

## FACTORS INFLUENCING THE INCOME OF RICE FARMING IN GAMPONG BLANG RIEK, KUTAMAKMUR DISTRICT, ACEH UTARA DISTRICT

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### Abstract

The research was conducted in Blang Riek Village, Kutamakmur District in August 2022. This study aims to analyze the income off paddy rice farming in Blang Riek Villange, Kutamakmur District, North Aceh Regency and to analyze the factors that influence the income of Lowland Rice Farming in Blang Riek Village, Kutamakmur Disrict, North Aceh District. This research used a purposive sampling method and direct interviews were carried out to obtain data using a questionnaire. The number of samples in this study were farmers who carried out rice farming in Blang Riek Village, Kutamakmur District, with a total sample of 33 people. This analysis data using SPSS software. The results of this study indicate that the variable selling price and production simultaneously have a significant and positive relationship to the income of lowland rice farmers. While partially the selling price has no significant effect and is positively related to income. While partially production has a significant and positive relationship to farmer income.

**Keywords:** *income, selling price, production.*

### 1. INTRODUCTION

Indonesia is a country that is carrying out development in all fields, the agricultural sector is one sector that is relied upon, because the agricultural sector still plays an important role in supporting the national economy. The agricultural sector also has an important role in alleviating poverty, agricultural development is directly or indirectly related to efforts to increase the welfare of farmers and efforts to reduce poverty, especially in rural areas. The main target of agricultural development is to increase agricultural production and farmers' income, therefore activities in the agricultural sector are sought to run smoothly by increasing agricultural production either through intensification, extensification, and agricultural diversification which are expected to improve the standard of living of farmers. In carrying out development in all fields, the government encourages agricultural development in various sub-sectors, one of which is the food crops sub-sector. The food crops sub-sector is a strategic sub-sector. In addition to absorbing the largest workforce in production activities, the food crops sub-sector also produces products that are staple foods for most Indonesian people. As for what is included in food crops, namely rice, corn and soybeans, but the most abundant food crops in Indonesia are rice (Cahyadi, 2006).

Rice is one of the food crop commodities in the form of grasses originating from two continents, namely tropical and subtropical Asia and West Africa. Rice cultivation itself has been started since 3,000 BC in Zhejiang, China (Purwono and Purnawati, 2007). Nearly half of the world's population, especially from developing countries, including Indonesia, mostly make rice as a staple food that is consumed to meet their food needs every day (Rahmawati, 2006). This makes rice plants have spiritual, cultural, economic and political values for the Indonesian people because they can affect the lives of many people (Main, 2015). Aceh Province is one of the contributors to food crops in the form of rice. The land area in Aceh is 4,440,066 Ha (BPS, 2020). Of the paddy land area, North Aceh Regency has 27 sub-districts, one of which is Kutamakmur District with a

land area of 2083 Ha (BPP, 2020). Blang Riek is one of the gampongs in Kutamakmur District which has a rice field area of 64 hectares. The area of land is worked on by 42 farmers in the village. The area of land used in farming affects paddy rice production. In addition, the level of rice production affects the income of farmers who carry out lowland rice farming. Income is one way of indicators to realize or improve people's welfare. In the income of lowland rice farming, the problem that is often faced by farmers is that rice production is seasonal which is susceptible to natural risks (climate anomalies and attacks by pests) so that the selling price of grain is very fluctuating. The reason the researchers chose Gampong Blang Riek as the research location was because from the results of the survey that had been conducted there were several Gampongs in Kutamakmur District, one of which was Gampong Cempeudak which was frequently affected by pests and Gampong Pulo Iboh which was frequently flooded during harvesting during the rainy season every year. Therefore the researcher is interested in taking up research in the Blang Riek village, because in that village there are no other obstacles such as several villages that have been surveyed previously.

## **2. LITERATURE AND THEORETICAL REVIEW**

### **2.1 Income Concept**

Income is the amount of income earned by the community for their work performance in a certain period, whether daily, weekly, monthly or yearly (Sukirno, 2006).). Gritto (2013) argues that the total revenue (gross income) earned in a certain period. Gross income is a measure of the productivity of the resources produced from farming. Based on these two definitions, it can be concluded that income is income received by the community based on its performance, both cash and non-monetary income during a certain period, whether daily, weekly, monthly or yearly. Income from a farm depends on the relationship between production costs incurred by the amount of revenue from the sale. One way to gain profits is to reduce costs. Profit is a concept that has various points of view, depending on who is assessing it and how the purpose of the assessment is about it. Profit is the excess difference between income and expenses incurred in the main activities of the company or trade during a certain period. And among the most important trade objectives in the world of commerce is to seek profit, which is a reflection of the growth of wealth. While profits are obtained from the difference between income and costs. For this reason, the notion of income and costs really needs to be understood by decision makers (Noor, 2011). Profit analysis serves to measure the success or failure of a business, find the main components of income and whether these components can be improved or not. Business activities are said to be successful if the income meets the sufficient requirements to meet all production facilities. The business analysis is a detailed description of revenues and expenditures over a certain period of time (Aritonang, 1993).

### **2.2 Cost Concept**

Costs are sacrifices or expenses made by a company or individual with the aim of obtaining more benefits from the activities carried out. Production costs are compensation received by the owners of production factors or costs incurred by farmers in the production process either in cash (Suratiah, 2006).

Costs have several very important roles in decision making in a business. Production costs consist of:

1. Fixed costs, namely fixed costs that do not change due to the influence of the amount of production, these costs consist of taxes and equipment depreciation costs and others.
2. Variable costs (Variable Cost), namely costs that change according to the amount of production. These costs consist of the cost of raw materials, labor and others. This fee is in the form of cash that is actually paid.
3. Total cost (Total Cost) is the entire cost incurred during the production process both fixed and variable costs.

### 2.3 Farming Concept

Farmers' farming capital sources mostly come from their own capital or borrow from non-formal credit sources (Hermanto and Gratitude, 1999). Farming income is the amount of benefits or results received by farmers which are calculated based on the value of production minus all types of expenses used for production (Soekarwati, 2006). For this reason, farm income is strongly influenced by the cost of production facilities, maintenance costs, post-harvest costs, processing and distribution as well as production value. Farming opinion can be used as a measure to see whether a farm is profitable or detrimental, to how big the profit or loss is (Soekarwati, 2006). As for the factors that influence farming income, namely:

#### 1. Land area

Land is the most important factor of production in agriculture because land is a place where farming can be done and where the results of production are excluded because of the soil on which the plants grow. Land has properties that are not the same as other production factors, namely the area is relatively fixed and the demand for land is increasing so that it is scarce (Mubyarto, 1997).

The area of control of agricultural land is something that is very important in the process of production or farming and agricultural business. The larger the area of land cultivated/planted, the greater the amount of production produced by that land. The size of agricultural land can be expressed in hectares (Ha). In rural areas, farmers still use traditional measures. For example stakes and spans (Rahim and Hastuti, 2007).

#### 2. Selling Price

Price is the value of a product measured in money based on that value, sales or producers are available to release goods or services owned to buyers or consumers to gain profits (Prawirosentono in Nurul wardah, 2010). Price is the amount of money value caused by a product or service or the amount of money exchanged by consumers for the benefits of having or using the product or service. Price is the exchange rate of goods or services with units of money mutually agreed upon between the seller and the buyer (Kolter in Nurul wardah, 2010)

#### 3. Capital

Capital is the most important thing besides land in farming, namely land in farming. Several types of capital in farming, namely land, buildings (warehouses, celeb places, stables and so on), agricultural equipment (tractors, harrows, sprayers, sickles, hoes, etc.), production facilities (fertilizers, seeds, medicines), money cash and bank loans. Sources of capital can come from own capital, loans, inheritance and lease contracts. Rental contracts are usually arranged within an agreed period of time between the borrower and the capital owner (Shinta, 2011).

#### 4. Production

Production is the amount of rice output or yield from farmer's land during one season which is measured in kilograms (kg). Then productivity is the ability of a factor of production, such as land area, to obtain production per hectare. Production and productivity are determined by many factors such as soil fertility, planted seeds, adequate use of fertilizers both in type and dosage, availability of sufficient water, proper farming techniques and use of adequate agricultural production tools and availability of labor (Rolas Sinaga, 2016).

#### 5. Labor

Labor is a production factor that needs to be taken into account in the production process in sufficient quantities, not only seen from the availability of labor, but the quality and type of labor must also be considered. The number of workers is still much influenced and associated with the quality of labor, gender, season and labor wages. If the quality of this workforce is not considered, there will be bottlenecks in the production process.

There are several things that need to be considered in the factor of labor production, namely:

1. Labor availability
2. Labor quality
3. Gender
4. Seasonal workforce
5. Labor wages (Hernanto, 2012).

### 2.4 Lowland Rice Farming

Farming is an activity of organizing (managing) assets and methods in agriculture or more precisely is an activity that organizes agricultural production facilities and technology in a business related to agriculture. In carrying out their farming, farmers in Gampong Blang Riek do several ways to increase farming production and the quality of their products. Because production greatly influences income and profits, if the resulting production is high, the revenue earned is also high, this can provide high income for farmers who do rice farming. To do their farming, farmers in Gampong Blang Riek chose superior rice seeds and there were also some who used rice seeds in the first planting and used them in subsequent plantings. After planting, farmers carry out pest control using pesticides so that the rice is not attacked by pests and has good quality.

### 2.5 Prior Research

Juanda (2016), Analysis of the Factors Affecting Income of Rice Farmers in Gampong Pante Geulumpang, Tangan-Tangan District, Aceh Barat Dayak Regency. The purpose of this study was to analyze the effect of land area on total cost, experience, selling price and production on the income of rice farmers in Pante Geulumpang Village, Tangan-Tangan District, Aceh Barat Dayak Regency, the variables used were land area, capital, labor, experience, production costs, selling prices, production. The analytical method used is multiple linear regression. Based on the results of the study indicate that simultaneously the variables used have an influence on the income of paddy rice farming. Fatmawati M. Lumintang (2013), Income Analysis of Rice Farmers in Teep Village, East Langowan District. The purpose of this study was to analyze the production potential of rice farmers and to analyze the level of income of rice farmers in Teep Village, East Langowan District, the variables used were total costs, total income/profits, and break even point (Break Even Point). The analytical tools used are descriptive analysis and feasibility analysis. Based on the results of

the study, the size of rice farming income in Teep Village was affected by revenue and production costs.

Tesa Rahayu (2014), Analysis of Income of Paddy Farmers in Nagari Guguak Kuranjihilir, Sungai Limau District, Padang Pariaman Regency. The purpose of this study was to analyze the income of lowland rice farmers in Nagari Guguak Kuranji Hilir, Sungai Limau District, Padang Pariaman Regency, the variables used were revenue costs, income, profits and R/C. The analysis tools used are costs, revenues, profits/income, and R/C ratios. Based on the results of research on lowland rice farming in Guguak Kuranjihilir Village Sugai Limau, Padang Pariaman Regency, it is not feasible to develop because it is not comparable to the daily needs of the community,  $R/C = 0.1$ .

## 2.6 Hypothesis

The hypothesis of this study is the factor of land area, selling price, capital, and production has a significant effect on the income of paddy rice farming in Gampong Blang Riek, Kutamakmur District, North Aceh District.

## 3. IMPLEMENTATION METHOD

### 3.1 Location, Object and Scope of Research

This research was conducted in Blang Riek Village, Kutamakmur District, North Aceh District. The object of this research is farmers who cultivate their own land in Gampong Blang Riek. The scope of this study is limited to the factors that influence the income of paddy rice farming in Gampong Blang Riek, Kutamakmur District, North Aceh District.

### 3.2 Types and Sources of Data

The data used in this study are primary data and secondary data. Primary data was obtained by observing in the field, namely by conducting interviews with paddy rice farmers in Gampong Blang Riek, Kutamakmur District with the help of a prepared questionnaire. While secondary data were obtained from journals, books, articles, previous research and related agencies such as the Central Statistics Agency (BPS) and the Agriculture and Food Security Office of North Aceh District.

### 3.3 Population and sample

The population in this study were farmers who did paddy rice farming in Gampong Blang Riek. The population of paddy rice farmers in Gampong Blang Riek is 42 people. Determination of the number of samples was determined by purposive sampling (determined deliberately). The results of determining the number of samples obtained by farmers who do paddy rice farming who have private land and who cultivate themselves are 33 people. Based on Roscoe's statement (in Sugiyono, 2007) an appropriate sample size in this study is between 30-500, thus the size of the sample in this study is feasible and meets the criteria.

### 3.4 Data Analysis Methods

The data analysis method used is a quantitative method. Quantitative analysis is used to analyze the income of paddy rice farming.

1. Cost analysis

To find out the total cost (Total Cost) the following formula is used (Soekartawi, 2006):

$$TC = TFC + TVC$$

Information

- tc = Total Cost
- TFC = Total Fixed Cost (Total Fixed Cost)
- TVC = Total Variable Cost (Total Variable Cost)

## 2. Acceptance Analysis

To find out the amount of acceptance the formula used is as follows (Soekartawi, 2006):

$$TR = Q \times P$$

Information :

- TR = Total Revenue (Total Revenue)
- Q = Number of Products (Quantity)
- P = Price (Price)

## 3. Revenue Analysis

To find out the profit can be calculated with the following formula (Rahim and Hastuti 2007):

$$\pi = TR - TC$$

Where :

- $\pi$  = Revenue (Profit)
- TR = Total Revenue
- tc = Total Cost, That is All Costs Issued For Producing an Item

## 4. Multiple Linear Regression Analysis

This analysis aims to determine the effect of a variable X associated with variable Y

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Information :

- Y = Income (Rp/mt)
- a = Constant
- X1 = Land area (Ha/kg)
- X2 = selling price (Rp/kg)
- X3 = Capital (Rp/mt)
- X4 = Production (Kg/mt)

b = regression coefficient, namely the magnitude of the change that occurs in Y if one

### 3.5 Classical Assumption Test

1. Normality test
2. Multicollinearity test
3. Test the coefficient of determination ( $R^2$ )

### 3.6 Hypothesis Testing

The hypothesis can be used as a guide towards further investigation. Therefore, the hypothesis must be tested for validity through statistical tests. The hypothesis that will be tested in this study is whether or not there is a positive and significant influence from the influencing factors (variable X) on the interest of revisit (variable Y) to test this variable, the following test is used (Sugioyono, 2018):



1. Simultaneous Significance Test (F Test)
2. Partial Significance Test (t test)

## 4. RESULTS AND DISCUSSION

### 4.3. Analysis of Lowland Rice Farming

#### 4.3.1. Production cost

##### 1. Fixed Costs

Fixed costs in this study are the cost of equipment depreciation. The equipment used in rice farming can be seen in Table 7 below:

**Table 1.** Average Cost of Depreciation of Rice Farming Equipment in Gampong Blang Riek, Kutamakmur District (Rp/Land Area/MT)

No	Equipment name	Unit	Amount	Unit Price (Rp)	Total Cost (Rp)	Cost of depreciation (Rp/MP)
1	Sprayer	units	1	220,909	220,909	18,858
2	Hoe	units	1	85,606	85,606	8.153
3	Machete	units	1	73,788	73,788	6,526
4	Bucket	units	1	23,333	23,333	2,564
5	Paddy field scavenger	units	1	47,121	47,121	4,666
<b>Amount</b>						<b>40,569</b>

Source: Processed Primary Data, 2022

Based on Table 7 above, it can be seen that the average depreciation cost for equipment in rice farming in Gampong Blang Riek, Kutamakmur District is Rp. 40,569 / area of land / planting season. The highest amount of fixed costs is the cost of purchasing a sprayer which is Rp. 220,909, this is due to the relatively high purchase price compared to other costs. Meanwhile, the lowest fixed cost is the purchase of a bucket of IDR 23,333.

##### 2. Variable Costs

Variable costs are expenditures spent on certain components in the form of production facilities and labor. In this study, the calculated production costs are all expenses paid for one growing season. Details of the average variable costs can be seen in Table 8 below.

**Table 2.** Average Variable Cost of Rice Farming in Gampong Blang Riek, Kutamakmur District (Rp/Land Area/MT)

Variable Type	Cost (IDR)
<b>Cost of Production Facilities</b>	
Seed	64,242.42
Urea Fertilizer	194,090.91
NPK fertilizer	240,909.09
Organic fertilizer	130303.03
SP-36 fertilizer	15,454.55
Herbicide	6060.61
Insecticide	85,454.55
Rice Hormone	16,666.67
<b>Sub-Total</b>	<b>753,181.82</b>
<b>Labor costs</b>	
Land Processing	289,636
Creation of nursery land	33,333
Seeding seeds	27,121
Removal of seeds	125,758
Making Line Signs	95,000
Planting seeds	568,182

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Land Care	504,545
Fertilization	57,424
Spraying	57,424
Rice Cutting	827,826
Bear the Grain	195,937.50
<b>Sub-Total</b>	<b>2,783,068</b>
<b>Total</b>	<b>3,536,249.82</b>

Source: Processed Primary Data, 2022

In the table above it can be seen that the biggest variable cost is labor cost. Payment of labor wages for rice cultivation is relatively high issued. This is because the use of labor during planting is more than in other activities. At the research location, rice cutting has used Combine Harvester harvesting technology. This technology does not require too much labor, harvest time is relatively faster, and does not require human labor to cut, gather and thresh. This activity is carried out directly by the Combine Harvester machine and produces clean grain. So that farmers in Gampong Blang Riek, Kutamakmur District, have minimized spending on rice cutting. The average variable cost of rice farming in Gampong Blang Riek, Kutamakmur District, is Rp. 3,536,249.82/planting season. Tables 1 and 2 explain that the total fixed costs of rice farming are Rp. 3,381 / area of land / planting season. while the variable costs that must be incurred on the farm is Rp. 3,536,249.82/land area/planting season, so that the average overall production costs incurred by rice farmers in Gampong Blang Riek, Kutamakmur District, amounted to Rp. 3,539,630.82 / area of land / planting season. For more details, the total production costs incurred by farmers in rice farming can be seen in Appendices 3, 4 and 5.

#### 4.3.2. Income

Income is the result obtained by lowland rice farmers after harvest. Gross income is obtained from multiplying the amount of production with the selling price of rice. Details of rice farming income can be seen in table 9 below:

**Table 3.** Average Production, Selling Price, Capital, Rice Farming Income in Gampong Blang Riek, Kutamakmur District (Rp/Land Area/MT)

No	Description	Unit	Amount (IDR)
1	Production Amount	kg	1,789
2	Selling price	IDR/Kg	4,730
3	Production cost	Rp	3,583,425
4	Gross income	Rp	8,499,621.21
5	Net income	Rp	4,916,167

Source: Processed Primary Data, 2022

Can be seen in the table above Production is the result received by lowland rice farmers as a result of managed farming activities. The average production obtained by lowland rice farmers in Gampong Blang Riek is 1,789 kg. The technology used in lowland rice farming in harvesting uses complex harvesting machines, namely combine harvester machines. Production costs of lowland rice farmers include fixed costs and variable costs. The variable costs used by farmers include seeds, fertilizers, pesticides, and labor wages, while the fixed costs incurred include depreciation costs.equipment. In the research analysis the cost of renting land is not included because the average land owned by farmers is privately owned. The average production cost incurred by lowland rice farmers is IDR 3,583,425

In this research that has been done there are some farmers who sell all their grain and there are also some farmers who save grain for consumption. The average income of paddy rice farming



is IDR 8,499,621.21. Net income or profit is the difference between the gross income received by the farm minus the total production costs incurred by the farm when conducting paddy rice farming activities. As for the profits earned by paddy rice farming in Gampong Blang Riek, Kutamakmur District, the average profit earned was IDR 4,916,167.

#### 4.4. Classic assumption test

##### 4.4.1. Normality test

Normal P-P Plot of Regression Standardized Residual

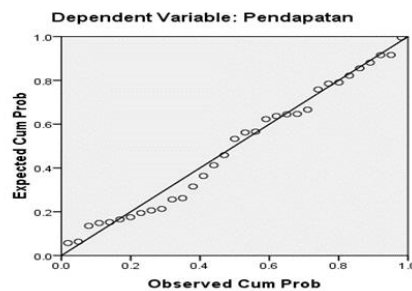


Figure 2. Graph of normality test

Based on the picture above the output results on the normal probability plot test show that the data spreads around the diagonal line and follows the direction of the diagonal line and shows a normal distribution pattern, so it can be concluded that the assumption of normality has been fulfilled.

##### 4.4.2. Multicollinearity Test

Table 4. Multicollinearity Test

Variable	Statistical collinearity		Information
	tolerance	VIF	
<i>Constant</i>			
Land area	0.032	31,440	Multicollinearity Occurs
Selling price	0.810	1.235	Multicollinearity Does Not Occur
Capital	0.051	19,439	Multicollinearity Occurs
Production	0.033	30,000	Multicollinearity Occurs

Source: Processed Primary Data, 2022

Based on Table 10 showing the results of the SPSS 16 output as shown in Table 10 above, it can be seen that the VIF value for the selling price variable is less than 10, namely 1.235, which means that the selling price variable does not have multicollinearity. While the variables of land area, capital and production are greater than 10, it can be concluded that there is multicollinearity in the data. If the regression data has multicollinearity then one way to overcome the multicollinearity problem is to replace or exclude variables that have a high correlation. In this study the variable that was excluded was the variable land area which had a correlation value of 0.957. The output results after the land area variable is removed are as follows.

Variable	Statistical collinearity		Information
	tolerance	VIF	
<i>Constant</i>			
Selling price	0.822	1.216	Multicollinearity Does Not Occur
Capital	0.065	15,484	Multicollinearity Occurs

Production	0.062	16.035	Multicollinearity Occurs
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Source: Processed Primary Data, 2022

In the table above it can be seen that the VIF value of the capital and production variables is still greater than 10, where multicollinearity still occurs. Furthermore, the capital variable is removed from the regression so that the remaining 2 variables are the selling price variable and the rice production variable.

Variable	Statistical collinearity		Information
	tolerance	VIF	
Constant			
Selling price	0.831	1.203	Multicollinearity Does Not Occur
Production	0.831	1.203	Multicollinearity Does Not Occur

Source: Processed Primary Data, 2022

From the results of the data output, it was found that the selling price and production variables each had a VIF value of 1.203 <10, meaning that there was no multicollinearity. So it can be concluded that there is no perfect correlation between the selling price and production variables, so the multicollinearity test has been fulfilled.

#### 4.5. Results of Multiple Regression Analysis

Data analysis and hypothesis testing in this study used a multiple linear regression model, based on data obtained from 33 respondents. The results of the analysis carried out obtained the regression coefficient, tcount value and significance level as follows.

**Table 5.** Regression Analysis for Estimating Factors Influencing Rice Farming Income in Gampong Blang Riek, Kutamakmur District.

Model	Unstandardized Coefficients		Betas	Q	Sig
	B	std. error			
(constant)	-1.061E+10	6,472E6		-1,640	0.111
Selling price	2,108,211	1,381,382	.041	1.519	0.139
Production	3,132,504	87,640	,973	35,743	0.000

Source: Processed Primary Data, 2022

Based on the results of multiple linear regression analysis, the regression equation model in this study can be obtained as follows:

$$Y = -1.061E+10 + 2,108,211 (X_2) + 3,132,504 (X_4) + \epsilon$$

Based on the regression equation model above, it can be interpreted as follows:

1. The coefficient value of the selling price variable is positive (2,108.211 ), which means that if the selling price of grain has increased by Rp. 1 it will cause farmers' income to increase by Rp. 2,108,211 .
2. The coefficient value of the production variable is positive (3,132.504), which means that if production increases by 1 kg, it will cause an increase in farmers' income of Rp. 3,132,504.

##### 4.5.1. Determination Coefficient Test (R<sup>2</sup>)

**Table 6.** Calculation results of the Coefficient of Determination (R square)

Summary modelb

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	0.991a	0.981	0.980	5.39898E5

**Summary modelb**

Model	R	R Square	Adjusted R Square	std. Error of the Estimate
1	0.991a	0.981	0.980	5.39898E5

a. Predictors: (Constant), Production, Selling Price

b. Dependent Variable: Income

Source: SPSS Output 16 (Primary Data Processed, 2022)

Based on the SPSS output, the results of the calculation obtained an R square (R<sup>2</sup>) value of 0.981, which means that 98.1% of farmers' income can be explained by the variable selling price and amount of production (independent variable). The remaining 1.9% is explained by other factors outside the model.

#### 4.5.2. Hypothesis test

##### 1. F test

**Table 7.** F Test Calculation Results (Simultaneously)

**ANOVA b**

Model		Sum of Squares	Df	MeanSquare	F	Sig.
1	Regression	4.541E14	2	2.270E14	778,870	.000a
	residual	8.745E12	30	2.915E11		
	Total	4.628E14	32			

a. Predictors: (Constant), Production, Selling Price

b. Dependent Variable: Income

Source: SPSS Output 16 (Primary Data Processed, 2022)

Based on the regression results in Table 13 above, it shows the effect of the selling price (X<sub>2</sub>) and production (X<sub>4</sub>) variables on rice farmer income (Y) with a significance of 0.000, which is smaller than the significance level used in this study, namely 0.05 (0.000 < 0, 05) this shows that the variable selling price (X<sub>2</sub>) and production (X<sub>4</sub>) simultaneously have a significant effect on the income of rice farmers (Y).

##### 2. t test

The t test was conducted to determine the effect of each or partially the independent variables (selling prices and production) on the dependent variable (income). The testing process is carried out by looking at the partial test ttable value by paying attention to the significance column with a significance level of  $\alpha = 0.05$ .

**Table 8.** Calculation results of the t test (partially)

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	std. Error	Betas		
1	(Constant)	-1.061E7	6.472E6		-1,640	0.111
	Selling price	2098,211	1,381,382	0.041	1.519	0.139
	Production	3,132,504	87,640	0.973	35,743	0.000

Source: SPSS Output 16 (Primary Data Processed, 2022)

1. Effect of Selling Price (X2) on Paddy Farmers' Income (Y)

Based on the results of the study, it showed that the selling price (X2) had a positive and insignificant effect on the income of lowland rice farmers in Blang Riek Gampong, Kutamakmur District. This can be seen in Table 14, the significant value of the selling price variable is  $0.139 > \alpha = 0.05$ . The value of the selling price regression coefficient of 2,098.211 states that for every additional Rp. 1 in the selling price, it will cause an increase in the income of rice farmers by Rp. 2098,211. The direction of the relationship between the selling price and the income of rice farmers is in the same direction (+), where an increase in the selling price of grain will result in an increase in the income of rice farmers.

Based on the conditions in the field, the difference in the selling price of grain is due to the large number of grain collectors at various grain prices offered to rice farmers in Gampong Blang Riek, Kutamakmur District. The highest selling price of grain is Rp. 4,800 and the lowest selling price of grain is Rp. 4,600. The variable selling price of grain does not significantly affect income in this study. The selling price variable is not significant due to the quality of the paddy grain. At the research location harvesting rice using a combine harvester machine. Grain cleanliness is one of the determining factors for the high selling price. Manual harvesting of grain produced is cleaner against grains/dirt or other objects such as grasshoppers or other small animals that participate in the harvest. While harvesting using a combine harvester machine the resulting grain will be a little dirty. The dryness level of grain is also one of the determinants of high selling prices. The difference in the dryness of grain, farmers who harvest manually have drier grain, so that the grain is priced higher. Using a combine harvester, the grain is immediately put in sacks so that the grain produced is still wet and the collectors have to dry it again. These results are in line with research conducted by Rini Hayati (2011) the selling price variable is not significant to the income of lowland rice farming in Huta Tonga Ab Village. so grain is priced higher. Using a combine harvester, the grain is immediately put in sacks so that the grain produced is still wet and the collectors have to dry it again. These results are in line with research conducted by Rini Hayati (2011) the selling price variable is not significant to the income of lowland rice farming in Huta Tonga Ab Village. so grain is priced higher. Using a combine harvester, the grain is immediately put in sacks so that the grain produced is still wet and the collectors have to dry it again. These results are in line with research conducted by Rini Hayati (2011) the selling price variable is not significant to the income of lowland rice farming in Huta Tonga Ab Village.

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2. The effect of production (X4) on the income of paddy rice farmers (Y)

Based on the results of the study, production had a positive and significant effect on the income of lowland rice farmers in Blang Riek Village, Kutamakmur District. This can be seen in Table 14, the significant value of the production variable is  $0.000 > \alpha = 0.05$ . The production regression coefficient value of 3,132.504 states that every additional 1 kg of rice production will cause an increase in rice farmers' income of Rp. 3,132,504. The direction of the relationship between production and rice farmer income is unidirectional (+), where increased grain production will increase rice farmer income. At the research location, the highest rice production was 5,000 kg and the lowest production was 500 kg. Rice farming can still be improved by increasing productivity. These results are in line with research conducted by Zakiah (2018).

## 5. CONCLUSION

Based on the results of the data analysis carried out and the discussion that has been put forward, the following conclusions are obtained:

1. The total costs incurred by paddy rice farmers in Gampong Blang Riek for one production amounted to IDR 3,539,249.82, with a total production of 1,789 kg and the gross income earned was IDR 8,499,621.21. Furthermore, the net income obtained in one production is IDR 4,916,197.
2. Based on the results of the analysis and discussion, the selling price (X2) and production (X4) variables simultaneously have a significant and positive relationship to the income of rice farmers in Gampong Blang Riek, Kutamakmur District, North Aceh District. The selling price variable partially has no significant effect and is positively related to the income of rice farmers in Gampong Blang Riek, Kutamakmur District, North Aceh District. The production variable partially has a significant and positive relationship to the income of rice farmers in Gampong Blang Riek, Kutamakmur District, North Aceh District.

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