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THE EFFECT OF PRODUCTION COSTS, LAND AREA, AND SELLING PRICES ON THE INCOME OF COPRA FARMERS (CASE STUDY OF FARMERS AT PT. ARGANTARA JAYA INDONESIA)

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ABSTRACT

The purpose of this study is to analyze the effect of production costs, land area, selling prices on the income of copra farmers who collaborate with PT. Argantara Jaya Indonesia. Copra farmers who collaborate with PT. Argantara Jaya Indonesia are located in the provinces of Lampung, East Nusa Tenggara, Maluku, North Maluku. The sample used in this study was 84 smoked copra farmers. The data analysis technique in this study used quantitative with multiple linear regression analysis methods. The results of the study showed that partially production costs had a significant negative effect on the income of copra farmers, partially land area had a significant positive effect on farmer income, partially selling prices had a significant negative effect on farmer income. Implementation PT Argantara Jaya Indonesia can focus on training that introduces more efficient copra production techniques and the use of modern tools to improve yields and product quality.

Keywords: Production costs, land area, selling price, copra farmer income, PT. Argantara Jaya Indonesia

INTRODUCTION

Copra market growth data from the Ministry of Agriculture in 2022 indicates that coconut production has declined over the past ten years, in line with the decline in cultivated area. Average coconut production has decreased by 0.71% per year. Copra-equivalent coconut production in 2013 was 3.05 million tons, then decreased to 2.86 million tons in 2022. The Indonesian Coconut Council stated that there is still a significant market for coconut products in Indonesia and this potential can grow further. This is evidenced by the fact that between 2017 and 2021, production increased by 0.04 percent per year, coconut export volume increased by 3.39% annually, and export value increased by 9.38 percent per year (Antara, 2022). The Ministry of Agriculture reported that copra exports reached 9.4 thousand tons in 2023, with the Philippines, Bangladesh, India, South Korea, and Pakistan as export destinations (Berita BISIP, 2023). The type of copra discussed in this research is smoked copra.

The company that served as the research site is PT. Argantara Jaya Indonesia. PT Argantara Jaya Indonesia has partnered with copra farmers as an integrated copra collecting company since Q4 2022. During its collaboration with the farmers, PT. Argantara Jaya Indonesia has identified several issues frequently faced by its partner farmers. These issues significantly impact the copra production promised by the farmers to the Company. The copra value chain begins with funding copra operations according to a predetermined budget, the amount of which typically fluctuates depending on demand and the price per kilogram, which currently stands at IDR 6,000. This pricing is determined using a fixed price as previously agreed between the company and the collectors/farmers.

Some of the problems that farmers often complain about include low selling prices in the market and middlemen, complaints about production costs that often result in farmers feeling that their income is not commensurate. Finally, as a solution, the collaboration asked PT. Argantara Jaya Indonesia to implement a work system by funding farmers upfront. Furthermore, the limited land managed by farmers makes it difficult for them to meet the copra demand quota submitted by PT. Argantara Jaya Indonesia. From the facts on the ground, farmers from superior copra producing areas still have difficulty meeting PT. Argantara Jaya Indonesia's demand, so the company must find new copra producing areas and start cooperation with local farmers in new areas.

In an effort to better understand the dynamics of farmers' incomes, researchers sought to examine the elements that most influence their incomes. The focus of this research included key variables such as production costs, the area of land managed, and the selling price of agricultural products. By examining these three aspects, the aim of

this research was to identify the dominant components that affect farmers' incomes, thereby finding targeted solutions to improve their welfare. This analysis is expected to not only provide valuable insights into how each variable influences income but also provide implementable recommendations to help farmers optimize the yields of their agricultural businesses. Through this approach, the research aims to contribute to the development of more effective and efficient strategies to support the sustainability of agricultural businesses amidst the challenges faced by farmers.

The results of Mansur et all (2024) research prove that selling prices have a significant influence on farmers' income. The research problem formulation, considering the background, is: Do production costs have a significant effect on the income of copra farmers at PT. Argantara Jaya Indonesia? Does land area have a significant effect on the income of copra farmers at PT. Argantara Jaya Indonesia? Does selling price have a significant effect on the income of copra farmers at PT. Argantara Jaya Indonesia? Do production costs, land area, and selling prices simultaneously have a significant effect on the income of copra farmers at PT. Argantara Jaya Indonesia?

LITERATURE REVIEW

Production Costs

Resources sacrificed in exchange for a product or service that is expected to benefit an organization or business now or in the future are called costs (Andilan et al., 2021). The production function is commonly used to describe economic activity. Production is the process of converting inputs into outputs. According to Heizer (2014), This procedure is carried out continuously to generate outputs that conform to predetermined design standards aligned with consumer preferences. Consequently, the transformation of raw materials into marketable products gives rise to production costs, as described by Mulyadi (1995, in Nisa & Suprayitno, 2020). Every business requires resources to create its products. According to Andriani et al. (2023), there are four factors of production needed to support a company's production activities: Human Resources, Entrepreneurial Resources, Capital Resources, and Natural Resources. According to Sukirno & Sadono (2016) in Rahayu (2020), production cost indicators include fertilizer purchase costs, maintenance costs, transportation costs, labor wages, transportation rental costs, and other costs. The explanation is Fertilizer Purchase Costs, Maintenance Costs, Transportation Costs, Labor Wages Costs, Transportation Rental Costs and Other Costs.

Land Area

Land is the factory or location where agricultural production takes place. Agricultural income and productivity are significantly influenced by land area (Maulidya, 2023). Unlike other production factors, which are largely fixed, land is in high demand and therefore constitutes a stage in the production process (Andilan et al., 2021). Thus, land constitutes a fundamental factor in agricultural production. In Indonesia, the scale of farming activities is commonly determined based on the size of agricultural land. According to Mamondol (2018), land area is divided based on the size of the land managed by farmers, namely Small-Scale Farmers (<0.5 ha), Medium-Scale Farmers (0.5-1 ha), and Large-Scale Farmers (>1 ha). The land area indicators used in this study include land and land potential (Akbar & Fawwaz, 2022; Kharisma et al., 2020 in Dia & Hamid, 2023). The detailed explanation is Land, Land Potential

Selling Price

The price, value, and utility of goods are interrelated concepts in economic theory. Utility is a characteristic of a good obtained to satisfy a desire, and value is a quantitative representation of a good is ability to determine price and generate desired profits (Rahayu, 2020). Prices are generated by the law of supply and demand. As monetary standards, the price of gold and silver is the only exception to this criterion (Maulidya, 2023). High prices are likely to drive away consumers, but still generate the expected profit for the seller (Nisa & Suprayitno, 2015). Conversely, losses may occur when sellers set prices too low, as total production costs cannot be fully recovered. There are four objectives in setting prices, which can be described as follows (Andriani et al., 2023): Increasing Market Share, Achieving Maximum Profit, Competing in Price Wars, and Focusing on Product Quality. According to Sudaryono

(2015), the selling price indicators are market-determined selling price, government-determined selling price, and company-determined selling price. The explanations are: Market - determined selling price, government-determined selling price, and company-determined selling price. A critical component of this value chain is the pricing mechanism, which generally adheres to market conditions. Nevertheless, copra prices are relatively uniform across regions, as collectors typically comply with prices determined by the company. Companies such as PT. Argantara Jaya Indonesia, which often operate on a large scale, set purchasing prices based on global and regional market factors, but adopt a fairly standardized approach across regions. Consequently, despite being influenced by fluctuations in the global market, prices show no substantial regional variation, as collectors largely adhere to company-determined prices.

Farmers Income

Income can come from the sale of manufactured goods to the market or can be defined as money earned as a result of activities, efforts, and labor (Hakim, 2018). Another definition of income is that income can be referred to as all earnings in the form of money in a certain period that causes an increase in a person's ability, which is used for consumption or savings (Maulidya, 2023). An individual's income level is influenced by their abilities, educational background, work experience, age, gender, and other personal characteristics. A statement from Andriani et al. (2023) states that income is influenced by five factors, including labor, production, capital, selling price, and land area. According to Jhingan (2013) in Rahayu (2020), farmer income indicators include income to meet the economic needs of farming families (primary and secondary) and income to cover production costs. Income can be categorized into primary income used to meet the economic needs of farming households, secondary income that also supports household economic needs, and income allocated to cover production costs.

The Effect of Production Costs on Farmers Income

The relationship between production costs and farmer income is such that the higher the production costs, the greater the potential reduction in farmer income because high costs can absorb most or even all of the profit margin they would otherwise earn from their harvest. Therefore, effective management of production costs is essential for farmers to maintain optimal income levels. Elevated production costs can directly diminish farmers' income by reducing the profits generated from their harvests. The higher the production costs, the lower the profit margin farmers obtain from selling their agricultural products. Research conducted by Nisa & Suprayitno (2020) shows that farmer income is positively and significantly influenced by production costs.

H1 = Production costs have a significant effect on farmers income

The Effect of Land Area on Farmers Income

Farmers' income is directly correlated with the amount of land they own. Land ownership increases the ability to produce more agricultural goods, which can lead to increased income. However, when farmers own less land, their production is also limited, resulting in reduced income. Therefore, effective land management and use are key components of initiatives to increase farmer income. Research by Dia and Hamid (2023) shows that farmer income is significantly influenced by land area.

H2 = Land area has a significant effect on farmer income

The Effect of Selling Prices on Farmers Income

Selling prices play a crucial role in determining farmers' income. When the selling price of agricultural products increases, farmers' income tends to increase because they earn more money from the sale of their crops. Conversely, a decline in selling prices tends to reduce farmers' income, as products may be sold at relatively low prices. Consequently, fluctuations in selling prices can significantly affect farmers' income and overall economic well-being. Furthermore, selling price stability is also an important factor in managing farmers' long-term financial planning and strategies. Previous research by Rahayu (2020) demonstrated that farmers' income is influenced by

selling prices. The Effect of Land Area on Production Costs and Farming Income (Mamondol, 2018). Mamondol examined how the area of land managed by farmers is related to production costs and agricultural income. The Effect of Selling Prices and Production Costs on Farmers Income (Nisa & Supriyatno, 2020) this research conducted by Nisa & Supriyatno explored the relationship between agricultural product selling prices and production costs on farmers' income. By combining these two frameworks, this study will adopt a more holistic approach in understanding the influence of production cost variables, land area, and selling price on farmer income.

H3 = Selling price has a significant effect on farmer income

The Effect on Farmers Income

Research by Mansur et al. (2024). The purpose of this study is to determine how production costs and selling prices affect the income of corn farmers in Sumalata District, North Gorontalo. Meanwhile, Almatari et al. (2023) state that the purpose of this study is to determine how the income of shallot farmers is affected by production costs and selling prices. The copra farming process involves a series of steps from planting to transforming coconuts into the final product, namely copra. Each step in this process requires careful attention and care to ensure optimal results.

H4 = Production costs, land area, and selling prices simultaneously have a significant effect on farmers income

RESEARCH METHODS

Conceptual Framework

In this conceptual framework, the independent variables consist of production costs, land area, and selling price, while the dependent variable is farmer income. This concept is used to identify and/or analyze the influence of production costs, land area, and selling price on farmer income. By understanding the dynamics of the interactions between these variables, we can develop strategies and policies that can increase farmer income through more effective management of production costs, optimal land use, and setting profitable selling prices.

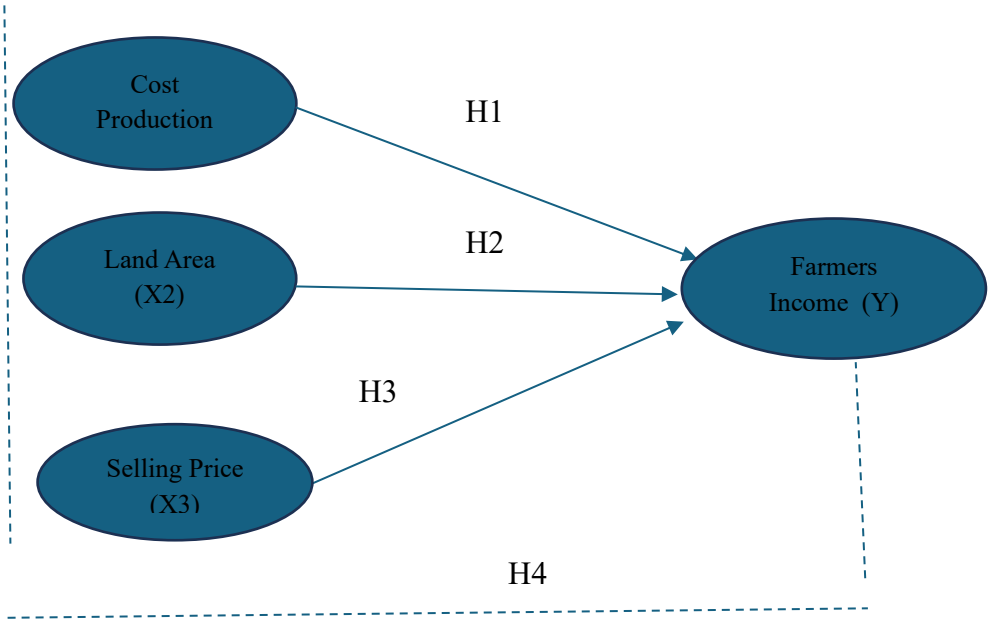

Figure 3.1 Conceptual Framework

Source: Researcher, 2024

A hypothesis can connect theory and observation, or observation and theory, in a study. Research expectations regarding the relationship between problem variables are stated in the hypothesis. The hypotheses put forward in this study are:

H1 = Production costs have a significant effect on farmers income.

H2 = Land area has a significant effect on farmer income.
H3 = Selling price has a significant effect on farmer income.
H4 = Production costs, land area, and selling prices simultaneously have a significant effect on farmers income

Research Model

A multiple linear regression analysis approach was applied in this study. The research test reference is in the multiple regression equation, namely:

$$Y = \alpha + \beta1\ X1 + \beta2\ X2 + \beta3\ X3 + e$$

Description =

Y = Farmers Income
a = Constant
β1 – β3 = Regression Coefficient of Independent Variable
X1 = Production Cost
X2 = Land Area
X3 = Selling Price
e = Error Coefficient

The data collection procedure used by the researcher involved distributing questionnaires to respondents by distributing a list of questions according to the variables. This study employed an online Likert-scale questionnaire distributed to respondents via a private Google Form link. The SPSS 26 program was used to estimate the validity test with Pearson correlation. The Cronbach's Alpha technique was used in the reliability test to measure the Likert scale. The Kolmogorov-Smirnov Normality Test approach was the test used in this investigation. Scatterplot graphs and the Glejser Test on SPSS data were used to determine whether heteroscedasticity existed in this study.

Place and Time of Research

The research was conducted at the Corporate Office of PT. Argantara Jaya Indonesia, located at Jalan Pagerwojo No. 171, Nggrekmas, Pagerwojo, Sidoarjo Regency, East Java 61252. This location was chosen as the research center because the research population data is integrated in the corporate office. The reason is that researchers can easily access the required data at the head office compared to other warehouse operation branches. The time of data collection and research was carried out from April 15, 2024 to May 27, 2024. Of the 84 people in the population, farmer partners of PT. Argantara Jaya Indonesia. All population from 84 people, used as sample in this study.

RESULTS AND DISCUSSIONS

Instrument Test Analysis

Validity Test

The decision-making process for item validity testing states that a question can be considered valid if the calculated r is greater than the table r. However, a questionnaire item can be said to be invalid if the opposite is true, namely its table r is greater (Agung, 2017). The table r value is 0.215 when viewed from the distribution of table r based on DF of N-2 = 84-2 = 82 with a significance level of 0.05. Below are the results of the validity test of the questionnaire items distributed to respondents:

Table 4.1 Validity Test Results

Variables	Instrument	r Count	Table r	Information
Production cost	X1.1	0.673	0.215	Valid
	X1.2	0.724	0.215	Valid
	X1.3	0.606	0.215	Valid
	X1.4	0.696	0.215	Valid
	X1.5	0.617	0.215	Valid

	X1.6	0.623	0.215	Valid
	X2.1	0.632	0.215	Valid
	X2.2	0.755	0.215	Valid
Land Area	X2.3	0.685	0.215	Valid
	X2.4	0.668	0.215	Valid
	X2.5	0.661	0.215	Valid
	X3.1	0.738	0.215	Valid
	X3.2	0.706	0.215	Valid
	X3.3	0.626	0.215	Valid
Selling Price	X3.4	0.681	0.215	Valid
	X3.5	0.669	0.215	Valid
	X3.6	0.712	0.215	Valid
	Y.1	0.739	0.215	Valid
	Y.2	0.728	0.215	Valid
Farmer Income	Y.3	0.657	0.215	Valid
	Y.4	0.625	0.215	Valid
	Y.5	0.648	0.215	Valid

Source: Processed data, 2024

All question items in this research variable are considered acceptable/valid because, according to the results of data processing, the calculated r value for each item is higher than the r table of 0.215.

Reliability Test

The Cronbach's Alpha method was applied to test the reliability of this study, and a threshold of 0.60 was used in the decision-making process. An instrument is considered unreliable if the CA value is less than 0.60, but if it is greater than 0.60, it is considered reliable (Sarwono, 2015). The table below presents the results of the reliability test from the software output:

Table 4.2 Reliability Test Results

Variables	*Cronbach's Alpha*	Number of Items
Production cost	0.731	6
Land area	0.706	5
Selling price	0.778	6
Farmer Income	0.708	5

Source: Processed data, 2024

The variables used in this research passed the reliability test because according to the results of the data processing above, the Cronbach's Alpha value for each variable was more than the limit of 0.60.

Classical Assumption Test

Normality Test

The Kolmogorov-Smirnov approach is the test implemented in this section of the investigation. This test relies on the following criteria to determine whether the data is normally distributed if the significance value is greater than 0.05. On the other hand, if the significance value is less than 0.05, the data is not normally distributed (Mardiatmoko, 2020). The results of data testing using SPSS indicate that the regression data in this study is normally distributed because the Asymp. Sig. (2-tailed) value is The Unstandardized Residual is 0.200 which exceeds 0.05.

Multicollinearity Test

A regression model is considered to have multicollinearity if some or all of the independent variables in the linear function have perfect linearity. Using the correlation coefficient (VIF) and tolerance values, the intercorrelation can be seen. The following are the results of the correlation coefficient method using tolerance values and VIF in the multicollinearity test conducted with SPSS.

Table 4.3 Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Production cost	0.620	1,612
	Land area	0.668	1,496
	Selling price	0.589	1,698

Source: Processed data, 2024

Decision making refers to a tolerance value greater than 0.10, indicating that the data being examined does not contain multicollinearity. However, multicollinearity in the examined data is indicated if the Tolerance value is less than 0.10. In addition, the Variance Inflation Factor must also be checked. If the VIF score is less than 10.00, multicollinearity in the tested data does not exist. However, multicollinearity in the examined data is indicated if the VIF value exceeds 10.00 (Mardiatmoko, 2020). Based on the results of the study, it shows that by looking at the VIF value of 1.612 which is less than 10.00 and the tolerance value of 0.620 for the Production Cost variable exceeds 0.10, it can be assumed that the data in the variable does not experience multicollinearity. Since the VIF value of 1.496 is smaller than 10.00 and the tolerance value of 0.668 for the Land Area variable is greater than 0.10, it can be said that there is no multicollinearity in the data for that variable. It is known that the VIF value of 1.698 is smaller than 10.00 and the tolerance value of 0.589 for the Selling Price variable exceeds 0.10, so it can be said that there is no multicollinearity in the data for that variable.

Heteroscedasticity Test

When all observations in a regression model have unequal residual variances, this situation is known as heteroscedasticity (Mardiatmoko, 2020). The scatterplot graph in SPSS output was used to determine heteroscedasticity in this study. It is the basis for selecting a solution in the Scatterplot Heteroscedasticity Test. According to the reference, there is no clear pattern in the distribution of the dots, indicating no heteroscedasticity (Mardiatmoko, 2020).

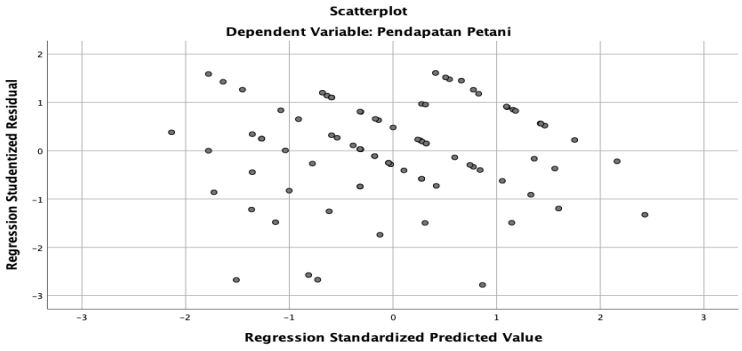

Figure 4.1 Scatterplot Graph

Source: Processed data, 2024

This is evident from the previous Scatterplot output, which shows that the dots are spread out and do not form a wave pattern, initially expanding and then contracting. Therefore, it can be concluded that the research data does not exhibit heteroscedasticity. The researchers used absolute values to validate their findings by comparing the Sig. values of the independent variable regression with the heteroscedasticity test, which they conducted using the Glacier

method. Absolute values (ABS) are the unstandardized results of the regression of the independent variable on the dependent variable. The fundamental determination made in the Glacier technique of the heteroscedasticity test is that the absence of heteroscedasticity is indicated if the significance value is greater than 0.05. However, heteroscedasticity is assumed to exist when the significance value is less than 0.05 (Balatif *et al.,* 2022). The results of the heteroscedasticity test using SPSS 26 are as follows:

Table 4.4 Heteroscedasticity Test of the Glacier Method

Coefficients [a]					
Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
1 (Constant)	1,004	2,428		0.414	0.680
Production cost	0.090	0.052	0.239	1,725	0.088
Land area	-0.023	0.060	-0.050	-0.377	0.708
Selling price	-0.069	0.048	-0.205	-1,442	0.153
a. Dependent Variable: ABS					

Source: Processed data

Based on the output above, it can be seen that the Production Cost variable does not experience heteroscedasticity, as indicated by a significance score of 0.088 exceeding 0.05. Heteroscedasticity is not found in the Land Area variable, as indicated by a significance score of 0.708 above 0.05. The Selling Price variable does not show any heteroscedasticity, as indicated by a significance score of 0.153 exceeding 0.05.

Multiple Linear Regression Analysis

The following is a multiple linear regression equation with three independent variables: Y' = a + b1X1 + b2X2 + b3X3. The projected dependent variable is called Y, the independent variables are called X1 to X3, the regression coefficients are called b1 to b3, and an is a constant number. The table below displays the results of data processing from the multiple linear regression analysis.

Table 4.5 Multiple Regression Test Results

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
1 (Constant)	22,503	3,916		5,747	0,000
Production cost	-0.188	0.084	-0.219	-2,236	0.028
Land area	0.426	0.097	0.414	4,384	0,000
Selling price	-0.179	0.078	-0.232	-2,309	0.024

a. Dependent Variable: Farmer Income
Coefficients a

Source: Processed data, 2024

The coefficients in the table in column B are used in the multiple linear regression equation. The equation produces Y' = 22.503 – 0.188X1 + 0.426X2 – 0.179X3. The explanation is as follows: the constant a of 22.503 indicates that if Production Costs, Land Area, and Selling Price do not change or are zero, then Farmer Income is 22.503. The X1 coefficient of -0.188 indicates that every Rp 1 increase in Production Costs will reduce Farmer Income by Rp 0.188. The X2 coefficient of 0.426 indicates that every 1 $m^{2\ increase}$ in Land Area will increase Farmer Income by Rp 0.426. Meanwhile, the X3 coefficient of -0.179 indicates that every Rp 1 increase in Selling Price will reduce Farmer Income by Rp 0.179.

Hypothesis Testing

Partial Significance Test (t-Test)

To determine the t-table value, we need to calculate the degrees of freedom (DF) using the formula DF = N (number of respondents) – k (number of independent variables). In this case, DF = 84 – 3 = 81. With a significance level of 0.05, we see the t-table distribution for DF of 81. As a result, the t-table value we get is 1.990.

Table 4.6 Partial Test Results (t-Test)

Coefficients [a]			
Model		t	Sig.
1	(Constant)		
	Production cost	-2,236	0.028
	Land area	4,384	0,000
	Selling price	-2,309	0.024

Source: Processed data, 2024

H1: Production costs have a significant effect on farmers income

The calculated t-value of the Production Cost variable is -2.236, which is smaller than the t-table of -1.990, and the Sig value of 0.028 is smaller than 0.05, as can be seen from the test results above. As a result, H1 is accepted, and it is possible to conclude that Production Costs have a significant negative impact on the Farmer Income variable. The negative effect states that farmer income decreases as production costs increase and vice versa.

H2: Land area has a significant effect on farmer income.

It can be concluded that the area of copra agricultural land/land has a significant positive effect on the Farmer's Income variable because the t-value calculated from the Land Area variable is 4.384, which is greater than the t-table of 1.990 and the Sig value of 0.000 is smaller than 0.05. Therefore, H2 is accepted.

H3: Selling price has a significant effect on farmer income.

H3 is accepted and it can be concluded that the Selling Price variable has a significant negative effect on a farmers income because the calculated t value of the Selling Price variable is -2.309, which is smaller than the t table of -1.990 and the Sig value of 0.024 is smaller than 0.05. In some cases when the selling price is high, PT Argantara Jaya Indonesia considers spending on other raw materials so that the demand for copra from farmers decreases.

Simultaneous Significance Test (F Test)

The F test is used to test the effect of independent variables simultaneously on the dependent variable. The following are the results of the F test.

Table 4.7 Simultaneous Test Results (F Test)

ANOVA [a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	148,441	3	49,480	29,242	.000 [b]
	Residual	135,369	80	1,692		
	Total	283,810	83			

a. Dependent Variable: Farmer Income

b. Predictors: (Constant), Selling Price, Land Area, Production Costs

Based on the table above, it is known that the $_{\text{calculated F value}}$ is 29.242. While the F $_{\text{table value}}$ is obtained by looking at the F table distribution with N = 84 significant 0.05 and the number of independent variables 3, the F $_{\text{table value}}$ is 2.719. Based on the calculation above, the $_{\text{calculated F value}}$ is 29.242> F $_{\text{table}}$ of 2.719 and the significance value of 0.000 is smaller than 0.05, it can be concluded that Production Costs, Land Area and Selling Prices together have a significant effect on Farmer Income or Hypothesis 4 is accepted.

Correlation Coefficient Test

The strength of the influence of independent variable factors on the dependent variable can be determined by testing the correlation coefficient (Fitriani & Suliadi, 2021). Correlation coefficient analysis examines the R value.

Table 4.8 Determinant Test Results

Model Summary [b]				
Model	**R**	**R Square**	**Adjusted R Square**	**Standard Error of the Estimate**
1	0.723 [a]	0.523	0.505	1,30081

a. Predictors: (Constant), Selling Price, Land Area, Production Costs
b. Dependent Variable: Farmer Income

Source: Processed data, 2024

Based on this table, the R value obtained in this study was 0.723. A coefficient interval of 0.61 < R indicates "high." This indicates a very close relationship between the independent variable and the dependent variable.

Test of Coefficient of Determination

The percentage contribution of the combined influence of each independent variable on the dependent variable was determined using R2 (R Square) analysis, or the coefficient of determination. The Adjusted R Square value shows a coefficient of determination of 0.523. Thus, the independent variables in this study contributed 52.3%, while other components not included in this study contributed the remaining 47.7%.

Discussion of Research Results Description

The Effect of Production Costs on Farmers Income

Based on the statistical test results in this study, it can be seen that production costs have a significant negative effect on the income of copra farmers. A negative effect means that as production costs increase, farmers' income decreases, and vice versa. This study proves the first hypothesis, namely that production costs have a significant effect on farmers income. The costs referred to by farmers in this study affect their income, namely the cost of purchasing fertilizer, maintenance costs, transportation costs, labor wages, transportation rental costs, and other costs such as peeling costs, splitting costs, copra smoking costs, and cutting costs also play a role in the income that copra farmers receive. The results of studies that are equally significant as this study are research by Nisa & Suprayitno (2020), research by Rahayu (2020), research by Hakim (2018), research conducted by Mansur et al. (2024), and research by Andriani et al. (2023).

The Effect of Land Area on Farmers Income

According to statistical research in this study, it can be seen that land area has a significant positive effect on the income of copra farmers. This positive effect means that the larger the productive agricultural land planted with copra, the greater the farmer's income will be. This research proves the second hypothesis, namely that agricultural land area has a significant effect on farmer income. Land in this study includes aspects of condition, size, and potential land area (Dia & Hamid, 2023). This study proves that agricultural land area plays a very significant role in determining farmer income. In an agrarian context, the area of land owned or managed by a farmer is often the main determinant of the amount of harvest that can be obtained. Increasing land area can result in the potential for larger-scale production, which in turn affects farmer income. Research findings that are equally significant as this study include research by Mamondol (2018), research by Dia & Hamid (2023), and research by Lubis et al. (2023).

The Effect of Selling Prices on Farmers Income

Based on statistical research in this study, it can be seen that the selling price has a significant negative effect on the Farmer Income variable. Based on this study, it proves the third hypothesis, namely that the selling price has a significant effect on farmer income. In some conditions, an increase in the selling price of produce can cause a decrease in demand. If consumers, such as PT Argantara Jaya Indonesia, feel the price is too high, PT Argantara Jaya Indonesia will buy less or switch to alternative products temporarily. This decrease in demand can cause farmers to sell less of their harvest, which ultimately reduces income. This study proves that the selling price of copra farm produce has a very significant role in determining farmer income. The fact that sometimes prices rise when stock or other goods are in lower demand, and conversely, when prices fall when demand is higher, is one of the factors contributing to the negative coefficient value of the selling price variable (Juniati, 2016). Research results that are equally significant with this study include research by Juniati (2016), research by Rahayu (2020), research by Mansur et al. (2024), and research by Andriani et al. (2023).

The Effect on Farmers Income

In terms of selling prices, farmers in the productive age range may be more aggressive in seeking better markets and improving product quality in order to obtain higher selling prices. The experience and expertise possessed by this age group can help them better understand market dynamics, enabling them to set more competitive and profitable pricing strategies. In terms of selling price, male farmers who have mastered more efficient farming techniques and have the ability to utilize land optimally may be able to produce higher quality copra. This can have a positive impact on the selling price of copra, as high-quality products can usually be sold at better prices in the market. Hakim (2018) examined the income generated by independent palm oil farmers in Segah District by calculating their production costs, Rahayu (2020) explains the effect of selling prices and production costs on the income of clove farmers in Pacitan Regency.

CONCLUSION AND IMPLEMENTATION

Conclusion

Based on the results of research on the impact of production costs, land area, and selling price on the income of farmers partnering with PT. Argantara Jaya Indonesia, several conclusions can be drawn. First, production costs influence the income of farmers partnering with PT. Argantara Jaya Indonesia. Second, land area also influences the income of farmers working with the company. Finally, selling price indicates an impact on the income of farmers partnering with PT. Argantara Jaya Indonesia.

Implementation

This study can be used to enrich theories about market behavior and pricing strategies in agricultural commodities. It is also relevant in the context of global markets, where price fluctuations can have a significant impact on farmers incomes. The majority of farmers are between the ages of 31 and 40, productive and able to adapt to new technologies. PT Argantara Jaya Indonesia can focus on training that introduces more efficient copra production techniques and the use of modern tools to improve yields and product quality. With the majority of farmers being male, training programs can focus on improving physical efficiency and better land management, while also providing opportunities for female farmers to participate more actively through empowerment and specialized skills training. Given that East Halmahera and Adonara have the largest number of farmers, the company can allocate more resources to support and develop the land potential in these areas. Investments in agricultural infrastructure, such as irrigation systems and market access, can help maximize copra production. For areas with lower land potential, such as Lampung, the company can conduct further research to identify and address the constraints faced by farmers, as well as implement agricultural technologies or techniques that can increase productivity.

REFERENCES

Agung, Anak Agung Putu. (2017). Business Research Methodology. Malang: Brawijaya University Press.

Andilan, J., Engka, DS, & Sumual, JI (2021). The Effect of Production Costs, Land Area, and Selling Price on Coconut Farmers' Income (KOPRA) in Talawaan District. Scientific Periodical Journal of Efficiency, 21(6). https://ejournal.unsrat.ac.id/index.php/jbie/article/view/38055

Andriani, R., Nengsih, TA, & Prasaja, AS (2023). The Effect of Prices and Production Costs on Rubber Farmers' Income in Sungai Rambut Village, Berbak District, East Tanjung Jabung Regency. Journal of Science Student Research, 1(2), 469-483. DOI: https://doi.org/10.61722/jssr.v1i2.183

Balatif, F., Yulianita, S., & Panjaitan, FAB (2022). The Effect of Production Facility Utilization on Corn (Zea mays L.) Farming Income. Agriland: Journal of Agricultural Sciences, 10(2), 155-170. DOI: https://doi.org/10.30743/agr.v10i2.5898

BISIP News. (2023). Examining the Export Potential of Round Coconuts and Their Derivative Products. https://bisip.bsip.pertanian.go.id/berita/menilik-potensi-ekspor-kelapa-bulat-dan-produk-turunannya Accessed April 20, 2024.

Fitriani, Nur Anisa & Suliadi. (2021). Confidence Interval of Correlation Coefficient Based on Empirical Likelihood and Its Application to Data on Average Years of Schooling and Poor Population in Cities/Regencies in Indonesia. Journal of Statistical Research, 1(1), 51-56. DOI: https://doi.org/10.29313/jrs.v1i1.146

Hakim, A. (2018). The Effect of Production Costs on the Income of Independent Palm Oil Farmers in Segah District. STIEP Economic Journal, 3(2), 31-38. DOI: https://doi.org/10.54526/jes.v3i2.8

Heizer, Jay (2014). Operations Management. Jakarta: Salemba Empat.

Lubis, NJ, Arif, M., & Syarvina, W. (2023). The Effect of Price Setting by Middlemen, Land Area, and Production Costs on Rice Farmers' Income in Pastap Village, Tambangan District, Mandailing Natal Regency. Economics, Business, Management, and Accounting (EBMA), 4(1), 1976-1990. DOI: https://doi.org/10.36987/ebma.v4i1.4707

Juniati, J. (2016). The Influence of Selling Price, Capital, Land Area, and Labor on Increasing Muslim Community Income. Alauddin State Islamic University, Makassar.

Mamondol, MR (2018). The Effect of Land Area on Revenue, Production Costs, and Income of Rice Farming in Toinasa Village, West Pamona District. Jurnal Envira, 1(2), 48-59. DOI: https://doi.org/10.31227/osf.io/pz7ne

Mansur, SM, Yantu, I., & Juanna, A. (2023). The Effect of Production Costs and Selling Prices on Corn Farmers' Income in Sumalata District, North Gorontalo Regency. JAMBURA: Scientific Journal of Management and Business, 6(3), 1451-1460. DOI: https://doi.org/10.37479/jimb.v6i3.23367

Mardiatmoko, G. (2020). The Importance of Classical Assumption Testing in Multiple Linear Regression Analysis. Barekeng: J. Il. Mat. & Ter., 14(3), 333-342. DOI: https://doi.org/10.30598/barekengvol14iss3pp333-342

Maulidyani, L. (2023). The Effect of Production Costs, Land Area, and Selling Price on Porang Farmers' Income in Selur Ngrayun Village, Ponorogo (Doctoral dissertation, IAIN PONOROGO).

Rahayu, S. (2020). The Effect of Production Costs and Selling Prices on the Income of Clove Farmers in Wonokarto Village, Ngadirojo District, Pacitan Regency (Doctoral dissertation, IAIN Ponorogo).

Sarwono, Jonathan. 2015. Creating Theses, Dissertations, and Theses with Partial Least Square SEM (PLS-SEM). Yogyakarta: ANDI.

Sudaryono. (2015). Introduction to Business, Theory and Case Studies. Yogyakarta: Andi Publisher.

Sukirno, Sadono. (2016) Microeconomic Theory Introduction, Third Edition. Jakarta: PT Raja Grafindo Persada.