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RESEARCH ARTICLE

Analysis of Factors Affecting the Production and Net Income of Peanut Farmes (*Arachis Hipogeae L*) In the Swamp Land of Amuntai Tengah District, Hulu Sungai Utara Regency

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ABSTRACT

Peanut farming is a promising agricultural business to develop because it can provide significant profits for farmers. Although the production costs are relatively high, it still yields business profits. Hulu Sungai Utara Regency is one of the regencies that cultivate peanuts, with one of the subdistricts having potential for peanut cultivation development, namely Amuntai Tengah Subdistrict. However, although peanut cultivation is considered promising, the production costs for peanuts are quite high, thus requiring significant capital. This study aims to analyze the factors influencing peanut production and the income farmers receive in one planting season. The primary data used was obtained through direct interviews with respondents. A sample of 50 farmers was taken from 83 active farmers who cultivate peanuts and are members of farmer groups registered in Simluhtan. The data analysis used to determine the effect of production factors on peanut production is the Cobb Douglas Function. Furthermore, the farmers' income can be analyzed using a profit approach by calculating costs and revenue. The results of the study show that based on the F test, the F hit value (21.963) and F tabel value (2.40) show that the probability value is 0.000 $<$ 0.05 (α = 5%), meaning that the hypothesis H_0 is rejected and H_1 is accepted. This indicates that land area (X_1), seed quantity (X_2), fertilizer quantity (X_3), pesticide quantity (X_4), and labor quantity (X_5) jointly have a significant effect on peanut production (Y). Meanwhile, based on the t-test results, the production factors of land area, seeds, and fertilizer individually have a significant effect on peanut production (Y), whereas pesticide quantity (X_4) and labor quantity (X_5) do not significantly affect peanut production (Y). Furthermore, the average income of peanut farmers in Amuntai Tengah Subdistrict is IDR 40,110,300 per farm or IDR 35,621,936 per hectare in one planting season. The average net income of peanut farmers is IDR 22,268,977 per farm or IDR 19,777,085 per hectare in one planting season.

Keywords: Income, peanut farming, production factors.

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1. Introduction

Peanut farming is a promising agricultural business to develop because it can provide significant profits for farmers. Even though production costs are relatively high, peanut farming still yields business profits. Peanut plants can be used as animal feed, while the seeds are utilized as a source of plant protein, oil, and other products. In addition to harvesting the seeds or pods, peanuts are also harvested (leaves and stems) for animal feed or green manure [1]. Peanut farming is one of the food commodities in Indonesia that can play an important role in the agricultural sector. Due to its high nutritional value and demand from the global community [2], peanut farming depends on factors such as land area, capital, and labor. Hulu Sungai Utara Regency is one of the regions that cultivates peanuts, with Amuntai Tengah Subdistrict being one of the subdistricts with the potential for peanut cultivation development. However, over time, the potential land area

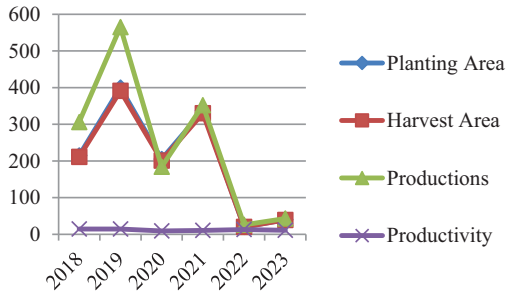

Fig. 1. Peanut production curve.

for peanut farming may decrease. This is influenced by factors such as climate, where during a long dry season, the planting area is usually larger compared to the rainy season, and also influenced by the capital available to farmers for managing their farms. According to data from the Agriculture Office of Hulu Sungai Utara Regency, peanut production in Amuntai Tengah Subdistrict has fluctuated over the past six years. The impact of the land area managed by farmers is one of the causes of the reduction in the planting area, as well as production factors such as the increasing cost of purchasing seeds and other agricultural inputs, as well as pest and disease attacks, which indirectly affect the income of peanut farmers [3].

The instability of production and productivity from year to year also becomes a dilemma for farmers in developing peanut farming like in Fig. 1. Farm income is the difference between revenue and all costs. Income is all earnings obtained from other parties as a form of compensation for services provided, where this income is used to meet financial and personal needs [4]. All expenses and revenues during the farming period must be known. The farmers' income also serves as a benchmark for the business activities [5].

1.1. Research Objectives

The objectives of this research are:

1. To analyze the factors that affect peanut production in Amuntai Tengah Subdistric.
2. To analyze the amount of net income received by peanut farmers in Amuntai Tengah Subdistrict in one planting season.

2. Research Method

2.1. Place and Time of Research

The research was conducted in Amuntai Tengah Subdistrict, specifically in Pinang Kara and Mawar Sari Villages, from February 2024 to August 2024.

2.2. Types and Sources of Data

The data used in this research includes primary and secondary data. Primary data was obtained through direct interviews with respondents using questionnaires. Secondary data refers to data obtained indirectly or from other sources (Agricultural Office and BPS).

2.3. Sampling Method

The sample area was purposively selected, namely Pinang Kara and Mawar Sari Villages, with 50 samples taken from 83 active farmers cultivating peanuts. The sample farmers were selected from a list of farmers registered in the Agricultural Extension Information System (Simluhtan). The sampling was done proportionally in each village as follows:

$$ni = \frac{Ni}{N} x\, n$$

where ni is number of samples for each subpopulation, Ni is total subpopulation, N is total population, n is sample size.

Thus, the sample of farmers in Mawar Sari Village was 15 people, and in Pinang Kara Village, it was 35.

2.4. Research Hypothesis

Based on the related theories, the following hypothesis was formulated:

- The land area, seeds, fertilizer, pesticides and labor are suspected to affect peanut production in the Amuntai Tengah Subdistrict significantly.

2.5. Data Analysis

To address the first objective, which is to identify the factors that affect production, an analysis of the production factor costs was conducted using the Cobb-Douglas production function formula [6]:

$$Y_{Kt} = \beta_0 X_1^{\beta 1} X_2^{\beta 2} X_3^{\beta 3} X_4^{\beta 4} X_5^{\beta 5} e\mu \tag{1}$$

The equation is transformed into a multiple linear equation form using the method Ordinary Least Square (OLS):

$$\begin{aligned} Ln Y_{Kt} = {} & Ln\beta_0 + \beta_1 LnX_1 + \beta_2 LnX_2 + \beta_3 LnX_3 \\ & + \beta_4 LnX_4 + \beta_5 LnX_5 + e\mu \end{aligned} \tag{2}$$

Hypothesis:

$$H_0 : \beta_0 + \beta_1 + \ldots\ldots\ldots\ldots\ldots + \beta_n = 0$$

This means that there is no effect of the independent variables on the dependent variable.

H_1: At least one value of β is not equal to zero, meaning there is an effect of the independent variables, collectively, on the dependent variable.

To address the second objective, which is to determine the amount of net income, the costs and revenue of the farm are first calculated using the formula:

1. Total Cost (TC):

$$TC = VC + FC \tag{3}$$

2. Average Variable Cost (AVC):

$$AVC = \frac{VC}{y} = \frac{g(y)}{y} \tag{4}$$

3. Average Fixed Cost (AFC):

$$AFC = \frac{FC}{y} = \frac{k}{y} \tag{5}$$

Next, to determine the income received by farmers, the revenue formula is used first, namely:

$$TR = P_y \cdot Y \tag{6}$$

Next, the farmers' income can be calculated as net income, which is the profit from the sale of the output after deducting all production costs incurred, using the formula:

$$\pi = TR - TC \tag{7}$$

The accuracy of the model is measured by calculating R^2, which is:

$$R^2 = \frac{ESS}{TSS} \tag{8}$$

or:

$$R^2 = 1 - \frac{ESS}{TSS} \tag{9}$$

To determine the suitability of the model with the hypothesis, an F-test and t-test are conducted.

- *F test:*

$$F\ value = \frac{ESS/(k-1)}{RSS/(n-k)}$$

$$F_{table} = \{(k-1):\ (n-k); \propto\}$$

with the testing criteria:

If $F_{value} > F_{\alpha(k,n-k-1)}$ or if the p-value $< \alpha$, then reject H_0 dan accept H_1.

If $F_{value} \leq F_{\alpha(k,n-k-1)}$ or if the p-value $\geq \alpha$, then accept H_0.

- *t-Test (partial):*

$$t_{value} = \frac{\beta_i}{S\beta_i}$$

t_{table} {(n-k); α}

with the hypothesis:

$$H_0: \beta_i = 0$$

$$H_1: \beta_i \neq 0$$

The decision rule for the test is that if t-value > t-table, then H_0 is rejected and H_1 is accepted, which means that the i-th independent variable, partially, has a significant effect on the dependent variable. On the other hand, if t-value ≤ t-table, then H_0 is accepted and H_1 is rejected, which means that the i-th independent variable, individually, has no significant effect on the dependent variable.

2.5.1. Normality

The Normality test is used to analyze the normality of the model used.

2.5.2. Multicollinearity

Multicollinearity can be analyzed using TOL (tolerance) and VIF for each independent variable against the dependent variable. If the VIF value is no more than 10, then the model is considered free from multicollinearity symptoms.

TABLE I: Age Distribution of Respondent Farmers

No	Respondent's age (year)	Frequency (people)	Percentage (%)
1	<35	9	18
2	36–45	13	26
3	46–55	22	44
4	>55	6	12
	Total	50	100

Source: Primary Data Processing (2024).

TABLE II: The Education Level of Respondents

Education level	Total of respondent's (people)	Percentage (%)
Elementary School	28	56
Junior High School	6	12
Senior High School	15	30
Bachelor's Degree	1	2
Total	50	100

Source: Primary Data Processing (2024).

2.5.3. Heteroscedasticity

This test can be conducted using the graphical method by observing the scatterplot, where if the scatterplot is randomly distributed, it indicates that there is no issue of heteroscedasticity in the regression model formed.

3. Result and Discussion

3.1. Respondent Characteristics

3.1.1. Based on Age and Gender

The research results show that the average age of peanut farmers is dominated by farmers aged 46–55 years. This indicates that the farmers are still within the productive age group and are able to continue managing their farms. A more detailed breakdown of the respondent characteristics can be seen in Table I.

Age greatly influences a person's attitude and maturity in decision-making or behavior. In terms of farming ability, the older a person is, the more likely their physical strength is limited in managing their farm, resulting in higher farming management costs. On the other hand, the younger a person is, the greater their ability to manage their farm, meaning they can handle the farming activities themselves, thereby reducing farm management costs.

3.1.2. Based of Education

The characteristics of the respondents based on their education level can be seen in detail in Table II.

The research results show that the education level of farmers is dominated by farmers with an elementary school education, totaling tweentyeight people (56%), which is more than half of the total respondents. Farmers with a junior high school education or equivalent make up six people (12%), senior high school or equivalent fifteen people (30%), and those with a bachelor's degree (S1) are one person (2%). The lower the formal education level of the farmers, the lower their ability to absorb, calculate, or analyze problems in the field, which significantly affects farming activities.

TABLE III: NUMBER OF DEPENDENTS

No	Number of dependents	Frequency (people)	Percentage (%)
1	1–3	24	48
2	4–6	23	46
3	7–9	3	6
	Total	50	100

Source: Primary Data Processing (2024).

TABLE IV: FARMING EXPERIENCE

No	Farming experience	Frequency (people)	Percentage (%)
1	1–10	21	42
2	11–20	22	44
3	>20	7	14
	Total	50	

Source: Primary Data Processing (2024).

TABLE V: LAND STATUS

No	Land status	Number (people)	Percentage (%)
1	Rented	12	24
2	Owned	38	76
	Total	50	100

Source: Primary Data Processing (2024).

3.1.3. *Family Dependent*

The research results show that the largest number of dependents in the respondent farmers' families is one-three dependents per family, with 24 respondent farmers, or 48% of the total respondents. The length of experience of the craftsmen in weaving can be seen in Table III.

The number of dependents in a family will indicate the size of the family's living expenses and affect the availability of labor to assist in farming activities. Furthermore, the greater the number of family dependents, the greater the impact on the cost of living and the income of the farmers.

3.1.4. *Farming Experience*

Based on the research results, the farming experience is dominated by farmers with 11–20 years of experience, totaling 22 respondents (44%), followed by 1–10 years with 21 respondents (42%), and more than 20 years with seven respondents (14%). The detailed farming experience of the farmers can be seen in Table IV.

3.1.5. *Land Status*

Land is one of the inputs in agricultural production means as a medium for farming. From the research results, the status of land ownership is higher compared to leased land, with 38 farmers (76%) owning and working on their own land, and 12 farmers (24%) still leasing land. This can be seen in Table V.

3.2. *The Effect of the Use of Production Factors in Farming*

3.2.1. *Normality Test*

The normality test shows a distribution along a straight line and upward, indicating that the data used follows a normal distribution. The normality test can be seen in Fig. 2.

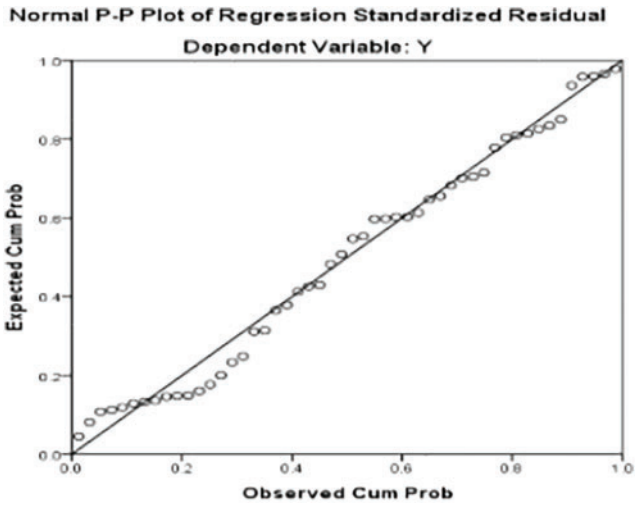

Fig. 2. Normality test.

TABLE VI: MULTICOLLINEARITY TEST

No	Variable	Tolerance	VIF
1	Land area	0.750	1.333
2	Seeds	0.383	2.612
3	Fertilizer	0.485	2.063
4	Pesticide	0.788	1.268
5	Labor	0.627	1.595

Source: Primary Data Processing (2024).

3.2.2. *Multicollinearity Test*

The regression results and the multicollinearity test among the variables in the model, that there are production factors that can affect peanut production. This can be observed from the variance inflation factor (VIF) values, where each variable is relatively less than 10, and the tolerance values are greater than 0.10. This shows that there is a perfect linear relationship between some or several variables explaining a regression model, meaning that multicollinearity symptoms do not occur in the model, allowing for further analysis of the regression model. The results of the multicollinearity test can be seen in Table VI.

3.2.3. *Heteroskedastic Test*

Based on the results of the heteroscedasticity test, it can be seen through the scatterplot graph that there are points scattered around the Y-axis, indicating that no heteroscedasticity symptoms occur in the regression model. The results of the heteroscedasticity test can be seen in Fig. 3.

Furthermore, after conducting the classical assumption test on the model and finding no indication of model errors, the analysis continued with a regression analysis on the production factors. Based on the analysis results, it is known that the R regression coefficient value is 0.694% or 69.4%, meaning that the variation in peanut production is influenced by production factors such as land area, seed quantity, fertilizer quantity, pesticide quantity, and labor quantity, while the remaining 30.6% is influenced by factors outside the model (not included in the model). The R square analysis results can be seen in Table VII.

$$LnY_{Kt} = -0.026 + 0.411LnX_1 + 0.015LnX_2 + 0.002LnX_3$$

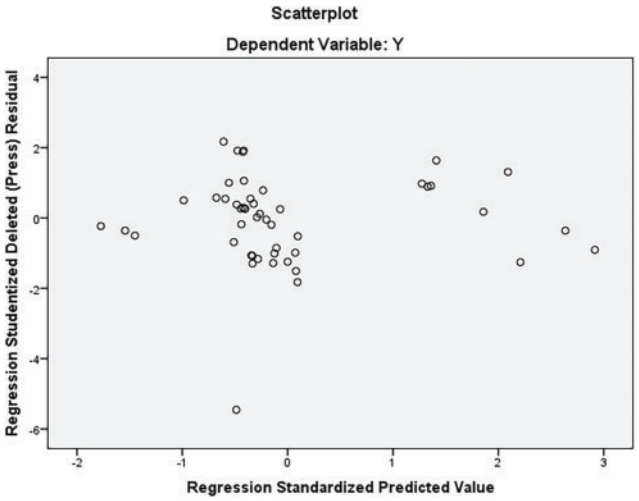

Fig. 3. Heteroscedastics test.

TABLE VII: R Square Analysis Result

Model	R	R square	Adjusted R square	Std. error of the estimate	Durbin-Watson
1	0.845[a]	0.714	0.681	0.71996	1.752

Note: a. Predictors: (Constant), Amount of labor, Amount of pesticides, Land area, Amount of fertilizer, Number of seeds, b. Dependent variable: Peanut production.

$$-0.104LnX_4 + 0.004LnX_5 + e\mu$$

$$SE = (0,307)\ (0,202)\ (0,004)\ (0,001)\ (0,154)\ (0,003)$$

$$t_{value} = (0,085)\ (2,033)\ (3,885)\ (1,763)\ (0,678)\ (1,445)$$

From the regression results in Table VIII, it is known that the constant value (Y) is −0.026, the coefficient values for land (X_1) are 0.411, seed quantity (X_2) is 0.015, fertilizer quantity (X_3) is 0.002, pesticide quantity (X_4) is −0.104, and labor quantity (X_5) is 0.003. The regression constant value is negative, which means the independent variables are considered constant. The coefficient value for pesticides is also negative, indicating that an increase in this production factor would decrease in production output. Positive regression values, such as for land area, seed quantity, fertilizer quantity, and labor, mean that an increase in these three production factors would lead to an increase in peanut production.

3.2.4. F Test

Based on the F-test results in Table IX, it shows that the F-calculated value (21.963) and the F-table value (2.40) are in accordance with the criteria, with a probability value of 0.000 < 0.05 (α = 5%), meaning that the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This indicates that land area (X_1), seed quantity (X_2), fertilizer quantity (X_3), pesticide quantity (X_4), and labor quantity (X_5) collectively have a significant effect on peanut production (Y).

3.2.5. t Test

3.2.5.1. Production Factor of Land Area (X_1)

Based on the t-test results in Table X, there is a significant relationship between land area and peanut production. This can be seen from the t-test result, where t-value (2.033) with a probability value of 0.048 < 0.05 (α = 5%). Therefore, it can be stated that H_1 is accepted and H_0 is rejected, meaning that land area has a significant effect on peanut production at the 5% significance level (α = 5%). In other words, a 1% increase in land area can increase peanut production by 0.411%. The farmers in this study are those who own their land and those who use a rental system. Farmers who own the land do not need to pay for land production costs, while tenant farmers incur additional production costs for land rental as per the agreement.

3.2.5.2. Production Factor of Seed Quantity (X_2)

The seed quantity variable has a significant effect on peanut production, as shown by the t-test result where t-value (3.885) with a probability value of 0.000 < 0.05 (α = 5%). Therefore, H_1 is accepted and H_0 is rejected, meaning that the seed quantity significantly affects peanut production at the 5% significance level (α = 5%). This means that a 1% increase in seed quantity can increase peanut production by 0.015%. The peanut harvest will increase along with the increase in seed quantity. The level of productivity in the farming business depends on the amount of seed used. The peanut seeds used in the farming activities on the farmers' land are local varieties of peanuts, with only a few using improved seeds. The average seed usage by farmers in their farming activities is 98.1 kg/ha, whether improved or local.

TABLE VIII: Peanut Regression Analysis Results

Model	Unstandardized coefficients		Standarized coefficients	t	Sig.	Collinearity statistic	
	B	*Std. error*	*B*			*Tolerance*	*VIF*
Constant (Y)	−0.026	0.307		−0.085	0.933		
Land area (X_1)	0.411	0.202	0.189	2.033	0.048	0.750	1.333
Seed (X_2)	0.015	0.004	0.506	3.885	0.000	0.383	2.612
Fertilizer (X_3)	0.002	0.001	0.204	1.763	0.085	0.485	2.063
Pesticide (X_4)	−0.104	0.154	−0.062	−0.678	0.501	0.788	1.268
Labor (X_5)	0.004	0.003	0.147	1.445	0.156	0.627	1.595

Note: a. Dependent Variable: Y.

TABLE IX: The Result of the F-Test for Peanut Regression

Model	Sum of square	Df	Mean square	F	Sig.
Regression	56.921	5	11.384	21.963	0.000[b]
Residual	22.807	44	0.518		
Total	79.728	49			

Note: a. Dependent Variable: Peanut Production, b. Predictors: (Constant), Amount of labor, Amount of pesticides, Land area, Amount of fertilizer, Number of seeds.

TABLE X: The Result of the t-Test for Peanut Regression

No	Variable	Coefficient	t_{value}	Sig.
1	Land area	0.411	2,033	0,048
2	Seed	0.015	3,885	0,000
3	Fertilizer	0.002	1,763	0,085
4	Pesticide	−0.104	−0,678	0,501
5	Labor	0.004	1,445	0,156

Source: Primary Data Processing (2024).

3.2.5.3. Production Factor of Fertilizer Quantity (X_3)

The fertilizer quantity variable has a significant effect on peanut production, as seen from the t-test result where t-value (1.763) with a probability value of $0.085 < 0.05$ ($\alpha = 5\%$). Therefore, H_1 is accepted and H_0 is rejected, meaning that the amount of fertilizer significantly affects peanut production. In other words, a 1% increase in fertilizer quantity can increase peanut production by 0.001%. The peanut harvest will increase in proportion to the amount of fertilizer applied, according to the recommended balanced fertilizer usage. Peanut production can be further improved by providing the right type and correct dosage of fertilizer for the plants.

In peanut farming, farmers use three types of fertilizer: urea, KCl, and NPK, with an average fertilizer requirement of 72 kg/ha for urea, 36 kg/ha for KCl, and 121 kg/ha for NPK. The recommended fertilizer dosage for swampy land is 30 kg/ha–40 kg/ha for urea, 30 kg/ha–50 kg/ha for KCl, and 100 kg/ha–150 kg/ha for NPK. Urea usage is still high among farmers, while KCl and NPK are already within the recommended range.

Fertilizer use is an essential production factor for farmers, as its role is crucial in the growth of peanut plants, improving soil fertility, and providing nutrients for the peanut plants. Production costs for fertilizers are considerable, and farmers budget for both subsidized and non-subsidized fertilizers, but availability in the village is very limited, requiring them to purchase fertilizers from outside the village or even outside the district.

3.2.5.4. Production Factor of Pesticide Quantity (X_4)

The pesticide production factor is one of the variables that does not have a significant effect on peanut production, as seen from the t-test result where t-calculated (−0.678) with a probability value of $0.501 > 0.05$ ($\alpha = 5\%$). Therefore, H_1 is rejected and H_0 is accepted, meaning that the amount of pesticide does not significantly affect peanut production. In other words, a 1% increase in pesticide quantity can decrease peanut production by 0.154%.

At the farmer level, the use of pesticides that can increase production is the use of fungicides and insecticides, which are used to handle pest and disease attacks that can lead to a decrease in production. In this study, the use at the farmer level already aligns with the recommendations, and if the dosage is increased further, it may actually cause a decrease in peanut production.

3.2.5.5. Production Factor of Labor Amount (X_5)

Based on the research results, the use of labor also does not have a significant effect on peanut production. This is seen from the t-test results, where the labor variable does not significantly affect peanut production ($t = 1.445$) with a probability value of $0.156 > 0.05$ ($\alpha = 5\%$). This indicates that the amount of labor used does not significantly affect peanut production, so H_0 is accepted and H_1 is rejected.

The use of labor in peanut farming includes both family labor and external labor. Family labor is mainly used for land clearing, land processing, and fertilization activities. Meanwhile, external labor is predominantly employed during planting, harvesting, and post-harvest activities.

3.3. Costs, Receipts, and Net Income of Agricultural Enterprises

3.3.1. Fixed Cost

In the study of groundnut farming, the costs classified as fixed costs include land costs, in this case, land rental for farmers who rent agricultural land, and the depreciation costs of farming equipment. The average land rental cost is IDR 835,000 per farming operation or IDR 741,563 per hectare. Meanwhile, the average depreciation cost for equipment is IDR 869,008 per farming operation or approximately IDR 771,765 per hectare, with the total average cost per hectare being IDR 1,704,008 per farming operation or IDR 1,513,328. The largest depreciation cost is for the purchase of tarps for drying groundnuts, while the smallest depreciation is for planting tools. Detailed fixed costs can be seen in Table XI.

3.3.2. Variable Cost

Variable costs are costs that fluctuate or are not fixed, depending on the needs [7]. In this study, variable costs include the costs of purchasing seeds, fertilizers, pesticides, and labor costs incurred in managing the farming activities. The variable costs of groundnut farming can be seen in Table XII.

TABLE XI: Fixed Cost of Penaut Farming

No.	Fixed cost	Cost of farming operation (IDR)	Cost of hectare (IDR)
1.	Land rent	835.000	741.563
2.	Depreciation		
	– Grass	230.338	204.563
	– Cutting		
	– Machine		
	– Sprayer	16.733	14.861
	– Flysheet	250.345	222.331
	– Sack	228.318	202.769
	– Basket	139.010	123.455
	– Tugal	4.263	3.786
	Total Fixed Cost (IDR)	1.704.008	1.513.328

Source: Primary Data Processing (2024).

TABLE XII: Variable Cost of Peanut Farming

No.	Cost component	Cost of farming operation (IDR)	Cost of hectare (IDR)
1.	Seed	3.876.300	3.442.540
2.	Fertilizer	1.411.040	1.253.144
3.	Pesticide	1.173.935	1.042.571
4.	Labor (HOK)	9.676.020	8.593.268
	Total variable cost	16.137.295	14.331.523

Source: Primary Data Processing (2024).

TABLE XIII: Total Cost of Peanut Farming

No	Cost component	Cost of farming operation (IDR)	Cost of hectare (IDR)
1	Fixed cost	1.704.008	1.513.328
2	Variable cost	16.137.295	14.331.523
	Total	17.841.303	15.844.851

Source: Primary Data Processing (2024).

TABLE XIV: Revenue and Net Income of Peanut Farming

No.	Description	Cost of farming operation	Cost of hectare
1	Production (Y) (Kg)	2.700	2.400
2	Selling price (Py) (IDR)	14.800	13.144
3	Revenue (TR) (IDR)	40.110.300	35.621.936
4	Total cost (TC) (IDR)	17.841.303	15.844.851
5	Net income (π) (IDR)	22.268.997	19.777.085

Source: Primary Data Processing (2024).

Based on the calculations for the respondent farmers, the total variable costs incurred by the farmers amount to Rp. 16,137,295 per farm or Rp. 14,331,523 per hectare. The largest average cost is on labor expenditures, as most of the costs are absorbed during planting and harvesting activities, which require a lot of labor. Meanwhile, the lowest cost is on the use of pesticides.

3.3.3. Total Cost

Based on the research results in Table XIII, the total costs incurred by peanut farmers in one planting season amount to Rp. 17,841,303 per farm or Rp. 15,844,851 per hectare. The largest cost is the variable cost, as it is related to the production inputs required by the farmers. The larger the area of land being cultivated, the greater the variable costs needed.

3.3.4. Revenue and Net Income

According to Agustina [8], what is referred to as farm revenue is the multiplication of the total production output generated in the farming business by the unit sale price of the farm product. Farm revenue will increase if production increases and the selling price rises. Conversely, if production decreases and prices fall, the farmer's revenue will also decrease.

The income and revenue of each farmer vary depending on the production output, the quality of the produced goods, and the prevailing selling price. Meanwhile, the production output depends on the supporting production factors. If production increases but is not supported by price, it will affect the farmer's revenue and net income like in Table XIV.

4. Conclusion and Suggestion

4.1. Conclusion

1. Based on the analysis using the Cobb-Douglas function on the production factors influencing peanut production, it can be concluded that, simultaneously, production factors such as land area, seeds, fertilizers, pesticides, and labor significantly affect peanut production. This supports the initial hypothesis that these factors contribute to increased peanut production. On the other hand, the partial analysis indicates that factors like land area, seeds, and fertilizers significantly peanut production, while pesticides and labor do not significantly affect the increase in peanut production.
2. The average revenue of peanut farmers in Amuntai Tengah Subdistrict per farming unit is IDR 40,110,300 or IDR 35,621,936 per hectare per planting season. The average net income of peanut farmers per farming unit is IDR 22,268,997 or IDR 19,777,085 per hectare in one planting season.
3. Peanut farming is a promising venture that can be developed as it offers considerable profits for farmers. Although production costs are relatively high, it still provides a profitable business.

4.2. Suggestion

Based on the research findings on peanut farming in Amuntai Tengah Subdistrict, Hulu Sungai Utara District:

1. *For Farmers:* In farming, attention should be given to factors that can enhance peanut production, such as the size of the land being farmed, the quantity and quality of the seeds used, the amount of fertilizer applied, and minimizing unnecessary production costs. This includes reducing costs related to chemical pesticide purchases and inefficient labor use. Additionally, adhering to the recommended farming technology can ensure an increase in production.
2. *For Researchers:* The research serves as a source of additional knowledge regarding factors influencing the production and income of peanut farmers and can be used as a foundation for further studies.
3. *For the Agriculture Office of Hulu Sungai Utara District:* The findings can serve as input and considerations in policymaking related to the development of peanut farming programs in the district, especially regarding the availability of peanut seeds during planting seasons and the availability of subsidized fertilizers for farmers.

Conflict of Interest

Authors declare that they do not have any conflict of interest.

References

[1] Marzuki R. *Cultivating Peanuts*. Jakarta: Penebar Swadaya; 2007.
[2] Widya Y. *Peanut Cultivation*. Bandung: VC Yrama Widya; 2009.
[3] Agriculture Office. *Annual Report of the Agriculture of the Year 2023*. Kabupaten Hulu Sungai Utara: s.n; 2023.
[4] Winardi. *Introductions to Economics*. Bandung: Tarsito; 2002.
[5] Soekartawi. *Farm Business Analysis*. Jakarta: UI-Press; 2016.
[6] Soekartawi. *Basic Principles of Agricultural Economics. Theory and Application*. Jakarta: PT. Raja Grafindo Persada; 2002.
[7] Several factors to consider in conducting an analysis of an integrated agroindustry system. *Soekartawi. Jakarta: Agribus Agric Econ Jurnal*. 2007;1(2).
[8] Agustina S. *Agricultural Business Science*. Malang: Brawijaya University; 2011.