regression constant value is 3.017, which indicates the value of the interest in oyster mushroom cultivation in the Lapadde village community is (3.017). If the other variables, namely the independent variables (Product, Price, Place, and Promotion) are equal to Zero or have a constant value. This also means that the community's desire or interest in cultivation is 3.017 before external factors, namely the marketing mix.
2. X_1 = 0,048 The regression coefficient value is 0.048. This means that for every increase in the product variable by 1%, the community's interest in cultivating will increase by 0.048. If the value of the regression coefficient can be ascertained there is a positive relationship to the product variable with community cultivation interest.
3. X_2 = 0,342 The regression coefficient value is 0.342. This means that for every increase in the price variable by 1%, the community's interest in cultivating will increase by 0.342. Assuming that each independent variable has a constant value. If the regression coefficient is positive, it can be ascertained that there is a positive relationship between the price variable and community cultivation interest.
4. X_3 = 0,149 The regression coefficient value is 0.149. This means that for every increase, which means for every increase in the place variable by 1%, the community's interest in cultivating will increase by 0.149. If the regression coefficient is positive, it can be ascertained that there is a positive relationship between the place variable and community cultivation interest.
5. X_4 = 0,315 The regression coefficient value is 0.315. This means that for every increase, which means for every increase in the promotion variable by 1%, the community's interest in cultivating will increase by 0.315. Assuming that each independent variable has a constant value. If the regression coefficient is positive, it can be ascertained that there is a positive relationship between the promotion variable and community cultivation interest.

Uji T

Table 1.2. T Test result output

Variable	T_{count}	Table	Mark sig. Table	Significance Value Limit	Information
X1	0.346	2.014	0.731	0.05	No effect
X2	2.383	2.014	0.021	0.05	Influential
X3	1.237	2.014	0.223	0.05	Np effect
X4	2.069	2.014	0.044	0.05	Influential

Source: *Primary data will be processed in 2023.*

From the results of the T-test in Table 1.15, the output of the T-test results can be stated that this variable has no partial effect on the variable of interest in cultivation.

1. The product variable hypothesis from the results of the T-test results in a Tcount value of 0.346 meaning that the Tcount value of the product variable is smaller than the Ttable value, which is 2.014. In addition, the significance value in the table also shows 0.731 which is certainly smaller than the significance value limit of 0.05. Therefore it can be concluded that H1 is rejected.
2. The price variable hypothesis from the results of the T-test results in a Tcount value of 2.381 meaning the Tcount value of the product variable is greater than the Ttable value of 2.014. In addition, the significance value in the table also shows 0.021 which is certainly smaller than the significance value limit of 0.05. Therefore it can be concluded that H1 is accepted.
3. 3. The hypothesis of the place variable from the results of the T-test, the Tcount value is 1.237, meaning the Tcount value of the product variable is smaller than the Ttable value, which is 2.014. In addition, the significance value in the table also shows 0.223 which is certainly smaller than the significance value limit of 0.05. Therefore it can be concluded that H1 is rejected.
4. The promotion variable hypothesis from the results of the T-test, the Tcount value is 2.069, meaning the Tcount value of the product variable is greater than the Ttable value, which is 2.014. In addition, the significance value in the table also shows 0.044 which is certainly smaller than the significance value limit of 0.05. Therefore it can be concluded that H1 is accepted.

F Test

Table 1.3. Output test result F

Table	F_{table}	Significance Value	Significance Value Limit
5.064	2.57	0.002	0,05

Source: *Primary data will be processed in 2023.*

The marketing mix hypothesis is simultaneously from Table 1.16. The results of the F test stated that the Fcount value was 5,064. This shows that the value of Fcount > Ftable where the value of Ftable is only 2.57. Likewise, the significance value of 0.002 is smaller than the significance value of 0.05. Therefore based on a decision where H1 is accepted and H0 is rejected. This means that there is a simultaneous influence of the independent variable on the dependent variable, namely Interest in Cultivation.

D. Conclusion

Variables that influence the marketing mix on interest in oyster mushroom cultivation in Lapadde Village, Ujung District, Parepare City can be shown with a Tcount value of 2.383, a regression coefficient (b2) of 0.342, and a significance value of 0.021. Because the significance

value is <0.05 and the regression coefficient has a positive value, it can be concluded that there is a positive effect of price on the interest in oyster mushroom cultivation in Lapadde Village, Ujung District, Parepare City. Likewise, with the promotion variable, there is also an influence on the interest in cultivating oyster mushrooms in Lapadde Village, Ujung District, Parepare City. This can be shown by the Tcount value of 2,069, the regression coefficient (b4) of 0.315, and a significance value of 0.044. Because the significance value is <0.05 and the regression coefficient has a positive value, it can be concluded that there is a positive effect of promotion on the interest in oyster mushroom cultivation in Lapadde Village, Ujung District, Parepare City.

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Analysis Of The Role Of Farming Group In Increasing Corn Production

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Abstract

This study aims to analyze the role of farmer groups as learning classes, collaboration vehicles, production units, and business units in Lemoe Village, Bacukiki District, Parepare City. This research was conducted from 7 July 2023 to 7 August 2023 in Lemoe Village, Bacukiki District, Parepare City. This study uses primary data collection techniques and secondary data. The method used is descriptive analysis and the Likert scale. The results showed that (1) Farmer groups played a very important role as a learning class for increasing corn production in Lemoe Village. (2) The role of farmer groups is very important as a media for cooperation in increasing corn production in Lemoe Village. (3) The role of farmer groups as a production unit plays a role in increasing the production of corn in Lemoe Village. (4) The role of farmer groups as a business unit plays a role in increasing corn production in Lemoe Village.

Keywords: Farmer groups, production, corn crops, Likert scale

A. Introduction

Sources of food generally come from farmers, the national food crop production for rice in 2021 is 54.42 million tonnes of GKG. If converted to rice, rice production in 2021 will reach around 31.36 million tons or a decrease of 140.73 thousand tons (0.45 per cent) compared to rice production in 2020. Paddy production in 2020 is estimated at 54.65 million tons MPD. Production of rice food crops is still at the top, this is because the majority of Indonesian people still consume rice derived from paddy as the main food ingredient. After that, followed by corn which is in second place, because most Indonesian people also use corn as a main food ingredient. Corn is one of the food crops which is a source of carbohydrates for humans.

Corn as a food crop has the potential to meet the welfare of farmers and meet the availability of national corn. One of the maize development policies at the national level that continues to be encouraged by the Coordinating Ministry for Economic Affairs is the establishment of the National Corn Reserve (CJN) with Perum Bulog as the manager of the food reserve. The success of farming is inseparable from the role of human resources, both farmers and extension workers. Improving the quality of human resources (HR), especially the community of food crop farmers as a national asset is very important, one indicator of the success of national development is inseparable from the community's readiness to process food crop production to meet national food needs.

Parepare City is one of the agricultural cities where the plantation sector plays an important role in improving people's lives. One of the factors that encouraged the establishment of farmer groups in Lemoe Village was the low level of education. This is because the average education level of the farmers in Lemoe Village in elementary school. There are even those who do not

attend education or do not go to school. However, in this group, there are still things that the government must pay attention to, especially its members where each member has responsibilities in their family. With these problems, it encourages researchers to conduct research with the title "Analysis of the Role of Farmer Groups in Increasing Corn Production in Lemoe Village, Bacukiki District, Parepare City.

B. Methodology

Population and Research Sample

This research took place in two months, starting from June 7 2023 to August 7 2023. This research was conducted in Lemoe Village, Bacukiki District, Parepare City. The research location was chosen deliberately as a research area with the consideration that Kelurahan is the majority of corn farmers. The data needed in this study are primary data and secondary data. Primary data was obtained by direct observation at the research location and direct interviews with respondents using a list of questions that had been prepared beforehand. While secondary data is data obtained from reports, documents, and previous researchers.

Data analysis

Testing the first problem with the Descriptive Analysis method, Descriptive Analysis explains and describes the state of the phenomena that occur in the research area and finds out the role of farmer groups in increasing corn production. Measurements were made with a Likert scale. The Likert scale is used to determine the location of a person's position in attitude. Location determination is used by quantifying a person's response to a statement. The measured variables are translated into variable indicators. This indicator is used as a starting point for compiling instrument items in the form of statements or questions that need to be answered by respondents (Yanto 2017).

In Lemoe Village, there are 27 farmer groups consisting of 16 novice farmer groups, namely Sipakario, Mitra, Paomalimpoe, Berkah 1, Rebil Farmer Youth, Kirei Farmer Women, Sipakario, Harapan, Medina, Padaelo, Sibalireso, Sumber Rezeki, Wanua Lemoe, Rice Flower. There are as many as 5 intermediate farmer groups, namely the Caramele, Subur, Berkah, Bilalang, and Massiddie farmer groups. and 6 advanced farmer groups, namely the Mappadeceng, Lestari, Caramele, Karya Bersama, Mattaropolie, and Sipatujue farmer groups (Ayu Wulandari 2023) In this method, the technique chosen is judgment sampling or purposive sampling which is a sample selection technique based on the criteria formulated by the researcher and the researcher's assessment which states that the selected sample is truly representative (Sutopo and Achmad, 2017).

C. Findings and Discussion

Characteristics of Sample Farmers

Characteristics of sample farmers from this study include farmer age, farmer education, and farmer experience.

a. Characteristics of Sample Farmers by Age

The age of the respondent is the length of time the respondent lived until the research was carried out, the productive age of the farmer will affect the process of adopting an innovation. According to BPS (2012), based on the composition of the population, ages are grouped into 3, namely those aged 0-14 years are considered as a non-productive population group, the population age group 15-64 years as the productive group and the age group 65 years and over as the population group that is no longer productive. productive. Based on data obtained from research results in Lemoe Village, the age of the respondent farmers varied between 30-50 years. In detail, the age distribution of the respondent farmers can be seen in Table

Table 1. Characteristics of Sample Farmers by Age

No.	Age (Years)	Amount (People)	Percentage (%)
1	30 – 39	6	20
2	40 – 49	13	43,3
3	50 – 59	11	36,6
Amount		30	100

Source: Primary data processed, 2023.

Based on Table 1. it can be explained that the most age characteristics of the sample farmers were in the 40-49 year group, namely 13 farmers with a percentage of 43.3%, while the few sample farmer age characteristics were found in the 30-39 farmer group, namely 6 farmers with the percentage of 20%.

b. Characteristics of Sample Farmers by Education Level

The education level of farmers is one of the factors that influence the way of thinking of farmers, where in general farmers who have a higher level of education tend to accept innovations more quickly than those with lower levels of education. The level of education in question is the formal education attended by the respondent farmers. More details regarding the details of the respondent farmers based on the level of formal education can be seen in Table 2.

Table 2. Characteristics of Sample Farmers by Education Level

No.	Last education	Amount (People)	Percentage (%)
1	No school	14	46,6
2	Elementary School	5	16,6
3	Junior high school	3	10
4	Senior High School	8	26,6
Amount		30	100

Source: Primary Data Processed, 2023.

Based on Table 2. it can be explained that the characteristics of the sample farmers according to their level of education were the most numerous, namely 14 people who did not go to school with a percentage of 46.6%, while the lowest level of education was junior high school, namely 3 people with a percentage of 10%.

c. Characteristics of Sample Farmers According to Farming Experience

The duration of farming is an indicator that indirectly supports the success of farmers as a whole. Farmers who have experience and are supported by complete production facilities and are more able to increase productivity when compared to farmers who are new to farming land. Based on the data obtained from the results of research in Lemoe Village, a description of the experience of paddy rice farming can be seen in Table 3.

Table 3. Characteristics of sample farmers according to farming experience

No.	Farming Experience (Years)	Amount (People)	Percentage (%)
1	1 – 5	14	46,6
2	6 – 10	5	16,6
3	11 – 15	7	23,3
4	16 – 20	4	13,3
Amount		30	100

Source: Primary Data Processed, 2023.

Based on Table 3. it can be explained that the most farming experience is 1-5 years, namely 14 people with a percentage of 46.6%, while the least farming experience is 16-20 years, namely 4 people with a percentage of 13.3%.

The Role of Farmer Groups in Increasing Corn Production in Lemoe Village

Farmer groups play an important role in corn farming activities in Lemoe Village. Farmer group development is directed at increasing the ability of farmer groups to carry out their roles and functions to spur formation in improving farmer performance

a. Farmer Groups As Learning Classes

Farmer groups as learning and organization are a place for each member of the group to interact with each other to increase knowledge, skills and attitudes in farming to increase abilities in doing farming. Farmer groups as a vehicle for learning and organization are a forum for teaching and learning for its members to increase knowledge, skills and attitudes as well as grow and develop independence in farming so that productivity increases, income increases and more prosperous life.

The results of observations and direct interviews with respondents at the study sites found that farmer groups in the study class contributed to corn production in each growing season. This can be shown in the following table:

Table 4. The Role of Farmer Groups as Learning Classes

No.	Statement	Score
1.	Farmer groups carry out regular and ongoing meetings to discuss and discuss knowledge and skills on problems in corn farming	135
2.	Participate in various necessary trainings to increase farming knowledge and skills	134
3.	Farmer groups as motivation in meeting the needs to be achieved	139
4.	Farmer groups as evaluation and monitoring of farmer group members in understanding the theory and implementation of farmer group programs	127
5.	The materials used by extension workers can change the behaviour of members of farmer groups to do farming efficiently	120
6.	There is mutual exchange of experiences and opinions among fellow members in farmer groups in farming so that problems can be solved together	136
Amount		791

Source: Primary Data Processed, 2023.

From Table 4. it is explained that the role of farmer groups as a learning class obtained a score of 791, that value is in the range of values 756-900 with a very active or very agree category. The highest score is found in the farmer group statement as motivation in fulfilling the needs to be achieved with a score of 139, because agricultural extension workers always motivate farmers to continue to improve farmers skills in corn farming so that the production produced is better to increase farmers' income to meet the needs of farmer families. Apart from that, the farmers also exchanged ideas, consulted with each other if they wanted to take action, practised the knowledge given to extension agents, and farmer groups as a forum for learning classes succeeded in becoming a forum for adding information to farmer groups. Some of the advantages of forming farmer groups are the tighter interaction within the group and the more fostered group leadership, the more directed the rapid increase in the spirit of cooperation between farmers so they can deal with problems.

The lowest score is found in the statement that the material used by extension agents can change the behaviour of members of farmer groups to do farming efficiently because with a score of 120 because agricultural extension provides additional knowledge by visiting groups, with extensive knowledge, members of farmer groups can face threats, obstacles and obstacles so that production increases and increasing knowledge in corn farming. Therefore the importance of farmer groups as a forum for additional knowledge so that farmers can do farming properly and correctly. Farmer groups will progress and continue to develop if the members in the farmer group together want to progress and change for the better.

b. Farmer Groups as a Platform for Cooperation

Farmer groups as a vehicle for cooperation are a forum for each member of the group to strengthen cooperation between fellow farmers in the group and between groups and other parties to deal with threats, challenges, obstacles, and disturbances in farming (Setiadin 2005). The results of research on the role of farmer groups as a forum for cooperation in Lemoe Village can be seen in the following description:

Table 5. Farmer Groups as a Platform for Cooperation

No.	Statement	Scor
1.	Creating an atmosphere of mutual acquaintance, mutual trust and cooperation	144
2.	Farmer groups cooperate with other members in conducting corn farming to reduce production costs	126
3.	Farmer groups carry out cooperation in seeking information about market opportunities to achieve the highest prices	129
4.	Farmer groups carry out business cooperation with providers of production facilities	125
5.	Farmer groups as a forum for cooperation to face threats, challenges, and obstacles	133
6.	Group members comply with and carry out agreements between groups and other parties regarding the implementation of corn farming	130
Amount		787

Source: Primary Data Processed 2023.

Based on Table 5. it can be explained that the role of farmer groups as a forum for cooperation obtained a score of 787, that value is in the range of 756-900 with a very active or very agree category. The highest score is found in the farmer group statement creating an atmosphere of mutual acquaintance, mutual trust and cooperation with a score of 144, as a vehicle for cooperation the respondents or members of the farmer group work together in developing corn plants, the members also work together to overcome problems that occur in pest management and disease, besides that they also help each other between other groups such as planting, fertilizing, and harvesting.

The lowest score is found in the statement of farmer groups carrying out business cooperation with providers of production facilities, namely with a score of 125 because cooperation with providers of production facilities is only carried out within farmer groups. The group leader facilitates the needs of its members such as seeds, fertilizers or pesticides which will be paid at the time of harvest with the condition that the farmer group chairperson will harvest the members' land. However, cooperation outside farmer groups or other parties has not been implemented properly.

c. Farmer Groups as Production Units

Farming as a production unit carried out by each member of the farmer group, as a whole must be seen as a business entity that can be developed to achieve economies of scale, both in terms of quantity, quality and continuity (Permentan No. 82 of 2013). The results of direct observation and insight with respondents at the research location found that farmer groups as a production unit contributed to corn production in each growing season. This can be shown in the following table:

Table 6. Farmer Groups as Production Units

No.	Statement	Scor
1.	This farmer group encourages its members to use more advanced technological tools to be effective and efficient	121
2.	The production facilities provided are what is needed by farmers	127
3.	Farmer groups facilitate the application of farming technology (materials, tools, methods) for their members	130
4.	Make decisions in determining the development of profitable production	123

5.	Farmer groups formulate joint agreements, both in solving problems and in carrying out various group activities so that farming is more effective and efficient to achieve maximum results	126
6.	Farmer groups cooperate and improve cooperative relations with business partners	122
Amount		749

Source: Primary Data Processed 2023.

Based on Table 6. it can be explained that the role of farmer groups as a production unit obtained a score of 749 this value is in the range of values 621-750 with the category of playing a role or agreeing. The highest score is found in the statement of the farmer group facilitating the application of technology (materials, tools, methods) to the farming of its members, namely with a score of 130, due to several facilities offered by farmer groups in Lemoe Village in meeting the business needs of its members, namely by providing paid inputs such as fertilizer and seeds. after harvesting as well as farmer groups prepare machines to harvest corn. In addition, they also work with business partners, such as selling their crops with Pt. Japfa or large factories. This is aimed at achieving production efficiency with a large production scale to save on production factor costs and ease of management (Akhmad, 2007 in Nasrul, 2012).

The lowest score is found in the statement of this farmer group encouraging its members to use more advanced technological tools to be effective and efficient, namely with a score of 121 because farmer groups encourage their members to use more advanced technology, more advanced technology is usually seen on YouTube or seen directly from outside the region, but the problem is that the farming land in Lemoe Village is mountainous (uneven) and rocky besides rain-fed irrigation, so the use of more advanced technology is minimal, such as the use of drones for harvesting and the most sophisticated is combine for harvesting.

d. Farmer Groups as Business Units

The results of observations and direct interviews with respondents at the research location of farmer groups as business units can be shown in the following table:

Table 7. Farmer Groups as Business Units

No.	Statement	Scor
1.	Farmer groups provide capital in corn farming	127
2.	Farmer groups received training in the development of corn farming	133
3.	Farmer groups receive post-harvest training in processing corn into finished or semi-finished products so that they have a high selling value	121
4.	Farmer groups received training on waste utilization to make compost from corn plant waste	115
Amount		496

Source: Primary Data Processed, 2023.

Based on table 7. it can be explained that the role of farmer groups as a business unit obtained a score of 496, that value is in the range of values from 405.9 to 501.1 with a role or agree category. The most common score indicator is in the statements of farmer groups receiving training in the development of corn farming with a score of 133 because agricultural extension agents always provide training in developing corn farming so that the resulting production is better to increase farmers' income. As is the case with novice farmer groups who continue to receive assistance from extension workers so that they get good results in farming, while the middle and advanced farmer groups make their own decisions because they are experienced but are still assisted by extension agents, the role of extension agents is not only limited to assistants but as distributors. farmers with the government or academics with farming actors. With the assistance of extension workers in the cultivation of maize and rice, the farmers have succeeded in developing their cultivation so that they routinely harvest their crops 2x a year with an average income of IDR 15,000,000-30,000,000; one harvest.

The lowest score was found in the statement that the farmer group received training on waste utilization to make compost from corn plant waste with a score of 115 because the farmer group had received training to use waste to make compost. However, only a few farmers continue it because farmers feel lazy with its manufacture which requires time and effort, so farmers prefer chemistry because it is easier to obtain, although it is a bit expensive.

The role of farmer groups is very important for farmers, namely helping farmers in all activities and problems in farming, with farmer groups, farmers can jointly solve problems which include fulfilling agricultural production facilities, production techniques, marketing results and increasing production costs. Seeing this potential, farmer groups need to be fostered and further empowered so that they can develop optimally. The role of farmer groups in Lemoe Village, Bacukiki Subdistrict, from the results of field research observed were (1) learning classes, (2) collaboration vehicles, (3) production units and, (4) business units as follows:

Table 8. Indicators of the Role of Farmer Groups in Lemoe Village

No.	The Role of Farmer Groups	Scor	(%)	Kategori
1	As a Learning class	791	87,7	Very instrumental
2	As a Cooperation Media	787	87,4	Very instrumental
3	As a Production Unit	749	83,2	Role
4	As a Business Unit	496	82,6	Role
	Amount	2.824	340,9	Very instrumental
	Average	705,75	85,25	Very Instrumental

Source: Primary Data Processed, 2023

Based on Table 6. it can be explained that the role of farmer groups in increasing corn production is included in the very important category with a value of 2,824 or the equivalent of 85.5%, meaning that the standard indicator of the role of farmer groups can already play a good role and help in increasing the production of corn farming.

The role of farmer groups as a learning class is a forum for each member of the group to interact with each other to increase knowledge, skills and attitudes in farming so that they can increase their ability to do farming. The indicator for the role of farmer groups as a learning class has a value of 791 or the equivalent of 87.7% which is categorized as very involved, seen in the Likert scale class range which strongly agrees with a value of 756-900. It is said to play a very important role because farmers learn a lot from meetings held by extension workers. Farmers also learn not only in groups but also learn from other group members. Fellow group members or from outside their group members share ideas to solve the problems faced as well as exchange farming information, therefore they can interact not only fully facilitated by their group but also from friends outside the group.

The role of farmer groups as a medium for cooperation is a forum for each member of the group to strengthen cooperation between fellow farmers in the group and between groups and other parties to deal with threats, challenges, obstacles and disturbances in farming (Setiadin, 2005). The role of farmer groups as a medium for cooperation has a value of 787 or the equivalent of 87.4% which is categorized as very involved, as seen in the Likert scale class range which strongly agrees with a value of 756-900. Where farmer groups help in efforts to know each other, trust each other, cooperate among fellow group members, openness between fellow members and as a place for discussion about the problems and obstacles they face in corn farming.

The role of farmer groups as a production unit that is carried out by each member of the farmer group, as a whole must be seen as a business unit that can be developed to achieve economies of scale, both in terms of quantity, quality and continuity (Permentan No. 82 of 2013). The role of farmer groups as production units is categorized as having a role, namely with a value of 749 or the equivalent of 83.2% if seen in the Likert scale class range agrees with a value of 620-750. Where in this case group members feel that the existence of the group as a farming production unit has helped, because at this time the provision of fertilizer assistance received by the group is to be distributed to group members, besides that the farmer group also facilitates its

members by providing capital in the form of seeds, medicines. Farmer groups also provide technology in the form of combine to harvest corn. All of this is done to minimize time and production costs to increase farmers' income.

The role of farmer groups as business units is profit-oriented business activities, so in this case, farmer groups can act as business agents who mobilize collective resources (energy and mind) for the benefit of the group so that farming is more efficient. The role of farmer groups as a business unit is included in the role category because the value obtained is 496 or equivalent to 82.6%, seen from the Likert scale class range agrees 621-750, where the search for capital has not been fully fulfilled to develop yields to become a product new. After all, the capital provided by the group was only in the form of assistance with production facilities but it was also enough to help in production.

D. Conclusion

From the results of the study, it can be concluded that the role of farmer groups as a learning class plays a very important role in increasing corn production in Lemoe Village, with a value of 791 or the equivalent of 87.7%, seen from the Likert scale class range strongly agrees with a value of 756-900, the role of Farmer groups as a medium of cooperation play a very important role in increasing corn production in Lemoe Village, with a value of 787 or the equivalent of 87.4%, judging from the Likert scale class range, it strongly agrees with a value of 756-900. The role of farmer groups as production units plays a role in increasing corn production in Lemoe Village, with a value of 749 or the equivalent of 83.2%, seen from the Likert scale class range agrees with a value of 621-750 and the role of farmer groups as business units play a role in increasing production corn plants in Lemoe Village, with a value of 496 or the equivalent of 82.6%, seen from the Likert scale class range agrees with a value of 405.4-501.9.

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Comparison of Silkworm Farm Income (Bombyx Mori L.)

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Abstract

South Sulawesi is still the largest producer of natural silk in Indonesia, although processing is still conventional. It is becoming an important trading centre and an important non-timber forest product resource. This type of research is quantitative research, the data sources used are primary data and secondary data, with a population of silkworm-rearing farmers located in Salojampu Village, Wajo Regency and Pising Village, Soppeng Regency. The results showed that silkworm farming in Salojampu Village, Wajo Regency, had the smallest income of Rp 183,667 per production cycle, while Pising Village, Soppeng Regency, had the largest income of Rp 311,333 per production cycle. Both farmer groups earned a total of IDR 495,000, with an average total income of IDR 247,500 per silkworm production cycle.

Keywords: Silkworms, farm income

A. Introduction

Natural silk is one of the most easily available centres of the silk fabric trade and is a very useful non-timber forest product (NTFP) resource (Harbi et al., 2015). The people of South Sulawesi are very familiar with the natural wealth of the region in the form of natural silk. Almost all natural silk processors still conduct conventional processing on a small scale with a subsystem pattern, although South Sulawesi continues to be the largest natural silk producer in Indonesia (Nurhaedah & Bisjoe, 2013). Natural silk has long been part of the cultural life of rural communities in South Sulawesi (Ramli et al., 2023). Rural communities are still cultivating silkworms, which have been around for a long time and this is used as clothing in cultural events such as weddings and traditional ceremonies in the form of silk sarongs (Iwang & Sudirman, 2020). Producing silk cloth from silk thread has a unique meaning, important lessons, and high cultural value.

Known as the main centre of natural silk in Indonesia, this area is mainly located in South Sulawesi, especially in Wajo District and Soppeng District. Social forestry in South Sulawesi focuses on adaptive attitudes, sustainability, independence, cooperation, partnerships, cross-sectoral integration, and a gradual and sustainable approach (Pratama et al., 2019). Wajo and Soppeng districts are famous for their natural silk trade. Silk has been produced for generations in the South Sulawesi region, especially in Wajo, through part-time businesses, households, and medium-sized weaving industries (Qaiyimah et al., 2022). However, silk fabric production in Wajo has declined, which has impacted market demand. The weaving industry began to flourish again in the 1990s when imports of raw materials were allowed again, and the market regenerated (Djabar & Utiarahman, 2019). However, due to poor production and marketing, natural silk management declined. This is due to changes in silkworm seed quality and low seed supply, which makes the selling price of silk cloth very different from the market price (Soetriono

et al., 2022). So this change has a major impact on the quality of the products produced and also affects the decline in sales (Abidin et al., 2023). So this research aims to find out the comparison of silkworm farmers' businesses and solutions to keep sales running optimally.

B. Methodology

The method used in this research is the Quantitative research method. The population used in this study were silkworm-rearing farmers in Salojampu village, Wajo district and Pising village, Soppeng district. The number of samples in this study was determined in a deliberate manner which amounted to two groups of silkworm-keeping farmers from different districts so that the selected samples could represent the respondents. The sampling technique used observation techniques, questionnaires and documentation studies. The variables in this study used silkworm farming income variables in one production cycle. The types of data used in this study were primary data and secondary data. Primary data is data sourced from the results of the interview process with silkworm keepers while secondary data supports the data obtained from relevant agencies, such as the Central Bureau of Statistics, as well as the local government related to this research. In this study, researchers used descriptive data analysis to calculate the income that would be obtained by farmers who raise silkworms.

C. Findings and Discussion

Findings

1) Respondent Characteristics

Silkworm rearing activities were still carried out by some residents in Salojampu Village, Wajo District and Pising Village, Soppeng District. Samples were determined by purposive sampling that could represent the population.

Table 1. Respondent Name

No	Name	Region
1	Matahari	Pising Village, Soppeng Regency
2	Semmang	Salojampu Village, Wajo District

Source: Processed Primary Data, 2023

This study used 0.5 hectares of land owned by each farmer. Farmers use this land to grow silkworm feed, namely mulberry leaves. Each farmer group member is involved in planting mulberry leaves..

a) Age Level

Age is an identity that is closely related to the human mindset and physical ability to work. The age level of respondents can be seen in Table 2.

Table 2. Characteristics of Respondents Based on Age Level

No	Age (Years)	Number of Respondents (People)	Percentage (%)
1	65	1	50.00
2	< 65	1	50.00
Total		**2**	**100.00**

Source: Processed Primary Data, 2023

Age level affects a person's ability to carry out activities and thinking ability. In the results of this study, representative respondents had an age of 65 years and less than 65 years.

b) Education Level

The level of education is the most important thing in the research process because the knowledge and insight they have is very influential to discuss based on the reality and what they have experienced.

Table 3. Classification of Respondents Based on Education Level

No	Education Level	Number of Respondents (People)	Percentage (%)
1	SD	2	100.00
2	SMP	-	00.00
Jumlah		**2**	**100.00**

Source: Processed Primary Data, 2023

Based on Table 3, it can be seen that the education level of the respondents is at the elementary school level. The education level of silkworm keepers showed that they lacked intellectual human resource knowledge because the surrounding community was accustomed to managing nature traditionally. It is undeniable that in terms of technology, the knowledge of keepers is proven to be lacking when compared to using modern technological devices.

c) Gender of Respondents

Respondent criteria based on gender, researchers found female respondents. The gender of respondents can be seen in Table 4.

Table 4. Classification of Respondents Based on Gender

No	Gender	Number of Respondents (People)	Percentage (%)
1	Laki-Laki	-	00.00
2	Perempuan	2	100.00
Jumlah		**2**	**100.00**

Source: Processed Primary Data, 2023

Based on Table 4 above, it is known that the selected respondents in Salojampu village, Wajo district and Pising village, Soppeng district are female.

d) Family Dependents

Table 5. Classification of Respondents Based on Family Dependents

No	Family Dependents	Number of Respondents	Percentage (%)
1	3	1	50.00
2	< 3	1	50.00
Jumlah		**2**	**100.00**

Source: Processed Primary Data, 2023

Based on the results of research in the field, it can be seen that the number of family dependents ranges from 0-5 people. The number of family dependents can influence respondents to carry out activities in farming, as well as encourage farmers to have more income in order to meet their daily needs.

e) Employment Level

Work is a necessity of life and an activity that must be carried out by everyone for the sake of survival to fulfill various kinds of life needs. Residents in Salojampu Village, Wajo District and Pising Village, Soppeng District generally work as farmers and gardeners. The table for employment levels can be seen in Table 6.

Table 6: Classification of Respondents Based on Employment Level

No	Jobs	Number of Respondents	Percentage (%)
1	Silk Farmer	2	100.00
2	Non Silk Farmer	0	00.00
Total		**2**	**100.00**

Source: Processed Primary Data, 2023

Table 6 shows that the level of employment is generally farming. The main occupation of respondents is as a farmer because they have the skills and knowledge about farming, in addition to having a large area of land, the farmers also raise silkworms at the same time and it has become a job that has been passed down from generation to generation.

2) Production Cost of Silkworm rearing

Production costs are costs incurred in each period of silkworm rearing. Production costs can be divided into 2, namely fixed costs and non-fixed costs (variable costs). Fixed costs come from the cost of equipment depreciation. Non-fixed costs are costs incurred by silkworm farmers whose amount is influenced by the number of silkworms to be maintained.

a). Fixed Costs

Table 7. Total Fixed Costs Per One Silkworm Production Cycle

No	Respondent Name	Depreciation Cost (Rp)	Pbb (Rp)	Total (Rp)
1	Matahari	241.667	95.000	336.667
2	Semmang	196.333	55.000	251.333
Total		**438.000**	**150.000**	**588.000**
Average		**219.000**	**75.000**	**294.000**

Source of Processed Primary Data, 2023

Table 7 shows the amount of depreciation costs that have been incurred by respondents in the silk yarn making business every one production cycle. The smallest total fixed cost incurred by respondents from Salojampu Village, Wajo District is Rp.196,333 and the largest is incurred by respondents from Pising Village, Soppeng District which is Rp.241,667 per production cycle. The total fixed cost of the two farmer groups is Rp. 588,000 with a total average fixed cost of Rp. 294,000 per one silkworm production cycle.

b). Variable Cost

Table 8. Total Variable Cost of Each Silkworm Production Cycle

No	Respondent Name	Non-Fixed Costs (Rp)
1	Matahari	227.000
2	Semmang	220.000
Total		**447.000**
Rata-Rata		**223.500**

Source of Processed Primary Data, 2023

Table 8 shows the largest total variable costs incurred by representatives of farmer groups namely from farmer groups in Pising Village, Soppeng Regency amounting to Rp. 227,000 per one production cycle and the smallest variable costs incurred by representatives of farmer groups in Salojampu Village, Wajo Regency which is Rp. 220,000 per one silkworm production cycle. The total variable cost incurred by the two farmer groups is Rp.447,000 with an average total variable cost of Rp.223,500 per silkworm production cycle.

c). Total Production Cost

Table 9: Total Production Cost of Each Silkworm Production Cycle

No	Respondent Name	Fixed Cost (Rp)	Variable Cost (Rp)	Total (Rp)
1	Matahari	241.667	227.000	468.667
2	Semmang	196.333	220.000	416.333
Total		**438.000**	**447.000**	**885.000**
Average		**219.000**	**223.500**	**442.500**

Source of Processed Primary Data, 2023

Table 9 shows the results of the largest total production costs incurred by respondents from silkworm farmer groups in Pising Village, Soppeng Regency, namely Rp. 468,667 per production cycle and the smallest total production costs incurred by respondents from Salojampu Village, Wajo Regency, namely Rp. 416,333 per production cycle. The total production cost incurred by the two farmer groups is Rp.885,000 with an average total production cost of Rp.442,500 per silkworm production cycle.

d). Total Revenue of Silkworm Farming Business in Salojampu Village, Wajo and Pising Village, Soppeng

Table 10: Total Revenue for Each Silkworm Production Cycle

No	Respondent Name	Number of Eggs	Number of Threads Sold (Kg)	Price/Kg (Rp)	Total Revenue (Rp)
1	Matahari	0.5	2.6	300.000	780.000
2	Semmang	0.5	2	300.000	600.000
Total		**1**	**4.6**	**600.000**	**1.380.000**
Average		**0.5**	**2.3**	**300.000**	**690.000**

Source of Processed Primary Data, 2023

Table 10 shows the largest total revenue from the amount of yarn sold, namely, from respondents in Pising Village, Soppeng Regency amounting to Rp.780,000 every one production cycle with a yield of 2.6 kg of yarn and the smallest total revenue from yarn products is in Salojampu Village, Wajo Regency with a total revenue of Rp. 600,000 every one production cycle and produces 2 kg of yarn. The total revenue of the two farmer groups from the sale of yarn is Rp.1,380,00 with an average revenue of Rp.690,000 per one silkworm production cycle.

e). **Total Income of Silkworm Farming**

Table 11: Total Income for Each Silkworm Production Cycle

No	Respondent Name	Total Acceptance (Rp)	Total Cost (Rp)	Total Revenue (Rp)
1	Matahari	780.000	468.667	311.333
2	Semmang	600.000	416.333	183.667
Total		**1.380.000**	**885.000**	**495.000**
Average		**690.000**	**442.500**	**247.500**

Source of Processed Primary Data, 2023

Table 11 shows that the income earned by silkworm farmer respondents in Salojampu Village, Wajo District and Pising Village, Soppeng District during one production cycle was different in each business they owned. The smallest total income is the silk farming business in Salojampu Village, Wajo Regency, which is Rp. 183,667, while the largest income is the silk farming business in Pising Village, Soppeng Regency, which is Rp. 311,333 every one production cycle. The overall total income of the two farmer groups is Rp.495,000 with an average total income of Rp.247,500 per one silkworm production cycle.

Discussion

1) Comparison of Silkworm Farming Income

a) Fixed Cost

Fixed costs are costs that are very large and do not change according to the amount of yield produced by silkworm rearers. Fixed costs include the cost of depreciation of cages and equipment (Yuni et al., 2021). Fixed costs will remain even if production is stopped. In this study, Pising Village had higher fixed costs of around IDR 80,000 than Salojampu Village.

b) Variable Cost

Variable costs are costs that are strongly influenced by how much maintenance effort. The more effort put in, the more costs that must be paid (Sherly et al., 2021). Farmer groups in Soppeng and Wajo use local silkworm seeds purchased with government subsidies. Because of this subsidy, farmer groups do not need to spend money on buying silkworm seedlings. Farmers also have their mulberry gardens, so they do not need to buy feed for Morus Multicaulis, Morus Alba and Morus Cathayana species. Since silkworms are susceptible to diseases, silkworm rearers should always pay attention to the health of the worms to achieve optimal production results. Unstable environmental factors, such as temperature, rainfall, and humidity, can cause the caterpillars to develop diseases or even die. Therefore, lime or chlorine should be applied to prevent disease. The variable costs incurred by Pising Village are also higher than Salojampu Village, at IDR 27,000.

c) Total Production Cost

By looking at the relationship between revenues and costs, we can find farmer businesses that are profitable to operate. The total production cost of each respondent varies depending on the number of livestock owned by each farmer (Winarko & Astuti, 2018). The biggest cost for silkworm farming is the variable cost. In this study, production costs often increased along with the number of eggs hatched. This was due to differences in the number of eggs hatched by each farmer and Pising Village also had a higher total production cost of IDR 50,000.

d) Total Revenue of Silkworm Farming Business

In general, gross revenue is the difference between total expenses and gross income. Profit, technically, can be obtained by subtracting total revenue and total expenses, or total costs. In economic analysis, profits can also be categorized as fixed costs or unfixed costs (Maryati & Siswanti, 2022).

Under these circumstances, the more thread the farmer produces, the more income the farmer earns, which in turn results in greater profits for the keeper. However, if many eggs hatch but the yield of silk thread is low, it is because of the rearing treatment. Silkworm farming requires good and intensive rearing methods. However, some keepers simply raise silkworms without following all the ideal rearing methods. Pising and Salojumpo villages produce the same number of silkworms at 0.5kg, but Pising village sells 0.6kg more than Salojampu village. So although the price offered is the same, the results obtained by Pising Village are much greater.

e) Total Income of Silkworm Farming Business

Revenue is the difference between total income and costs. If there is a positive earned value, the company will earn a profit. This is to the idea of Abas et al. (2019), that revenue or net profit is the difference between gross revenue and total costs. Technically, profit can be calculated by subtracting total revenue or costs. Income from silkworm farming can differ between silkworm rearers. Variations in the number of eggs hatched and cocoons successfully harvested account for these differences in income. The more eggs hatched, the more thread produced, which in turn will result in greater income. Thus, the total net income of Pising Village is IDR 170,000 greater than Salojampu Village.

2) Income Influencing Factors

Factors affecting silkworm farming income can be multi-dimensional and include aspects involving silkworm farming. First, local climatic and environmental conditions are important factors that affect silk production and quality. The level of humidity, temperature, and availability of natural resources such as mulberry leaves as silkworm feed greatly affect the growth and health of the caterpillars as well as silk production (Mutiara & NH., 2017). In addition, the technology used in cultivation also contributes to income. The use of more efficient and innovative cultivation methods, such as the utilization of advanced technologies in monitoring and management, can increase productivity and ultimately have a positive impact on silkworm farm income (Nursita, 2013).

Another important factor is the managerial aspect of silkworm farming. Management skills, good planning, and the selection of appropriate marketing strategies can help improve the competitiveness of silk products in the market (Estetika & Endrawati, 2018). Social and economic factors, such as farmers' skill level, access to markets, and government policies related to the agricultural sector, also play a role in determining the income level of silkworm farming (Mas'ud et al., 2017). Therefore, a holistic understanding of these factors is crucial to optimize income and improve the sustainability of silkworm farming.

3) Income of Silkworm Farming Businesses that Provide Greater Income

The results showed that silkworm farmers in Pising Village, Soppeng Regency, and Salojampu Village, Wajo Regency, had high incomes. This was a result of silkworm farmers in Pising Village being more careful during their silkworm-rearing process, from seedlings to cocoons. However, the high number of eggs hatched but the low yield of cocoons and threads obtained was the result of the rearing technique itself. Good silkworm rearers followed the proper rearing procedures, while the others only reared yet did not fully follow the correct procedures.

The implications of the findings for the sustainability of silkworm farming in the two villages of Salojampu and Pising may provide strategic insights for the development of the sector. If the findings showed that one of the villages had a higher income and better sustainability, this could serve as a model or a reference point for the other villages. The results of the study could provide insight to local governments, researchers, and businesses on the key factors that contribute to the sustainability of silkworm farming. The implementation of best practices from successful villages could serve as a guide for efficiency improvement, risk management, and income generation in other villages. In addition, this research could help formulate policies that support the growth of the sector, including innovative approaches in the farmer's education and training, improved market access, and utilization of modern agricultural technologies to ensure the long-term sustainability of silkworm farming at the village level.

D. Conclusion

Based on the results of the discussion, it can be concluded that the income of silkworm farming varies, with the lowest recorded income recorded in Salojampu Village, Wajo Regency, amounting to just Rp. 183,667, while the highest recorded income was in Pising Village, Soppeng Regency, reaching Rp. 311,333 every one production cycle. The total income of the two farmer groups was Rp. 495,000, with an average total income of Rp. 247,500 per production cycle. Silkworm farming that provided a large income was located within the group of farmers in Pising Village, Soppeng Regency.

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Analysis of Production Cost on Income of Chocolate Farmers

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Abstract

This research aims to determine the production cost of cocoa producers in Ulunggolaka Village, Kolaka Regency to determine the income of chocolate producers in Ulunggolaka Village, Kolaka Regency. This research is quantitative. The population studied in this study consisted of two groups of farmers from Ulunggolaka village, Kolaka district, comprising 45 clove producers. In the meantime, the sample was determined using the Slovin formula, with the final result being 31 clove producers. The data analysis used is sales formula, production cost formula and revenue formula. The results of this research suggest that the average income of farmers in a year is IDR. 10,986,209 per person and this income was generated from the total income of farmers amounting to Rp. 10,986,209. 13,311,000 for each respondent. The total production cost is IDR. 2,324,791 per person with a sale price of Rp. 29,000 per kilogram. The production cost consists of variable costs of IDR 2,154,194 per person, while fixed costs are IDR 170,597 per person.

Keywords: Production costs, income, chocolate farmers

A. Introduction

The development of the agricultural plantation sub-sector is of great importance, especially in developing countries which are still striving to make sustainable and sustainable use of natural resource wealth. Furthermore, the plantation sub-sector plays an important role in national development, including increasing the wealth and well-being of the people, earning foreign exchange from the government, providing employment opportunities, and realizing added value and competitiveness, by meeting domestic consumption needs, by supplying raw materials. materials to national industry, etc. Management optimization. Use natural resources sustainably. As a commodity, plantation plants also have other names, namely useful plants and industrial plants. This note clearly shows the legitimacy that the cultivation of plantation fruits, which also includes the raw material chocolate, offers business opportunities. Cocoa is one of the main raw materials in the non-oil and gas sector in Indonesia. Cocoa cultivation in Indonesia is mainly done through small plantations in villages spread across almost all provinces from Aceh, Lampung, East Java, Bali, NTT, and Sulawesi to Papua, so the agricultural economy of the Cocoa is directly sustainable and benefits small communities in rural areas (Rozalina & Nurdila, 2018).

Natural resources are the natural environment (environment) that has value for satisfying human needs. Natural resources also include the environmental condition of the raw materials that people use to satisfy their needs and improve their well-being. Another definition states that resources are the result of human evaluation of necessary environmental elements. In this opinion, resources are divided into three groups: the total inventory, which is the sum of

environmental elements, resources or parts of the total inventory, and reserves, which are resources whose extraction is certain. Another opinion mentions land, mineral waters and forests as elements of natural resources (Hanafie, 2010).

Agriculture is a science that studies how resources (land, labour, capital and management) are distributed (Saeri, 2018). When farming, one of the farmer's goals is to obtain as high an income as possible. Farm income affects farm costs. Meanwhile, the quantity of production is always influenced by external factors and is also influenced by internal factors. To achieve maximum income, farmers must be able to control internal factors in the form of utilization of production facilities, use of appropriate technologies and more efficient use of labour.

Farmers who manage their plantation operations generally understand that the use of production facilities will impact their business's bottom line. However, for most farmers with a simple mindset and limited intellectual capacity due to low formal education, the use of production input costs seems to vary because they do not know the appropriate level of cost utilization. on these installations. Farmers will be satisfied if their production can be increased and they will always try to increase their production (Mubyarto, 1994).

Ulunggolaka subdistrict is one of the subdistricts where the average population earns their living through agriculture, such as cocoa, clove, pepper and patchouli farmers. However, the researchers will focus their research on cocoa farmers, who are part of the supporting factors that regulate people's lives so that they can increase their income. We can now see the impact of production costs on cocoa producers by the way they produce or process their crops. To produce high-quality chocolate, farmers must use existing natural resources intelligently. Implementation of its use by carrying out production activities.

The costs involved in chocolate production include factory production costs and harvesting costs. Production costs are part of the compensation received by the owners of production factors or costs borne by farmers in the production process, both in cash and non-monetary terms (Daniel, 2002). Farmers must maximize their production to avoid seeing an increase in financing for their farms.

However, in reality, the income of some producers is not in balance with the production costs borne by cocoa producers, such as: Such as the costs of fertilizers, the costs of harmful poisons, the prices of which increase every year, the raw material costs and labour costs to carry outside grafting, etc. The best grafting methods to replace old chocolate plants that are no longer producing, so you can get good quality cocoa beans later. Sometimes the quality of cocoa beans is affected by weather conditions, especially during the rainy season, because cocoa beans do not dry out quickly. Usually, the weight value decreases during the process of sale to the nearest collector, which affects the income of the farmer.

Sales made do not guarantee that farmers will make a profit. Indeed, sales results must always be deducted from the costs borne by farmers to produce their products. Cost is one aspect that can impact profits. If costs are greater than revenues, the company makes a loss, but if they are less than revenues, the company makes a profit. This decline in income is also due to farmers' lack of attention to paying the costs of maintaining production (Haryana, 2017).

A. Methodology

1. Research Design

This research uses a type of quantitative research. Used to search for specific populations or samples. This type of research is quantitative, i.e. it involves determining or describing a phenomenon that occurs using data in the form of numbers as a tool to analyze the problem that one wishes to know about. Data collection techniques used to collect information include conducting interviews, observations and documentation.

2. Participants/Respondents/Population and Sample

. The population of this study consisted of 45 cocoa farmers/farmers in the Ulunggolaka village area of Kolaka district. Sampling in this study used the Slovin method, identifying 31 names of cocoa farmers as respondents.

3. Technique of Data Collection

The data collection methods are: Observation (observation) is a method of data collection carried out by researchers to observe or record an event through direct testimony. Typically, research can be conducted in the form of participation in witnessing or observing an object being studied (Ruslan, 2010). Documentation is the collection of data from documents and libraries as material for analysis and obtained in this research. This method is a method of data collection that provides important clues about the problem being studied to obtain complete and valid data and is not based on research and interviews, but rather on data directly from respondents to the means of questions and answers collected to obtain information. related to the research being investigated.

4. Technique of Data Analysis

The data analysis used in this research involves quantitative analysis using a formula, namely the application of revenue analysis to calculate revenue, total costs and revenue.

B. Findings and Discussion

1. Findings

Ulunggolaka Village is one of the seven (seven) subdistricts in Latambaga District, Kolaka Regency, Southeast Sulawesi Province, where the average citizen earns a living as a farmer, including as a cocoa producer. Geographically, Ulunggolaka village is a hilly and mountainous area with an altitude of 12,000 m above sea level, heavy rainfall of 2,000 to 3,000 mm/year, and an average air temperature of 15 to 30°C. Ulunggolaka sub-district is an agricultural area where the majority of the population earns their livelihood from agriculture, particularly in the farming and plantation sectors, while other livelihoods consist of trade in processed agricultural and plantation products.

2. Discussion

Farmers are people who engage in business activities to meet the needs of the agricultural sector. To obtain information, the identity of the farmer interviewed is one of the important elements that can facilitate the smooth running of the research process. The identities of the interviewed farmers are discussed below, including their age, education level, number of family members, experience in farming, and size of land owned by the farmer.

1. Analysis of the cost of income from cocoa farming

Agricultural income is the difference between income (TR) and all costs (TC), total agricultural income is the multiplication of production and selling price of agricultural products, while total costs are all expenses incurred on a farm (Purwanto et al., 2019).

1.1 Cost Analysis Results

a. Results Fixed costs (fixed costs)

Fixed costs are costs that always remain the same, even if the quantity of production changes. Fixed costs are costs that do not affect production and are incurred even if the production achieved is large or small, and even if production is not realized, the amount of costs does not depend on the level of production costs reached. The fixed costs involved in this study include equipment depreciation value (NPA) and land and property tax costs (PBB).

Table 1. The average value of equipment depreciation (NPA) of fixed costs for cocoa farmers in Ulunggolaka Village, Kolaka Regency.

No	Name	Total cost
1	Hoe	9.328
2	Like	26.642
3	Spray pests (sprayer)	62.097
4	Scissors	7.463
5	Harvesting scissors	8.551
Total		**114.081**

Source: primary data after processing

Table 1 shows that the cost of a home is Rp. 1,000,000. 9,328 The cost of the machete is IDR. The cost of pruning shears is Rp. 26,642. 7,463. The cost of pest spraying is Rp. 62,097. The cost of scissor harvesting is Rp. 8,551. The highest cost is the cost of pest spraying with a cost of Rp. 62,097. And the lowest cost of a pruner is Rp. 7,463. The total amount of fixed costs is Rp. 114,081, so we can conclude that the higher the quality of the agricultural equipment used is higher, the longer the useful life and this increases cocoa income for farmers.

Table 2. Results of recapitulation of average fixed costs and taxes incurred by cocoa farmers in Ulunggolaka Village, Kolaka Regency.

No	Description	Total Cost
1	Equipment depreciation value (NPA)	Rp. 114,081
2	Property tax	Rp. 56,516
Total		**Rp. 170,597**

Table 2 shows that the total value of equipment depreciation (NPA) is IDR. 114,081, while the land and construction tax (PBB) is IDR. 56,516. The total fees therefore amount to IDR 170,597. On the other hand, the larger the area used for cocoa cultivation, the more the costs of land and real estate taxes increase, in particular as well as the income of the farmer.

b. Variable Costs

Variable costs are all costs that surveyed farmers incur for purchasing fertilizers and pesticides and whose costs change. Variable costs in this research include fertilizer, pesticide, and labour costs.

Table 3. Results of recapitulation of average variable costs for cocoa farmers in Ulunggolaka Village, Kolaka Regency.

No	Description	Total cost
1	Phonska fertilizer cost	Rp. 553,548
2	Urea fertilizer costs	Rp. 571,290
4	Alika insecticide cost	Rp. 120,645
5	Gramaxone herbicide cost	Rp. 402,581
7	Labor costs	Rp. 506.129
	Amount	**Rp. 2,154,193**

Table 3 shows that the cost of Phonska fertilizer is IDR 553,548, the cost of urea fertilizer is IDR 571,290, the cost of Alika insecticide is IDR 120,645, the cost of Gramaxone herbicide is IDR 402,581 and labour cost is IDR 506,129. The highest cost is the cost of urea fertilizer IDR 571,290 and the lowest cost is IDR 120,645 for Alika insecticide. The total amount of variable

costs is IDR. 2,154,193. The conclusion is that the higher the variable costs of maintaining cocoa plants, the lower the income of cocoa producers.

c. Chocolate Farmer Income.

Table 4. Cost and income analysis of all interviewed farmers in Ulunggolaka village, Kolaka regency.

No	Description	Amount (RP)
1	Total Pennies/Revenue (TR) = P x Q Amount/ Quantity (Q) Price/price (P)	 = 459 =29.000/kg
Total Receipts		= Rp. 13,311,000
2	Cost a. Variable costs (VC) ● Labour ● Fertilizer ● Pesticide	 =Rp. 506.129 = 1.124.839 = 523.226
Total variable costs		Rp. 2,154,194
	b. Fixed costs (FC) - Tax ● Tool depreciation - Hoe - Like - Spray pests - Pruning shears - Harvesting scissors	 = Rp. 56,516 = Rp. 9,328 =Rp. 26.642 =Rp. 62,097 =Rp. 7.463 =Rp. 8. 551+
Total fixed costs		=Rp. 170,597
3	Total cost (TC) = TVC + TFC Variable costs (VC) Fixed costs (FC)	 = Rp. 2,154,194 = Rp. 170,597 +
	Total production costs	=Rp. 2,324,791
4	Income (Pd) = TR-TC Reception Total production costs	 Rp. 13,311,000 Rp. 2,324,791 -
	Total income	**Rp. 10,986,209/ year**

C. Conclusion

Based on the research results and discussions on the influence of production costs on the income of cocoa farmers in Ulunggolaka Village, Kolaka Regency, the following conclusion can be drawn: The average income of chocolate farmers in Ulunggolaka village, Kolaka Local Government Area is approximately 10,986,209/year throughout 5 to 6 harvests; Based on the average costs incurred by chocolate producers during the production process, this is the IDR. 2,324,791.

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Analysis of Vegetables Marketing Strategy at Center of Agriculture Course and Self-Subsistent Rural Areas (P4S)

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Abstract

One of the enormous potentials in the agricultural sector is horticulture, which plays an important role in ensuring adequate nutrition for the community such as vegetables, fruit, flowers, live plants, etc. Wanua Lampoko Independent Agricultural and Rural Training Center (P4S), Lampoko Village, Barebbo District, Bone Regency is an agricultural education and training institution which is a forum for education and teaching for farmers and agricultural practitioners as well as coaching farmers in the fields of agriculture, horticulture, animal husbandry, fisheries, plantations and other social fields that are just and sustainable. This research aims to analyze the Vegetables Marketing Strategy at P4S Wanua Lampoko. The method used is SWOT analysis with stages, namely problem definition, data collection, data processing, data analysis and conclusion. The results of the SWOT matrix show that from several IFAS internal factors and EFAS external factors, P4S has quite large strengths with a score of 1.971 which is higher than the weakness score of 1.536. However, there is a threat to the score1,882whose value is close to the strength score and greater than the opportunity score of 1.653. The position of P4S Wanua Lampoko is in quadrant II, which means that even though it faces various threats, P4S Wanua Lampoko still has strength from an internal company perspective. The strategy that must be established is to use strengths to take advantage of long-term opportunities with a diversification strategy. P4S Wanua Lampoko, which is based on the ST (Strength and Treats) strategy, is expected to be able to control product prices to increase people's purchasing power and use quality seeds to increase the production and quality of vegetables sold.

Keywords: Marketing strategy, P4S, IFAS, EFAS, SWOT

A. Introduction

Indonesia is an agricultural country with very rich human and natural resources. With abundant natural wealth, most of the food produced is available in Indonesia and the majority of the Indonesian population works in the agricultural sector. One of the enormous potentials in the agricultural sector is horticulture, which plays an important role in ensuring adequate nutrition for the community such as vegetables, fruit, flowers, live plants, etc. One of the horticultural commodities that plays a role in providing sufficient nutrition is vegetables. Vegetables have high economic value, so the productivity of this commodity must be truly efficient. So that herbal products become quality products and can compete in the market both at home and abroad (Wibawa et al, 2020).

As the population grows and awareness of the value of food for a healthy lifestyle, demand for vegetables in Indonesia continues to increase. Vegetable consumption in Indonesia is 40 kg

per capita per year, but this consumption figure is still below the FAO standard recommendation of 73 kg per capita per year. One effort to increase public consumption of vegetables requires an effective and efficient marketing system (Sheyoputri & Abri, 2021). Apart from rice, other agricultural products produced in South Sulawesi are seasonal vegetables, and garden crops including 23 types of plants, including mustard greens. Increasing vegetable production is one of the efforts to diversify food. Apart from that, the development of vegetable production is thought to encourage an increase in the nutritional value of society (Badan Pusat Statistik South Sulawesi, 2021).

The Wanua Lampoko Self-Help Agricultural and Rural Training Center (P4S) is located in Lampoko Village, Barebbo District, Bone Regency, which cultivates mustard greens, cucumbers, chillies and spinach, but the plant that is most focused on cultivation is mustard greens, because market demand for mustard greens is higher. Marketing at P4S goes directly to consumers and also distributes to sellers in markets around Bone City. Agribusiness entrepreneurship has a strategic position in the context of agricultural development, which is achieved, among other things, through system development policies and agribusiness or agricultural businesses. Based on the description above, this research aims to analyze the Vegetable Marketing Strategy at the Self-Help Agricultural and Rural Training Center (P4S) Wanua Lampoko, Bone Regency.

B. Methodology

This research was carried out at the Wanua Lampoko Self-Help Agricultural and Rural Training Center (P4S), Lampoko Village, Barebbo District, Bone Regency which took place from April to May 2023.Data collection was carried out using observation, interviews and documentation techniques.In this study, the research informants were people chosen by the researcher who were deemed able to provide the required information, namely the chairman, secretary, treasurer, marketing section, processing section and employees. The data analysis used in this research is qualitative and quantitative analysis to carry out the analysis *Factors Analysis Summary*(IFAS) and And*External Factors Analysis Summary*(EFAS). Next, formulate a vegetable marketing strategy at the Wanua Lampoko Independent Agricultural and Rural Training Center (P4S), using the SWOT analysis method.

C. Findings and Discussion

The Wanua Lampoko Independent Agricultural and Rural Training Center (P4S) is a government partner in developing agricultural human resources, especially rural communities and farmers.The Wanua Lampoko Independent Agricultural and Rural Training Center (P4S) is an agricultural education and training institution in Bone Regency which is a forum for education and teaching for farmers and agricultural practitioners as well as coaching farmers in the fields of agriculture, horticulture, animal husbandry, fisheries, plantations and other social fields that is fair and sustainable; A place to develop community participation in fair market mechanisms and the development of agribusiness systems and businesses based on regional comparative advantages; Training centre for school courses etc. and extension services for all services to advance agricultural communities, farmers and so on in increasing human resources and farmers' income;

SWOT analysis is the systematic identification of various factors to formulate a business strategy that can maximize strengths and opportunities, but simultaneously minimize weaknesses and threats.

Internal Factors Analysis Summary (IFAS)

Matrix *Internal Factors Analysis Summary*(IFAS) is used to evaluate and give weight to each piece of data obtained from internal organizational factors, namely the strengths and weaknesses

of the organization/company. The results of giving weights and ratings to internal factors can be seen in Table 1.

Table 1. Internal Factors Analysis Summary (IFAS) Matrix

Internal factors	Weight	Rating	Score
Strength			
Use of quality seeds	0.118	4	0.472
Skilled human resources	0.092	3	0.276
Collaborating with business partners and the TPHP Agriculture Service	0.109	4	0.436
Already has a label or brand	0.118	4	0.472
Strategic location close to urban areas	0.105	3	0.315
Total Power (S)	**0.542**		**1,971**
Weakness			
Promotional activities are less intense	0.056	2	0.112
Distribution area is still limited	0.092	3	0.276
Delivery took a long time to reach consumers	0.092	3	0.276
There will be less interest if it is not promoted	0.109	4	0.436
The land is still not large enough	0.109	4	0.436
Number of Weaknesses (W)	**0.458**		**1,536**
Total	**1**		**3,507**

Source: Primary Data After Processing, 2023

The total score for all internal factors is 3.507 with a strength factor score that is quite large, namely 1.971 and lower than the weakness score, namely 1.536. The internal factors are then divided into two parts, namely internal factors whose average value is above the average value, are grouped as strengths, and internal factors whose value is below the average are grouped as weaknesses.

a. Strength Factor (Strength)

Factors that are strengths in marketing vegetables at P4S Wanua Lampoko include:

- Use of quality seeds

  The quality of seeds is the key to successful cultivation, quality seeds can adapt, have fast and stable growth, are pest resistant and have high productivity (Khusna & Mariana, 2021).P4S Wanua Lampoko has used quality seeds, selecting quality seeds by looking at the certified stamp on the seed packaging.
- Skilled human resources.

  AchievementQuality performance requires skilled and reliable human resources in their field (Siagian, 2020).The human resources at P4S Wanua Lampoko have had experience in horiculture farming for a long time, especially Mr Usman chairman and owner of P4S who has done an agricultural internship in Japan.
- Collaborate with business partners and the Department of Agriculture.

  The partnership is a form of cooperation that needs to be carried out for business development so that it can be globally competitive (Halik et al, 2019). One of the strengths of P4S Wanua Lampoko is that it already has business partners, namely Surya Indah supermarkets and farmer's shops. P4S Wanua Lampoko has also collaborated with the TPHP Agriculture Service.
- Already has a label or brand.

  By having a trademark or trade mark with the product label, consumers can easily recognize the products offered and do not easily switch to other similar products and vice versa (Sulistiono & Mulyana, 2020).Product labels or brands are very important in business, therefore P4S Wanua Lampoko has a brand on its products, namely “Istana Sayur Lampoko”.
- Strategic location close to urban areas

ChooseStrategic company location is one of the most important keys in starting a company. There are several aspects or criteria for selecting a location. These criteria will later become the basis for choosing a place, and of course, choosing a place takes a long time, because the criteria given can be very different (Wati, 2021).The location of P4S Wanua Lampoko is quite strategic because the distance between P4S and Watanpone City is only approximately 10 km. This distance is one of the strengths of P4S Wanua Lampoko in facilitating product distribution.

b. Weakness Factors

Factors that are weaknesses in marketing vegetables at P4S Wanua Lampoko.

- Promotional activities are less intense

  Promotion is a form of marketing communication in the form of activities aimed at disseminating information, influencing or persuading and increasing a target market company and their products to be ready to accept, buy and be loyal to the products offered by the company (Dewanti, 2021).One of the weaknesses of P4S Wanua Lampoko is that it has not carried out intensive promotions both offline and online. In online promotions, P4S uses the social media WhatsApp and Facebook.
- Distribution area is still limited

  The company's decision to determine the distribution strategy and distribution channels that will be implemented determines the smoothness of the distribution process so that it is beneficial for the company and the parties in the distribution channel (Karundeng et al., 2018).The distribution of P4S Wanua Lampoko products is mostly around Lampoko Village to the city of Watanpone. Product distribution has not yet reached outside the city.
- Delivery took a long time to reach consumers.

  QualityCompany services must be maintained because service quality affects customer satisfaction and loyalty. After all, if service quality is not good then the result is that customers are dissatisfied which will result in a decrease in company profits (Somadi, 2020).Product delivery to consumers is sometimes slow because there is only one person distributing products at P4S Wanua Lampoko.
- There will be less interest if it is not promoted

  Promotion is a method used by producers to communicate or convey information about a product so that consumers recognize it (Miladiah & Riyanto, 2020). If the product is not promoted, the product will not be known to target consumers.
- The land is still not large enough

  The planting area influences the number of plants planted, which in turn can influence the amount of vegetable production produced (Prandnyawati & Cipta, 2021)The land in P4S Wanua Lampoko is still not large enough for cultivation, the land area is only around 2 hectares.

External Factors Analysis Summary (EFAS) Matrix

MatrixEFAS is used to evaluate and give weight to external factors in the form of organizational/company opportunities and threats which can be seen in Table 2 below.

Table 2. External Factors Analysis Summary (EFAS) Matrix

External Factors	Weight	Rating	Score
Opportunities			
Development of online delivery technology	0.103	4	0.412
Product demand is still high	0.086	3	0.258
Relations with various consumers are well established	0.107	4	0.428
Vegetables are enjoyed by everyone	0.086	3	0.258
Utilization of social media for promotion	0.099	3	0.297
Number of Opportunities (O)	**0.481**		**1,653**
Threats			

Unstable prices caused by climate and weather	0.111	4	0.444
There is no guarantee of product quality reaching consumers	0.103	4	0.412
Hydroponic vegetable competition	0.095	3	0.285
Lack of interest in buying vegetables online	0.099	3	0.297
Tight price competition with similar businesses from outside the area	0.111	4	0.444
Number of Threats (T)	**0.519**		**1,882**
Total	**1**		**3,535**

Source: Primary Data After Processing, 2023

Based on calculations, it is known that the total score for all external factors is 3.533. The threat factor has a score of 1.882, which is close to the strength score and greater than the opportunity score, namely 1.653. These internal factors are then divided into two parts, namely external factors whose average value is above the average, grouped as opportunities (Opportunities), and external factors whose value is below the average, which are grouped as threats (Threats).

a. Opportunity Factors (Opportunities)

Factors that become opportunities in marketing vegetables at P4S Wanua Lampoko.

- Development of online delivery technology

  If at firsttransactions are carried out such as buying and selling in shops, markets and other places, now people are starting to enjoy online shopping with information technology-based services (Putra et al, 2020). Development technology is very advanced, especially digital technology, and it is very profitable if it can be utilized, P4S Wanua Lampoko consumers use WhatsApp and Facebook to sell products online
- Product demand is still high

  Factorconsumer income influences product purchase demand,that is.if a person's consumer income is seen from shopping, social activities and food hobbies or a person's tastes (Heriswanto & Membaka, 2022). Consumer demand for mustard greens is very high, with an average demand of 700 bunches of mustard greens every day.
- Relations with various consumers are well established

  Relationships are created mechanically to satisfy the biological needsorconsumers' physiology regarding their products (Wijaya et al, 2020).P4S Wanua Lampoko continues to maintain relationships with consumers, by improving product quality and providing delivery services.
- Vegetables are enjoyed by everyone

  Knowledge about the consequences of low fruit and vegetable consumption needs to be increased so that this becomes a good thing, because knowing the consequences of not eating fruit and vegetables increases awareness of eating fruit and vegetables every day (Lathifuddin et al, 2018).P4S Wanua Lampoko consumers come from all levels of society, from small children to the elderly. Because vegetables have many health benefits.
- Utilization of social media for promotion

  Social media has various advantages in activitiesAdvertising, for example, does not require costs and energy to convey information to consumers, even though the time required to convey information is very short for many people (Puspitarini & Nuraeni, 2019).One of the functions of social media is as a medium used to promote products. P4S Wanua Lampoko is now utilizing WhatsApp and Facebook social media to promote products.

b. Threat Factors (Thearts)

Factors that pose threats in marketing vegetables at P4S Wanua Lampoko.

- Unstable prices caused by climate and weather

  Horticultural risks can be caused by climate factors (heat), weather (rain) and pest attacks. The risk of dry season is lower than the risk of rainy season production (Tanaya et al, 2021). The price of P4S Wanua Lampoko products is somewhat unstable depending on

the climate and weather. Bad weather can cause mustard greens or other plants to rot and be susceptible to pests

- There is no guarantee of product quality reaching consumers

  The quality of the products offered meets standards so that consumers feel satisfied with the goods or services sold by the company (Puzianti, 2021).P4S Wanua Lampoko still cannot guarantee the quality of the product reaching consumers, often the product reaches consumers in a condition that is not fresh.

- Hydroponic vegetables compete with conventional vegetables

  Hydroponic vegetables are a horticultural product that is in great demand and is currently being developed in the agricultural industry. The speciality of hydroponic vegetables is that they produce better quality fresh and cleaner than conventional vegetables (Savira & Prihtanti, 2019). Hydroponic vegetables continue to develop and have many fans, this is a threat to conventional vegetables at P4S Wanua Lampoko.

- Lack of interest in buying vegetables online

  Customers worry when purchasing various products such as meat, fruit, vegetables and other fresh products from online stores (Pitaloka et al, 2022). Most people prefer to buy vegetables directly compared to online.

- Tight price competition with similar businesses from outside the area

  Competition in any form must exist and must be faced, if we can beat it will survive, otherwise, we will lose and be eliminated (Apriyanti, 2020). There are several similar businesses from outside the Bone Regency area, namely from Sinjai Regency, which have entered into marketing products by offering prices below competitors.

SWOT analysis

This analysis is based on logic that can maximize strengths and opportunities, but simultaneously minimize weaknesses and threats. Based on the results of weight and rating calculations on internal factors and external factors. So the stage of determining the coordinate points to determine the position of the P4S Wanua Lampoko marketing strategy can be seen from the following results.

S = 1.97
W = 1.53
O = 1.65
T = 1.88
So:
X = S + (-W)
= 1.97 +(-1.53) = 0.44
Y = O + (-T)
= 1.65+(-1.88) = -0.23

Note:
X = Internal Strategy Factor Matrix
Y = External Strategy Factor Matrix
S = Strength
W= Weakness
O = Opportunity
T = Threat

Based on the calculations above, the internal strategy factor value (X) is 0.44 and the external strategy factor value (Y) is -0.23. Where the value of the internal strategy factor (X) is smaller than the value of the external strategy factor (Y).

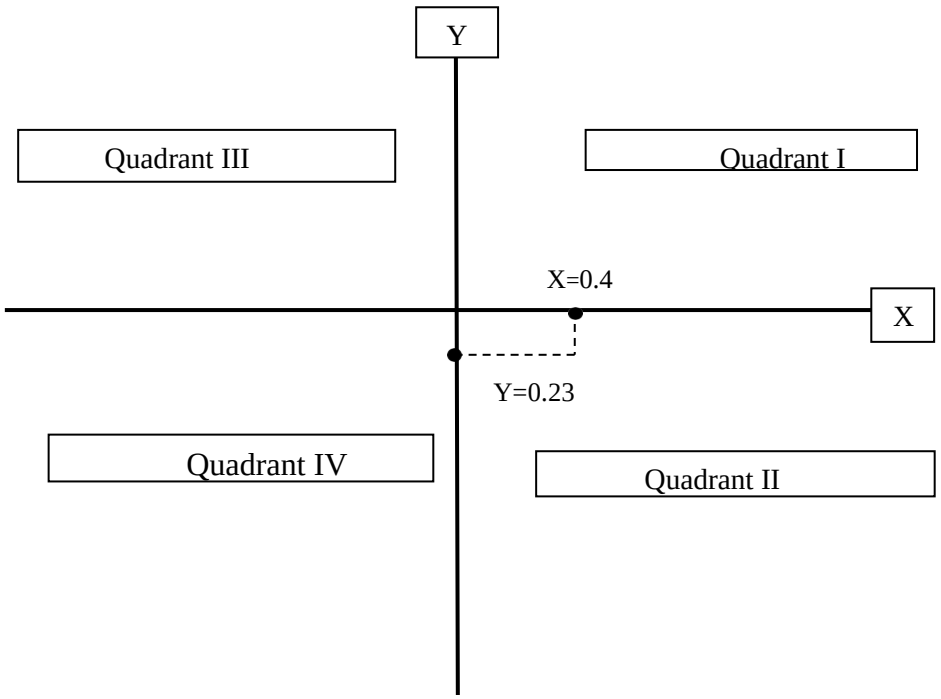

Figure 1. SWOT Matrix Diagram

Figure 1 shows that P4S Wanua Lampoko is in quadrant II, which means that even though it faces various threats, P4S Wanua Lampoko still has strength from an internal company perspective. The strategy that must be established is to use strengths to take advantage of long-term opportunities with a diversification strategy.To facilitate SWOT analysis, a matrix is used in the form of the following table.

Table 13. SWOT Strategy Matrix

EFAS **IFAS**	**Opportunity (O)** 1) Development of online delivery technology 2) Product demand is still high 3) Relations with various consumers are well established 4) Vegetables are enjoyed by everyone 5) Utilization of social media for promotion	**Threat (T)** 1) Unstable prices caused by climate and weather 2) There is no guarantee of product quality reaching consumers 3) Hydroponic vegetable competition 4) Lack of interest in buying vegetables online 5) Tight price competition with similar businesses from outside the area
Strength (S) 1) Use of quality seeds 2) Skilled human resources 3) Collaborating with business partners and the Bone District TPHP Agriculture Service 4) Already has a label or brand 5) Strategic location close to urban areas	**SO Strategy** 1) Maximize product delivery services. 2) Maximizing human resources in the use of technology as a marketing medium	**ST Strategy** 1) Control product price games to increase people's purchasing power. 2) Using quality seeds can increase the production and quality of the vegetables sold

Weakness (W)	WO Strategy	WT Strategy
1) Promotional activities are less intense 2) Distribution area is still limited 3) Delivery takes a long time to reach consumers 4) There will be less interest if it is not promoted 5) The land is still not large enough	1) Establish good cooperation with existing work partners for sustainable business development. 2) Improve promotional strategies by utilizing technological advances	1) Providing information to the public about the importance of vegetables for health 1) Increase promotional activities to be able to compete with similar businesses.

Source: Primary Data After Processing, 2023

Based on the above, the analysis shows that business performance can be determined by the combined effect of internal and external factors.The combination of these two factors is shown in the SWOT analysis and becomes a marketing strategy as follows

a. SO Strategy (Strength Opportunity)

This strategy is a combination of internal factors (Strength) and external factors (Opportunity), this strategy is based on the idea of using all strengths to obtain and exploit existing opportunities.The SO strategy adopted by P4S Wanua Lampoko is:

1. Maximizing product delivery services, namely by providing special vehicles to deliver products. This is in line with research by Widyastuti (2021), stating that Sales businesses in offline and online channels must also be accompanied by the need for delivery services. Trading activities can take advantage of same-day delivery services so that consumers can receive products quickly.
2. Maximizing human resources in the use of technology as a marketing medium. This is in line with research by Siagian et al (2020), which states that development technology that continues to develop, even with the help of social media, makes it possible for people, especially entrepreneurs, to easily reach potential buyers.

b. ST Strategy (Strength – Threat)

This strategy is a combination of internal factors (Strength) and external factors (Threat), this strategy uses the company's strengths to overcome all external threats.The ST strategy adopted by Wanua Lampoko's P4S Business is

1. Control product price games to increase people's purchasing power.This is in line with research by Fajariani, (2022), stating that competition requires rules of the game because sometimes market mechanisms don't always work well. In markets, commercial actors usually try to avoid or eliminate mutual competition. Weakening or eliminating competition allows entrepreneurs to obtain much higher profits
2. Using quality seeds can increase the production and quality of the vegetables sold. This is in line with research by Pujiastuti (2023), stating that using quality seeds, is hoped that it can increase the productivity and quality of the plants produced.

c. WO Strategy (Weakness – Opportunity)

This strategy is a combination of internal factors (Weakness) and external factors (Opportunity), which are implemented to take advantage of existing opportunities to reduce the company's weaknesses.The WO strategy adopted by Wanua Lampoko's P4S Business is:

1. Establish good cooperation with existing work partners for sustainable business development. A partnership is a cooperative agreement between two or more parties for a certain period based on an agreement to achieve goals using the principles of mutual benefit, mutual reinforcement and mutual motivation (Halik et al, 2020)
2. Improve promotional strategies by utilizing technological advances. This is in line with research by Irfani et al (2020), stating that ImplementationDigital marketing in Industry

4.0 can be used as an alternative strategy in product marketing to make it easier for business actors to monitor and fulfil the needs and desires of potential consumers. Consumers can be used as a tool to make it easier to search for product information.

d. WT Strategy (Weakness – Threat)

This strategy is a combination of internal and external factors, this strategy is based on defensive actions and tries to avoid possible external threats to reduce the company's weaknesses. The WT strategy adopted by P4S Wanua Lampoko is:

1. Providing information to the public about the importance of vegetables for health. This is in line with research by Handoko & Setiawan (2021), stating that Increasing awareness of the importance of health among the millennial generation, is marked by concern for a healthy lifestyle through the consumption of organic food. The organic food used today is organic vegetables which play an important role in health so they are often used as staple food.
2. Increase promotional activities to be able to compete with similar businesses. This is in line with research by Arisandy & Satriawan (2018), stating that As good as whatever product is made, consumers don't know about it, the product will not be bought, so advertising is needed to present the product to consumers so that consumers are interested in buying.

D. Conclusion

Based on the results of research on vegetable marketing strategies at P4S Wanua Lampoko, it can be concluded as follows:

1. The IFAS factors and EFAS factors show that P4S has quite large strengths with a score of 1.971 which is lower than the weakness score of 1.536. However, it has a threat with a score of 1.882, which is close to the strength score and greater than the opportunity score of 1.653. Internal factors that influence marketing at P4S Wanua Lampoko are the use of quality seeds, skilled human resources, collaboration with business partners and agricultural services, already having a label or brand, strategic location close to urban areas, less intensive promotional activities, distribution area is still limited , delivery takes a long time to reach consumers, less interest if not promoted, the land is still not large enough. External factors that influence marketing at P4S Wanua Lampoko: development of online delivery technology, high demand for products, good relationships with various consumers, vegetables enjoyed by all groups, use of social media for promotions, unstable prices caused by climate and weather, there is no guarantee of product quality reaching consumers, competition for hydroponic vegetables, lack of interest in buying vegetables online, tight price competition with similar businesses from outside the region.
2. P4S Wanua Lampoko is in quadrant II, which means that even though it faces various threats, P4S Wanua Lampoko still has strength from an internal company perspective. The strategy that must be established is to use strengths to take advantage of long-term opportunities with a diversification strategy.
3. The marketing strategy formula recommended for P4S Wanua Lampoko is the ST (Strength and Treats) strategy, namely controlling product price play to increase people's purchasing power, using quality seeds to increase production and the quality of vegetables sold.

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Porang Plant Commodity Development Strategy

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Abstract

Porang plants are one of the plants worth developing because of their high economic value, apart from that, the contents of porang tubers are also used in the food and health industries. This research was carried out at PT Al Fatih Porang in Sidrap Regency. This research aims to look at the Porang Plant Commodity Development Strategy in Talumae Village, Watang Sidenreng District, Sidrap Regency. The methods used in this research are qualitative and quantitative research methods. The population used in this research were employees of PT Al Fatih Porang in Sidrap Regency, South Sulawesi. The sample size was 50 employees selected purposively. Data collection techniques use interviews, observation, and questionnaires. In this research, researchers used SWOT data analysis to look at the Porang Commodity development strategy at PT Al Fatih Porang, Sidrap Regency. The SWOT matrix is a tool for matching external and internal key factors.
The research results show that PT Al Fatih Porang has an IFAS strength value of 1.84 which is greater than the Weakness value, namely 1.66. The EFAS Opportunity value is 2.57, which shows that the opportunity value is greater than the threat value, namely 0.68. PT Al Fatih Porang is in Quadrant I so alternative development strategies that can be implemented are utilizing farmers' experience to manage existing land to meet the increasing demand for porang from industry and utilizing seed and fertilizer production facilities to produce good quality and quantity of porang so that can achieve the maximum porang price.

Keywords: Porang, SWOT, IFAS, EFAS, development strategy

A. Introduction

The pouring plant is a tuber-type plant that originates from the tropical plains of India's Andaman Islands and then spreads eastwards through Myanmar, Thailand and into Indonesia. The porang plant has great potential as a source of regional income and an export commodity (Rahayuningsih, 2021). The development of porang plants is very important, in part because this plant has quite high economic potential (Rahayuningsih, 2020). Demand for porang on the world market is increasing (Sulistiyo et al, 2015). The high glucomannan content in porang tubers makes this plant much sought after, especially in the food and health industries (Faridah et al., 2012). So the porang plant has great economic, food and health potential.

The development of Porang cultivation is worthy of economic development. Data from the Agricultural Quarantine Agency (2021) states that there has been a 160% increase in the value of porang exports from 5.7 thousand tons in 2019 to 14.8 thousand tons in 2021. So the Ministry of Agriculture is encouraging the development of porang cultivation so that the export volume continues to increase because So far, one of the biggest obstacles to porang exports in Indonesia

lies in the limited supply of raw materials. The development of porang has the opportunity to increase farmers' income and welfare (Dewi et al., 2023). Al-Fatih Porang Indonesia, as one of the porang plantation companies in Indonesia, has been contributing to the plantation business since 2019. To date, Al-Fatih Porang Indonesia has more than 50 employees spread throughout the company area. For Al-Fatih Porang Indonesia, employees are human resources who are company assets and have become part of the company's extended family which is expected to progress with Al-Fatih Porang Indonesia.

As one of the largest porang plantation companies in Indonesia, the business is run by PT. Al-Fatih Porang Indonesia starts from cultivation to product marketing (upstream-downstream) using raw material processing standards accepted by global companies. The development of porang to meet export needs in fresh or semi-finished form has become a new livelihood for the people of Sidrap Regency. So far, people in this area have only focused on food crops such as rice and corn so that they can increase income for farming households who carry the out cultivation or processing of porang plants. Sidrap Regency is one of the regencies in South Sulawesi Province which is an area for developing porang plants because of the suitability of the land for porang plant development activities.

Based on this description, the author is interested in researching the "Porang Plant Commodity Development Strategy in Talumae Village, Watang Sidenreng District, Sidrap Regency" with the hope of improving the porang plant development strategy so that it can create prosperity for community farmers.

B. Methodology

The methods used in this research are qualitative and quantitative research methods. The population used in this research were employees of PT Al Fatih Porang in Sidrap Regency, South Sulawesi. The sample size was 50 employees selected purposively. Data collection techniques use interviews, observation, and questionnaires. In this research, researchers used SWOT data analysis to look at the Porang Commodity development strategy at PT Al Fatih Porang, Sidrap Regency. The SWOT matrix is a tool for matching external and internal key factors.

C. Findings and Discussion

1. Findings

1) Respondent Characteristics

The respondent characteristics applied in this research are the respondent's age, gender, family responsibilities and level of education.

a) Age Level

Age is an identity that is closely related to the human mindset and physical ability to work. The age level of respondents can be seen in Table 1.

Table 1. Characteristics of Respondents Based on Age Level

No	Age (Years)	Number of Respondents (People)	Percentage (%)
1	27-40	23	46.00
2	41-50	18	36.00
	51-62	9	18.00
Total		**50**	**100.00**

Source: Processed Primary Data, 2023

Based on table 1, shows the age of the PT farmer respondents. Al-Fatih Porang Indonesia has the largest number of people aged 27-40 years with a total of 23 people with a percentage of 46% and aged 41-50 years with 18 people with a percentage of 36% too, while third place is aged 51-62 years with a total of 9 people with a percentage

of 18%. Based on this data, generally, the age of the respondent farmers is still in the productive age group, where the farmers are still very capable of farming and have more experience with the production process. Age has a significant effect on farming productivity. Increasing the age of farmers will reduce the physical abilities and thinking of farmers which has an impact on reducing the productivity achieved in farming (Herdiansah Sujaya et al., 2018).

b) Gender of Respondents

Table 2 is a table of respondent characteristics based on gender.

Table 2. Classification of Respondents Based on Gender

No	Gender	Number of Respondents (People)	Percentage (%)
1	Male	47	94.00
2	Female	3	6.00
Total		**50**	**100.00**

Source: Processed Primary Data, 2023

Based on the results obtained in the field, the characteristics of respondents at PT. Al-Fatih Porang Indonesia, that is, there are 47 men with a percentage of 94% and 3 women with a percentage of 6%, so it can be seen that the ones who dominate as porang farmers in this study are men.

c) Family Dependents

The number of dependents is the number of people under one roof (one household management) outside the head of the family (Tomy, 2013). The number of family dependents at PT AL Fatih Porang can be seen in Table 3.

Table 3. Classification of Respondents Based on Family Dependents

No	Family Dependents	Number of Respondents	Percentage (%)
1	0-2	31	62.00
2	3-5	19	38.00
Jumlah		**50**	**100.00**

Source: Processed Primary Data, 2023

Table 3 shows that in general, workers in the porang plant quarantine warehouse work for the company PT. Al-Fatih Porang Indonesia has several family dependents, namely the number of dependents from 0-2 people is 31 farmers with a percentage of (62%), and the number of dependents from 3-5 people is 19 farmers with a percentage of (38%) which is the largest, meaning farmers who is in the company PT. Al-Fatih Porang Indonesia generally has between 0 and 2 dependents. Family responsibilities are one of the main reasons for household members to participate in helping the head of the household decide to work to earn an income. The number of dependents in a household will influence the amount of consumption that the household must spend because it is related to whether their needs are increasing or decreasing (Hanum, 2018). Apart from that, the number of family members influences the standard of living of a family. The larger the number of families, the more it affects the standard of living of a family. The greater the number of family members, the greater the burden on the family (Kurniati, 2014).

d) Education Level

A person's level of education influences the way they thinks and act in making decisions (Neonbota & Kune, 2016). The education level of porang farmers who work at the PT company. AL-Fatih Indonesian Porang is obtained through formal and non-

formal education, as can be seen from the graduation of porang farmers in pursuing educational levels such as elementary school, middle school, high school and college.

Table 4. Classification of Respondents Based on Education Level

No	Education Level	Number of Respondents (People)	Percentage (%)
1	SD	29	58.00
2	SMP	10	20.00
3	SMA	7	14.00
4	S1	4	8.00
Jumlah		**50**	**100.00**

Source: Processed Primary Data, 2023

Table 4 shows that the highest level of education at PT Al Fatih Porang with a percentage of 58% is elementary school education. This has an impact on the Company's performance the opinion of Gusti (2021) states that farmers with a higher level of education generally have a more open mindset in accepting innovations and understand more quickly in applying new technology so that they can develop and bring agricultural products to the world. better direction.

2. Analysis SWOT *(Strength, Weakness, Opportunity, Threat*)

A strengths, weaknesses, opportunities, and threats (SWOT) analysis has become a key tool used by businesses for strategic planning (Benzaghta, 2021). SWOT analysis was carried out after analyzing the internal and external factors of PT's Porang cultivation development strategy. Al-Fatih Porang Indonesia on the Company's economy. The weighting is obtained through a questionnaire that has been processed, the greater the rating, the greater the opportunity and the smaller the rating, the greater the threat. Below is the IFAS matrix table:

Table 5. IFAS Matrix (Internal Factor Analysis Summary) Business Development Strategy at PT Al Fatih Porang Indonesia

Internal Factor Matrix				
No	***Strength***	**Weight**	**Rate**	**Score**
1	Availability of large areas of land for cultivating porang plants in Talumae village, Watang Sidenreng sub-district, Sidrap district	0,17	4	0,68
2	Porang farmers in Talumae village are very experienced in cultivating porang	0,17	4	0,68
3	Production facilities such as the availability of seeds and fertilizer in Talumae village are good	0,16	3	0,48
	Jumlah	0,50		1,84
	Internal Factor Matrix			
No	***Weakness***	**Weight**	**Rate**	**Score**
1	There are porang pests such as leaf-eating caterpillars, fungi and stem borers	0,18	3	0,54
2	The productivity of porang plants in Talumae village is still low	0,16	4	0,64
3	Market control is still low	0,16	3	0,48
	Jumlah	0,50		1,66
	Total (*Strengths + Weaknesses*)	1		3,5

Source of Processed Primary Data, 2023

The result of multiplying the weight with the rating is the value of the strength and weakness factors. The IFAS analysis results in Table 5 show the strength factor with a total value of 1.84, while the weakness factor has a total value of 1.66. The total internal factor is 3.5.

Table 6. EFAS Matrix (External Factor Analysis Summary) Business Development Strategy at PT Al-Fatih Porang Indonesia.

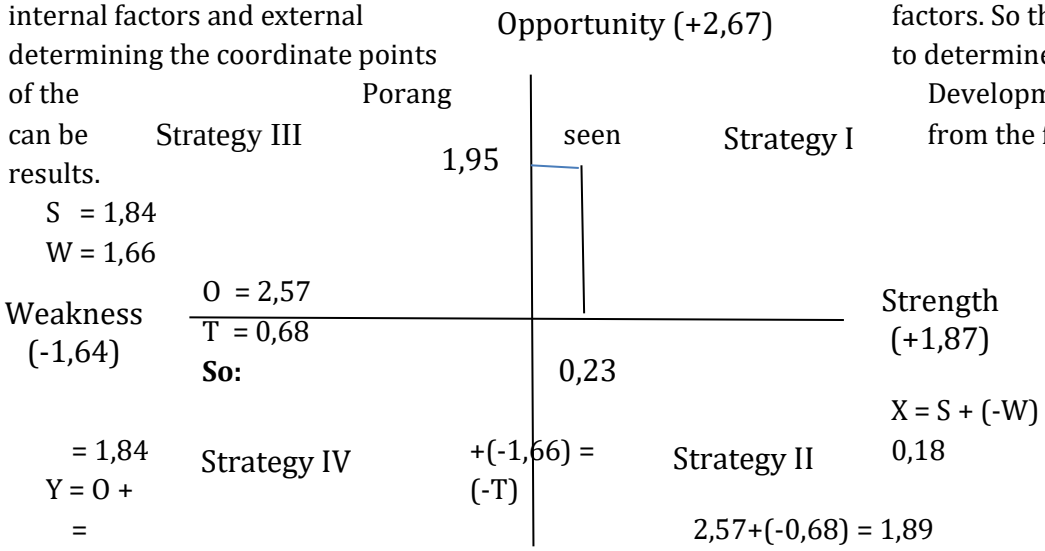
External Factor Matrix				
No	***Opportunity***	**Weight**	**Rate**	**Score**
1	Industrial demand for porang tubers increases from year to year	0,24	4	0,96
2	The government is very supportive of porang exports	0,23	4	0,92
3	Farmers' demand for porang seeds continues to increase	0,23	3	0,69
Jumlah		0,70		2,57
External Factor Matrix				
No	***Threat***	**Weight**	**Rate**	**Score**
1	Porang price changes can change at any time	0,19	3	0,57
2	There is a lack of information coming into Talumae village to develop the porang business	0,11	1	0,11
	Total	0,30		0,68
	Total (*Opportunity* + *Threat*)	1		3,25

Source of Processed Primary Data, 2023

Table 6 shows the opportunity factor with a value of 2.57, while the threat factor has a total value with a score of 0.68. The result of multiplying the weight with the rating is a score for the opportunity and threat factors, namely 3.25

Based on the results of weight and rating calculations on internal factors and external factors. So the stage of determining the coordinate points to determine the position of the Porang Development strategy can be seen from the following results.

S = 1,84
W = 1,66
O = 2,57
T = 0,68



So:

X = S + (-W)
= 1,84 +(-1,66) = 0,18

Y = O + (-T)
= 2,57+(-0,68) = 1,89

Based on the calculations above, the internal strategy factor value (X) is 0.18 and the external strategy factor value (Y) is 1.89. Where the value of the internal strategy factor (X) is smaller than the value of the external strategy factor (Y).

3. Discussion

1) Internal factors consist of strengths and weaknesses

a) Strength

The availability of large areas of land for cultivating porang plants in Talumae Village, Watang Sidenreng District, Sidrap Regency, is one of the big forces in developing porang plants in Talumae Village because land is one of the main factors, the wider the land, the greater the production potential and vice versa.

- Porang farmers in Talumae village are very experienced in cultivating porang. Experience as a porang farmer is the length of time a farmer has intensively carried out activities as a porang farmer. In general, it can be said that on average porang farmers in Talumae Village, Watang Sidenreng District have good experience.
- Production facilities such as the availability of seeds and fertilizer in Talumae Village are adequate. The availability of seeds and fertilizer in Talumae Village, Watang Sidenreng District really supports farmers in cultivating porang, where the porang farmers in Talumae Village themselves are able to process their own seeds so this means that farmers do not need to pay for the procurement of seeds and the availability of fertilizer. adequate capacity in Talumae Village really supports farmers in developing porang farming.

b) Weakness

- The presence of porang pests such as leaf-eating caterpillars, fungi and stem borers. The large number of pests and diseases in Talumae Village, Watang Sidenreng District can be detrimental to porang farmers because they can reduce the quality and quantity of crop production.
- The productivity of porang plants in Talumae Village is still low. The low production yields of porang plants are caused by several main factors, namely the lack of outreach and education about how to cultivate good porang plants.
- Market control is still very weak. Due to the fluctuating prices of porang plants.

Faktor Eksternal

External factors consist of opportunities and threats

a) Opportunity
- Industry demand for porang tubers increases from year to year, which creates opportunities for farmers to be more active in cultivating porang plants.
- The government is very supportive of porang exports. There is a government policy for business development, in this case, there is a production policy and a subsidy policy given to PT. Al-Fatih Porang Indonesia.
- Farmers' demand for porang seeds continues to increase from year to year which creates opportunities for porang plant production.

b) Threats
- Changes in porang prices can change at any time. The price porang in Talumae Village, Watang Sidenreng District, there are fluctuations in the price of porang plants.
- Lack of information received in Talumae Village to develop porang plants. This is because the role of agricultural instructors in developing porang farming in Talumae village has not been optimal in providing information to porang farmers.

Table 7. SWOT Analysis Matrix for the Development of Porang Crop Commodities in Talumae Village, Watang Sidenreng District.

Internal Factor Eksternal Factor	Strength (S) 1. There is large land available for cultivating porang plants in Talumae Village, Watang Sidenreng District, Sidrap Regency 2. Talumae village porang farmers are very experienced in cultivating porang 3. Production facilities such as the availability of seeds and fertilizer in Talumae village are adequate	Weakness (W) 1. The presence of porang pests such as leaf-eating caterpillars, fungi and stem borers 2. The productivity of porang plants in Talumae village is still low 3. Market control is still very weak
Opportunity (O) 1. Industrial demand for porang tubers increases from year to year 2. The government is very supportive of porang exports 3. Farmers' demand for porang seeds continues to increase	Strategy (SO) 1. Utilize farmers' experience to manage existing land to meet the increasing demand for porang from the industry. (S1,S2,O1) 2. Utilize seed and fertilizer production facilities to produce good quality and quantity of porang to achieve maximum porang prices. (S3,O1)	Strategy (WO). 1. Increase the productivity of porang plants to cover the increasing industrial demand (W2, O1) 2. Increase market control and improve transportation facilities by utilizing government support for porang exports (W3, O1)

Threat (T)	Strategy (ST)	Strategy (WT)
1. Changes in porang prices can change at any time 2. Lack of information entering Talumae village for developing porang businesses	Utilizing large areas of land for cultivating porang plants in . the face of changing porang prices (S1, T1)	1. Reactivate the role of extension workers as a means of providing information to Talumae village. (W1,T2)

Source of Processed Primary Data, 2023

The final stage is the "decision making" stage, namely the stage aimed at developing a strategy that has been described by the SWOT matrix so that the strategy that emerges can be used as a reference for developing porang farming in Talumae Village, Watang Sidenreng District, Sidrap Regency. The strategies in question are

a. Strategy SO
    1. Utilize farmers' experience to cultivate existing land to meet the increasing demand for porang from the industry.
       Taking advantage of the experience of farmers in Talumae Village, Watang Sidenreng District, Sidrap Regency, has become an advantage for farmers in cultivating porang plants. Experienced porang farmers know the correct way to cultivate porang to get high production results and if porang production increases it will meet the increasing demand for porang.
    2. Utilize seed and fertilizer production facilities to produce good quality and quantity of porang to achieve maximum porang prices.
       Utilizing production facilities such as quality seeds in Talumae Village, Watang Sidenreng District, Sidrap Regency. can produce quality porang too, which can increase the demand for porang prices in Talumae Village, Watang Sidenreng District, Sidrap Regency. So the profits obtained by farmers are greater when running a porang farming business.
b. Strategy WO
    1. Increase the productivity of porang plants to cover the increasing industrial demand.
       The potential to increase the productivity of porang plants in Talumae Village, Watang Sidenreng District, Sidrap Regency is very open because it has a large area that is very strategic in developing porang farming. This potential has a great opportunity to develop porang farming on a large scale in cultivation activities so it is hoped that it will be able to provide benefits to society and can cover the increasing industrial demand.
    2. Increase market control and improve transportation facilities by utilizing government support for porang exports.
       Increasing market control can be done by porang farmers in Talumae Village, Watang Sidenreng District, Sidrap Regency by taking advantage of a large number of existing porang buyers or collectors and improving transportation facilities can be overcome with government support for porang cultivation which has enormous potential to increase the income of farmers. farmer.

c. Strategy ST

1. Utilizing large areas of land for cultivating porang plants in Talumae Watang Sidenreng Village, Sidrap Regency in response to changing porang prices.

d. Strategi WT
   1. Reactivate the role of extension workers as a means of providing information to Talumae village.
      The main role of agricultural extension is to help farmers make their own decisions in the process of cultivating the porang plant which has quite extensive development and is the main commodity developed by farmers.

D. Conclusion

Based on the results of research regarding the development strategy for the porang plant commodity in Talumae Village, Watang Sidenreng District, Sidrap Regency, it can be concluded that the decision-making strategy is:

1) PT Al Fatih Porang has an IFAS strength value of 1.84 which is greater than the Weakness value of 1.66. The EFAS Opportunity value is 2.57, which shows that the opportunity value is greater than the threat value, namely 0.68.
2) The internal and external factors in Talumae Village, Watang Sidenreng District, Sidrap Regency, include the strength factor (availability of large areas of land for cultivating porang plants in Talumae Village, Watang Sidenreng District, Sidrap Regency, porang farmers in Talumae Village are very experienced in cultivating porang, production facilities such as the availability of seeds and fertilizer in Talumae village are adequate). The weak factors are (the presence of porang pests such as leaf-eating caterpillars, fungi and stem borers, the productivity of porang plants in Talumae village is still low, and market control is still very weak). External factors include opportunity factors, namely (industry demand for porang tubers increases from year to year, the government is very supportive of porang exports, and farmers' demand for porang seeds continues to increase). The threat factors are (changes in porang prices that can change at any time, and lack of information entering Talumae Village to develop porang.
3) PT Al Fatih Porang is in Quadrant I so the alternative strategy for developing the porang crop commodity in Talumae Village, Watang Sidenreng District, Sidrap Regency that can be implemented is to utilize the experience of farmers to manage existing land to meet the increasing demand for porang from industry and utilize the facilities production of seeds and fertilizer to produce good quality and quantity of porang so that maximum porang prices can be achieved.

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Strategy For The Development of Leading Agriculture Commodities

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Abstract

The agribusiness potential in the Tana Tidung Regency area has not been managed and utilized optimally. The results obtained are still relatively small and have not been able to empower the community's economy because existing commodities have not been developed into superior commodities. As a result, cross-border or regional trade opportunities have not made a meaningful contribution to society and the region. One alternative in developing the region is to carry out a strategy to develop superior agribusiness commodities so that the region can be developed into a growth centre for the surrounding area. The objectives of carrying out this research are (1) to find out the basic and main agricultural sectors. knowing superior agribusiness commodities, (2) to identify the factors that determine the success of developing superior agribusiness commodities, and (3) to provide recommendations for strategies for developing superior agribusiness commodities in Tana Tidung Regency. The research results show that the leading commodities in supporting regional development in Tana Tidung Regency based on LQ and B/C ratio values > 1 and farmers' preferences are spinach (LQ=8.06), mustard greens (LQ=2.15), kangkong (LQ= 2.18), and cayenne pepper (LQ=1.84). Strategies that can be implemented to develop superior commodities in Tana Tidung Regency are 1) Increasing cooperation/partnerships between farming institutions and the private sector or government, 2) Increasing the supporting capacity of infrastructure, facilities and infrastructure, 3) Optimizing capital assistance from the government as a stimulant for innovation in processing, marketing and socialization of production results, 4) Providing information data to support marketing requests.

Keywords: Strategy, Development, Leading Agribusiness Commodities

A. Introduction

Regional development aims to improve the standard of living of people in the region through harmonious and integrated development between sectors that is efficient and effective towards achieving regional independence and equitable progress throughout Indonesia. According to Rahmat (2009), this understanding is called community empowerment, where regional or regional development is nothing other than regional efforts to harmoniously combine natural, human and technological resources by taking into account the environmental capacity. The people's economic empowerment program must be able to drive the economic dynamics of the people based in rural areas and/or the lower strata of society in peri-urban areas. The program must be well planned, and have clear objectives and targets so that it can improve the welfare of society, especially the lower levels of society (Handayani 2022; Luckradi 2022). One of the regional developments based on development areas is the approach to potential natural resources in reliable areas. Reliable areas in question are areas that are already developed and not yet developed. Areas that are already developed are directed to be further developed.

Mainstay areas that are prospective for development have the opportunity to be developed because there are natural resources, access to growth centres, close to residential centres and the provision of supporting infrastructure is possible. Development through developing reliable/potential areas is very important. It is hoped that regional development that produces competitive, priority superior products in each region can become a centre of growth and have a positive impact on economic development in the surrounding region so that development becomes more equitable. The spread of aggregate growth centres is expected to increase community business results, generate foreign exchange for the region, open up employment opportunities and increase people's purchasing power.

Reliable regional development by developing superior agribusiness commodities is a development policy strategy to create centres of economic growth that can provide a reference for regions in responding to challenges and problems of equitable development. The development of superior agribusiness commodities is very important considering its role in national economic development, namely: a). as a food provider to strengthen national food security and reduce dependence on imports, b) as a foreign exchange supplier for the country or region, c) role as a labour supplier (). The agricultural sector, which includes food crops and horticulture, plantations, fisheries and animal husbandry, should be made a reliable sector capable of creating stability and sustainability of regional economic development so that it is ready to face the flow of globalization of trade.

The implementation of regional development using a potential area development approach has been planned by the Regional Government of Tana Tidung Regency for 2005 - 2025, which shows that planning in the 3rd Stage for 2018 - 2022 is aimed at further strengthening overall development in various fields, one of which is agriculture by emphasizing achievement on increasing the competitiveness of regional economies according to the potential of each region based on agribusiness and agroindustry by prioritizing the widest possible participation of the community. One of the issues raised in the Regional Medium Term Development Plan is the development of agribusiness, sustainable agriculture and farmer welfare by the vision of the Regional Government of Tana Tidung Regency, namely "The realization of a Tana Tidung that is dignified, prosperous, beautiful and humanistic."

The agribusiness potential in Tana Tidung Regency has not been managed and utilized optimally. The results obtained are still relatively small and have not been able to empower the community's economy. Existing commodities have not been developed into superior commodities. As a result, cross-border trade opportunities have not made a meaningful contribution to society and the region. One alternative in developing border areas is to develop reliable areas through the development of superior agribusiness commodities with the hope that border areas can be developed into growth centers for the surrounding areas.

B. Methodology

1. Research Design

The research was completed by using qualitative methods. According to (Chusnul 2022; Chalil 2014), qualitative research methods are research methods that attempt to identify various phenomena and social realities ideographically. In this regard, a series of characters, types and dimensions in qualitative methods provide promise for social scientists in Indonesia, especially in the field of sociology, to be able to develop social science and methods in a more autonomous format. The research was carried out in Tana Tidung Regency, North Kalimantan Province

2. Participants/Respondents/Population and Sample

The respondents of this research consist of 2 components, namely farmers and related government institutions. The procedure used in determining the sample is non-probability sampling. A sampling of government institutions used the snowball sampling technique (Soewadji, 2012) and for sampling, farmers were obtained from each sub-district in Tana Tidung Regency with a total of 100 respondents.

3. Technique of Data Collection

The data collection techniques used were observation, documentary interviews and triangulation. Observations are carried out for field studies directly at the research object. The next step is an interview by conducting questions and answers with the informant who is considered to know best about what will be researched in the field. next is Documentation, namely collecting data by recording or recording events and objects that are considered valuable and important in research. The last is Triangulation which is carried out to collect data which combines data collection techniques from existing data sources to search for the truth about several phenomena based on what has been found.

4. Instruments

The instrument used by researchers is a questionnaire containing important questions given to respondents as material for analyzing and identifying research problems.

5. Technique of Data Analysis

The analysis method used is the LQ analysis method and SWOT analysis. Location quotient (LQ) analysis is an analysis used to determine the extent of specialization of sectors in a region that utilize base sectors or leading sectors. out sector i in the province. The leading sector here means a sector that will not run out if exploited by the regional government. The formula for determining the leading sector is as follows (Pieter 2017; Fauzi N.A 2022):

$$LQ = \frac{Li\ /Lt}{Ni/Nt}$$

Information :

Li = Number of commodities in sector i at the lower regional level.

Lt = Total commodities at the lower regional level If the calculation results in the formulation above produce:

- LQ > 1 means that the commodity is the basis or source of growth.
- LQ = 1 The commodity is classified as non-basic, it does not have a comparative advantage.
- LQ < 1. This commodity is also non-based.

SWOT analysis is a strategic planning method used to evaluate strengths, weaknesses, opportunities and threats that occur in a project or in a business venture, or evaluate one's own product lines or those of competitors (Rangkuti, 2008).

C. Findings and Discussion

1. Findings

1.1 Identification of Leading Agribusiness Commodities in Tana Tidung Regency

1) Food Subsector

There are 4 main commodities in the food crop sub-sector cultivated by farmers in Tana Tidung Regency, namely rice, corn, cassava and sweet potatoes. These food crop commodities are commodities that farmers have consistently cultivated for a long time. This food crop commodity is also one of the mainstay commodities that is cultivated both for own consumption and for sale.

Table 1. Results of LQ Analysis of Food Crop Commodities in Tana Tidung Regency 2018-2022

Commodities	LQ Analysis					Average
	2018	2019	2020	2021	2022	
Rice	0,973	0,415	1,121	3,247	3,227	1,151
Corn	0,378	1,806	1,510	0,248	0,268	0,842
Cassava	1,188	3,119	0,498	0,876	0,633	1,263
Sweet Potato	1,087	1,373	0,276	0,085	0,089	0,582

Based on the results of the LQ analysis in Table 1, rice and cassava plants are the basic crops in Tana Tidung Regency, this can be seen from the LQ value being greater than 1 (LQ>1). If we look at the development of production value, rice and cassava plants have the potential to become superior commodities because they have greater production value compared to other food commodities.

2) Horticultural Crops Sub-Sector

In the horticultural crop sub-sector in Tana Tidung Regency, there are various kinds of commodities that are cultivated consistently by farmers

Table 2. LQ Analysis of Horticultural Vegetable Crop Commodities in Tana Tidung Regency 2018-2022

Commodities	LQ Analysis					Average
	2018	2019	2020	2021	2022	
Spring onion	0,641	0,399	0,278	0,576	0,421	0,463
Spinach	2,260	1,159	0,990	0,339	0,143	1,034
Cayenne Pepper	0,867	1,197	1,394	0,4211,365	0,347	1,009
Long beans	0,358	1,185	0,934	1,5090,899	0,913	0,980
Kale	1,203	0,834	0,907	1,365	0,213	1,043
Pets	2,390	1,643	1,065	0,899	0,368	1,273
Eggplant	0,557	1,111	1,234	0,628	1,013	0,909
Tomato	0,718	0,810	0,926	1,152	0,873	0,896

Based on the results of the LQ analysis in Table 2, the basic vegetable horticultural crop commodities in Tana Tidung Regency are spinach, kale and cayenne pepper, and water pets. This can be seen from the LQ value being greater than 1 (LQ>1). If we look at the development of production value, kale plants have the potential to be a superior commodity because they have a greater average production value compared to other vegetable horticulture.

1.2 SWOT Analysis

The superior commodity development strategy is analyzed based on the results of the analysis of external and internal factors in the form of strengths, weaknesses, opportunities and threats in the development of superior commodities. The formulation of alternative strategies includes two stages, namely the input stage and the matching stage. The input stage is the stage of grouping the identification results and concluding the basic information needed to formulate a strategy using the IFE (Internal Factor Evaluation) and EFE (External Factor Evaluation) matrices. The second stage, namely the matching stage, is the strategy formulation stage using IE (Internal-External) and SWOT matrix analysis (Rangkuti, 2008).

Table 3. Matriks Internal Faktor Evaluation (IFE)

	Strategy Factors	Weighted Average	Average Rating	Value
	Strengths			
1	Production Facilities	0,110	3,0	0,3300
2	Human Resource	0,130	3,2	0,4160
3	Land Suitability	0,080	2,2	0,1760
4	institutional	0,080	2,6	0,2080
5	Business Performance	0,122	2,0	0,2440
6	Production Quality	0,064	2,0	0,1280

	Total	**0,586**		**1,5020**
	Weakness			
1	Information Data	0,080	3,2	0,2560
2	Funding	0,100	4,0	0,4000
3	Production Process	0,060	4,0	0,2400
4	Processing	0,070	4,0	0,2800
5	Marketing	0,050	4,0	0,2000
6	socialization	0,054	3,6	0,1944
	Total	**0,414**		**1,5544**
	Tendency towards Internal Factors	**1,000**		**-0,0684**

Table 4. Matriks Eksternal Factors Evaluation (EFE)

	Strategy Factors	**Weighted Average**	**Average Rating**	**Value**
	Opportunity			
1	Cooperation	0,066	3,8	0,2508
2	Government Support	0,070	3,8	0,2660
3	Natural resources	0,056	3,6	0,2016
4	Potential Market Demand	0,102	3,6	0,3672
5	Investment Development Opportunities	0,070	2,0	0,1400
6	Infrastructure carrying capacity	0,072	3,6	0,2592
	Total	**0,436**		**1,4848**
	Threat			
1	Land Conversion	0,072	1,2	0,0864
2	Consumer Sensitivity	0,108	3,0	0,3240
3	Coordination	0,092	2,0	0,1840
4	Topography and Area	0,062	1,8	0,1116
5	Accessibility	0,060	1,6	0,0960
6	Socioeconomic	0,078	2,6	0,2028
7	Natural disasters	0,092	3,6	0,3312
	Total	**0,564**		**1,3360**
	Predisposition to external factors	**1,00**		**0,1488**

2. Discussion

Strategy For The Development of Leading Agriculture Commodities

Internal factor weighting is an effort to compare each internal factor that influences the development of food crop commodities. The results of the weight assessment and rating for each respondent are then created in the form of an IFE matrix for all respondents. The IFE Matrix describes internal strategic factors in the categories of strengths and weaknesses in food crop commodity development. The results of the IFE matrix analysis illustrate how much influence internal strategic factors have on commodity development. Data regarding strength and weakness factors are presented in the IFE Matrix in Table 3.

The total value of the influence of internal factors as a whole is 1.5020. Meanwhile, the internal strategic factor which is the main weakness in developing food crops is funding which is still less than optimal in supporting farmers to develop food crops which have an impact value of 0.4000. The tendency value towards internal factors is negative, namely -0.0684. The EFE Matrix describes external strategic factors in the form of opportunities and threats for the development of superior food crop commodities.

The results of the EFE analysis illustrate the extent to which external strategic factors influence commodity development. The weight and rating values were obtained based on the results of interviews with five informants. The weight assessment is a calculation of the average respondent's assessment of all external strategic factors. Rating is a respondent's assessment in measuring how much influence these factors have on commodity development. The EFE matrix presents the results of the analysis of external strategic factors, which are divided into four groups of opportunities and six external environmental threats which are described in the EFE matrix in Table 4.

One of the opportunity factors with the largest influence value (0.3672) is potential market demand. This opportunity is an important factor in supporting the successful management and development of horticultural crop commodities because so far the government has provided facilities and infrastructure, as well as assistance to farmers in increasing horticultural crop yields. Government support has also been realized in providing plant seeds and organic and inorganic fertilizers as well as other facilities and infrastructure. The quality of production and consumer sensitivity in Tana Tidung Regency is a threat in itself that will affect the development of horticultural crop commodities if it is not followed by efforts to improve the quality of all horticultural crop production.

Based on the internal and external factors that have been identified, the development of food crop commodities is in quadrant 3, where the opportunities are high but there are also high internal weaknesses. The strategy that should be applied in quadrant three conditions is a turnaround strategy where internal problems are minimized so that existing opportunities can be taken advantage of (Rangkuti, 2009). Figure 1 shows the position in favour of a conservative strategy that uses existing opportunities to overcome weaknesses.

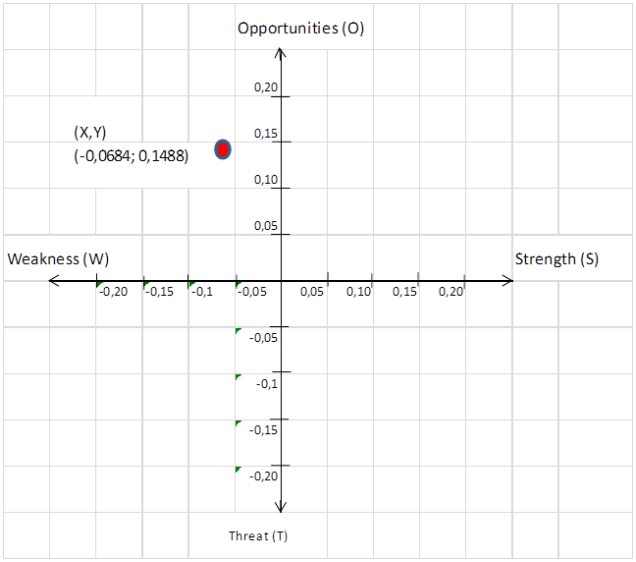

Figure 1. Position of Agricultural Commodity Development Strategy in Tana Tidung Regency

Alternative strategies for agricultural commodity development that are possible to implement based on the quadrant III position are as follows: 1. Increasing cooperation/partnerships between farming institutions and the private sector or government. 2. Increasing the supporting capacity of infrastructure, facilities and infrastructure to support the marketing process of

production. 3. Optimizing capital assistance from the government as a stimulant for innovation in processing, marketing and socialization of production results. 4. Providing information data to support marketing requests.

D. Conclusion

Leading commodities that have a strategic position to be developed in the Tana Tidung district based on the results of LQ analysis and B/C ratio >1 and farmers' preferences are spinach (LQ=8.26), kale (LQ=2.06), and cayenne pepper (LQ=2.06). LQ=1.84). Strategies that can be implemented to develop superior agricultural commodities in Tana Tidung Regency are increasing cooperation/partnerships between farming institutions and the private sector or government, increasing the supporting capacity of infrastructure, facilities and infrastructure, optimizing capital assistance from the government as a stimulant for innovation in processing, marketing and outreach. production results, and Providing information data to support marketing requests.

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