



Factors Affecting The Income Of Rice Farming Business In Sabbang Paru Village, Lembang District, Pinrang District, Indonesia

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Abstract

This study aimed to determine the factors influencing the income of lowland rice farmers in Sabbang Paru village, Lembang district, Pinrang regency. The data used were primary obtained 43 respondent farmers and secondary data sourced from related agencies. Data were analyzed using multiple linear regression analysis. The results showed that lowland rice farming in Sabbang Paru village, Lembang district, Pinrang regency was feasible to cultivate because the R/C ratio value was 2,2, which was greater than 1. The results of multiple linear regression analysis showed that simultaneously and partially, the variable production, land, and farming costs significantly affect the income of paddy rice farming in Sabbang Paru village, Lembang district, Pinrang regency.

Keywords: Income, production, land area, farming costs, multiple linear regression, rice farming

INTRODUCTION

Indonesia is an agrarian country where most of the population works as farmers. This is due to the geographical location of Indonesia, which is in the tropics, where the weather, soil, and other resources in every region have a high potential to develop the agricultural sector. Rice is one of the commodities produced by the agricultural sector, in this case, the food crops sub-sector, which is a basic need for Indonesian society. Since the population is growing, so is the demand for rice, and it is assumed that rice is an essential food for the Indonesian people that cannot be replaced by [1]. To build national food security, it is necessary to procure rice or paddy in an amount that meets national needs. Therefore, it is necessary to increase technology to support national food availability. With the improvement of agricultural technology, we can increase agricultural production to meet the increasing needs of society and also have an impact on increasing farmers' income.

Pinrang Regency is one of the regencies in South Sulawesi Province, which is a rice production center. The area of potential rice fields in Pinrang regency is 44,861 ha (22,87% of the total area of Pinrang regency). Rice-type food crops are spread evenly throughout the Pinrang regency, with productive rice fields and irrigation sources from technical irrigation in all sub-districts. Farmers carry out two planting systems in Pinrang regency: direct seed planting (TABELA) and transplanting (TAPIN). The TABELA system is a rice planting system without seeding or transferring seeds, while the TAPIN system is a planting system that involves seeding or transplanting seeds. Both cropping systems have advantages and disadvantages.

Even though farmers in Pinrang district have used these two cropping systems, the use of seeds is still not optimal. In addition, there are still farmers who use varieties that have high productivity. The research results conducted by [2] show that supporting production facilities, agricultural tools, and quality human resources is necessary to carry out farming effectively and efficiently. Furthermore, research showed that the high production and productivity of lowland rice farming are caused by factors of production that farmers manage well. However, high production and productivity do not necessarily mean that the farmer's income will be high because the price of production factors can influence it. Therefore, to obtain a high income, farmers need to be able to study price developments to make choices about whether to sell their products or withhold their production. Therefore, the formulation of the problem that arises based on the background description is how the influence of production factors affects the income of rice farmers in Sabbang Paru village, Lembang district, and Pinrang regency.

MATERIALS AND METHODS

This research was carried out in Sabbang Paru village, Lembang district, and Pinrang regency from July to August 2021. The total population of rice farmers in Sabbang Paru village is 430 people. As many as 43 people were randomly selected for sampling. This is consistent with [3] belief that if the total population is less than 100 people, the entire population is used as a sample. However, if there are more than 100 people, then 10-15% of the sample is taken.

Data was collected through questionnaires, interviews, and documentation. The types and sources of data are primary data and secondary data. The data were analyzed using qualitative methods. To address the research question, how the influence of production factors on the income of rice farmers in Sabbang Paru village, Lembang district, Pinrang regency, was studied using multiple linear regression with the equation:

$$Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + e$$

where:

Y = Rice farming income (Rp/MT)

a = intercept

b_1, b_2, b_3 = Regression coefficient

X1 = Production (Tons/MT)

X2 = Land area (ha)

X3 = Cost of rice farming (IDR/MT)

e = error term

RESULTS AND DISCUSSION

The structure of rice farming in Sabbang Paru Village includes production structure, production costs (fixed and variable costs), and income earned by rice farmers during one growing season. The average yield produced by respondent farmers is 4.80 tons per ha or MT, with farmers incurring an average cost of IDR 6,717,545.209 per ha or MT. The price of grain received by farmers averages IDR 4,500 per kilogram. Table 1 shows farmers' income and the feasibility of paddy rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency.

Table 1. Average Income Received by Respondent Farmers and R/C Ratio Value of Lowland Rice Farming in Sabbang Paru Village, Lembang District, Pinrang Regency.

Number	Description	Amount
1.	Benefit	Rp 21.610.465
2.	Farming costs	Rp 6.717.545
3.	Income	Rp 14. 876.627
4.	R/C ratio	2,2

Source: Processed Primary Data, 2021

Table 1 shows that the R/C ratio of paddy rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency is 2.2. The results show that farming is feasible because the R/C ratio is greater than 1. The R/C ratio value also indicates that for every IDR 1 total cost incurred by the farmer, an income of IDR 2.2 is generated. This study's results align with research conducted by [4], which shows that Ciherang rice farming is feasible because the R/C ratio value is greater than 1, which is 3.27. The average income farmers earn IDR 14,876,627/Ha/MT, which shows that the income earned by farmers is quite large. According to [5] research, the high production obtained by farmers from their farming business due to the area of land cultivated did not guarantee that farmers would receive a high income because it depended on production prices or selling prices received by farmers, as well as other costs that are issued.

Based on the results of the calculation of the feasibility analysis of farming, which shows that lowland rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency is feasible, then the next step is to analyze the components that affect the income of lowland rice farming using multiple linear regression analysis. The results of the analysis are shown in Table 2.

Based on the results of multiple linear regression analysis in Table 2, the following equation can be made:

$$Y = -594169,21 + 3761432,81X_1 + 1106963,30X_2 - 0,566 X_3 + e$$

Based on the multiple linear regression equation, it can be explained that the constant value is -594169.21, which means that if production, land area, and production costs are zero (0), then the income of paddy rice farmers in Sabbang Paru Village, Lembang District, Pinrang Regency is -IDR 594169.21. The regression coefficient of the production variable is 3761432.81, which means that if production increases by one unit, the income of lowland rice farmers will increase by IDR 3761432.81. This result implies that the income of paddy rice farming can still be increased through increased productivity per hectare. The regression coefficient of the variable land area is 1106963.30, which means that if the land area increases by one unit, the farmer's income increases by IDR 1106963.30. On the other hand, the variable coefficient of production costs is -0.566, which indicates that if farming costs increase by one unit, the income of paddy rice farming will decrease by IDR 0.566.

Table 2. Results of Multiple Linear Regression Analysis of Lowland Rice Farming Income in Sabbang Paru Village, Lembang District, Enrekang Regency

Number	Variable	Coefficient	Std Error	Sig
1	Constants	-594169,203	192137,253	,004
2.	Production	3761432,806	145932,043	,000***
3.	Land area	1106963,304	480669,341	,027**
4.	Farming cost	-,566	,069	,000***
	R-Square	,998	*** = significant on $\alpha = 0,01$	
	F-sig	0,000	** = significant on $\alpha = 0,05$	

Table 2 shows that the production variable significantly affects the income of lowland rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency at = 0.01. "Production" is the final result obtained from the production process. This result can be explained by agricultural production. Rice production is obtained from a combination of production factors such as land, labor, capital, and management. The size of the production greatly affects the income of the farming business. The research results by [6] show that production variables significantly affect potato farmers' income in Bener Meriah District, Aceh Province. The variable land area significantly affects the income from paddy rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency. The land is where the production process takes place. Therefore, the size of the land is very influential on the production and income of farming. This study's results align with research conducted by [7] that land area significantly affects the production and income of lowland rice farming using the SRI method in Sindue District, Donggala Regency. The same results were found in research conducted by [8] that land area significantly affects rice farmers' income in Godong District, Grobogan Regency, and also in line with the opinions of [9] that it is not education that has an effect on income.

The production cost variable significantly affects the income from paddy rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency. Production costs incurred by lowland rice farmers in Suppa Village, Lembang District, and Pinrang Regency are fixed and variable. This study's results align with research conducted by showing that labor costs and other costs significantly affect the income of upland rice farming in Lenggang Melapeh Village, Linggang Bigung District, West Kutai Regency. However, it is different from the results of research conducted by [10], which found that the cost of pesticides does not significantly affect the income of lowland rice farming in TongMarimbun Village, Siantar Marimbun District, Pematang Siantar Regency. In Table 2, it can also be explained that the value of the coefficient of determination (R^2) is 0.998, which means that changes in the farming income variable (Y) are determined by changes in the production variable (X_1), land area (X_2), and farming costs (X_3) of 99.8%, and other variables outside the model determine the remaining 0.2%. Taken together, the variables of production, land area, and farming costs significantly affect the income of lowland rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results and discussion in the previous section, it can be concluded that paddy rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency is feasible, simultaneously the production variables, land area and farming costs have a significant effect on the income of paddy rice farming in Sabbang Paru Village. Lembang District, Pinrang Regency, partially the variables of production, land area and farming costs significantly affect the income of lowland rice farming in Sabbang Paru Village, Lembang District, Pinrang Regency. Therefore, the government's role is needed in helping farmers to increase the production and productivity of lowland rice farming in the form of counseling and assistance with production facilities

Conflict of interests

The authors have not declared any conflict of interest.

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