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ANALYSIS OF INCOME AND FEASIBILITY OF PEPPER FARMING IN PATTONGKO VILLAGE, CENTRAL SINJAI DISTRICT

Makmur[1*]. Alfira[2], Muhammad Amar[3], Sitti Fatimah[4], Akriandi Amin[5], Fajaruddin[6]
[1,2]Faculty of Agriculture, Muhammadiyah University of Sinjai
[3,4]Faculty of Social and Humanities, Muhammadiyah University of Sinjai
[5,6]Faculty of Engineering, Muhammadiyah University of Sinjai

***Corresponding email:** makmur.onti@gmail.com

ABSTRACT

This study aims to analyze the income and feasibility of pepper (Piper nigrum L.) farming in Pattongko Village, Sinjai Tengah District, Sinjai Regency. This study uses a quantitative method with a survey approach. The study population is all 31 pepper farmers in Pattongko Village and all of them are sampled using a saturated sampling technique. The research data consists of primary and secondary data. Primary data was obtained through direct observation, interviews, questionnaires, and documentation from pepper farmers. Meanwhile, secondary data was obtained from the Central Statistics Agency (BPS), the Sinjai Regency Agriculture Service, and various relevant literature sources. Data analysis was carried out using production cost analysis, revenue, income, and farm feasibility analysis using the Revenue Cost Ratio (R/C Ratio) approach. The results of the study indicate that the average production cost of pepper farming consists of fixed costs and variable costs. Variable costs are the largest cost component, including the costs of fertilizer, pesticides, and labor. Meanwhile, farmer income is obtained from pepper production which is sold based on the prevailing market price. This income is influenced by the relatively high selling price of pepper at the farmer level. The feasibility of the farming business based on the R/C Ratio shows a value of 7.50, indicating that pepper farming is feasible. The B/C ratio is 6.50, with a break-even price of Rp 15,584/kg and a production break-even point of 11 kg. A sensitivity analysis shows that pepper farming in Pattongko Village is highly resilient to changing conditions, both in terms of decreasing selling prices and increasing production costs.

Keywords: Pepper Farming, Income, Business Feasibility

INTRODUCTION

The agricultural sector is a strategic sector that plays a vital role in national and regional economic development. In Indonesia, the agricultural sector not only serves as a food supplier but also as a source of income, employment, and a pillar of the rural economy. One agricultural subsector that makes a significant contribution is the plantation subsector. This subsector has high economic potential because it produces various export commodities with economic value, one of which is pepper (Piper nigrum L.). (Anggraini, 2025) Pepper is a spice commodity that has long been an important part of world trade. Indonesia is known as one of the world's largest pepper producers, with major producing regions spread across several provinces. Pepper offers numerous benefits, including as a raw material for the food, beverage, pharmaceutical, and cosmetic industries, as well as for export. The high market demand for pepper makes this commodity offer quite promising economic prospects for farmers. (Pratama et al., 2022).

South Sulawesi Province is one of the regions with potential for pepper commodity development. Sinjai Regency is one of the regions contributing to pepper production in South Sulawesi. Production data shows that pepper remains one of the leading plantation commodities for the community. However, pepper production fluctuates from year to year due to various factors, such as weather conditions, pest and disease attacks, and changes in market prices. (ANGGRYANI, 2022) Pattongko Village, Central Sinjai District, is a village where the majority of residents depend on agriculture, particularly pepper farming. Pepper crops are a primary source of income for the community because they have a relatively

high selling value compared to other plantation commodities. However, in practice, pepper farmers in Pattongko Village still face various obstacles that affect their income levels and the sustainability of their farming operations.

One of the main challenges faced by farmers is high production costs, particularly fertilizer, pesticides, and labor. Continuous use of chemical fertilizers without a balance between organic fertilizers and organic fertilizers further increases production costs. Furthermore, limited capital and limited access to modern agricultural technology contribute to suboptimal pepper productivity. Most farmers also fail to regularly record their farming costs, making it difficult to determine their net profit from farming activities.

On the other hand, fluctuations in pepper prices in the market also influence farmers' income levels. When pepper prices decline, farmers' income decreases even if production remains high. Conversely, when pepper prices rise, farmers' income tends to increase. (Mauliddah & Rosmaniar, 2021) Therefore, analyzing the income and feasibility of a farming business is crucial to determine whether the pepper farming business is still providing a reasonable profit for farmers.

Farming income is the difference between total revenue and total production costs incurred during the cultivation process. Meanwhile, farming feasibility can be analyzed using the Revenue Cost Ratio (R/C Ratio) approach, which compares total revenue to total production costs. If the R/C Ratio is greater than one, the farming business is considered feasible because it provides economic benefits to farmers.

Research on the income analysis and feasibility of pepper farming is important because it can provide clear information on the economic conditions of pepper farmers in Pattongko Village. Furthermore, the results are expected to serve as a reference for local governments, agricultural extension workers, and farmers in improving the efficiency of pepper farming management and formulating strategies for more sustainable pepper commodity development.

Based on this background, this study aims to determine the level of income from pepper farming and analyze the feasibility of pepper farming in Pattongko Village, Sinjai Tengah District, Sinjai Regency.

MATERIALS AND METHODS

This research was conducted in Pattongko Village, Central Sinjai District, Sinjai Regency, South Sulawesi Province. The research location was selected purposively, considering that Pattongko Village is an area where the community actively cultivates pepper as its primary source of income. The research was conducted from February to April 2026.

The type of research used was quantitative research with a survey approach. Quantitative research was used because this study aimed to calculate and analyze production costs, revenues, income, and the feasibility of pepper farming numerically and systematically.

The population in this study was all 31 pepper farmers in Pattongko Village. Given the relatively small population, the entire population was sampled using a saturated or census sampling technique. Thus, the total number of respondents in this study was 31 pepper farmers.

The data used in this study consisted of primary and secondary data. Primary data was obtained directly from respondents through observation, interviews, questionnaires, and documentation. Observations were conducted to directly observe the conditions of pepper farming in the field. Interviews were conducted using a structured questionnaire related to production costs, production volume, selling prices, and farmer income. Questionnaires were used to obtain quantitative data needed for the research analysis. Documentation was used to obtain supporting data regarding the conditions of the research area and the development of pepper farming. Secondary data was obtained from various relevant agencies, such as the Central Statistics Agency (BPS), the Sinjai Regency Agriculture Service, village offices, and scientific literature relevant to the research. Secondary data was used to support and complement the primary data obtained in the field. (Akmal Arrohman Firdaus [1], Listiyani [2], 2022)

The data analysis techniques used in this study include production cost analysis, revenue analysis, income analysis, and farm feasibility analysis.

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1. Production Cost Analysis
   Production costs are calculated by adding up the fixed costs and variable costs incurred by farmers during one planting season.
   $$TC = FC + VC$$
2. Income Analysis
   Farming income is obtained from the result of multiplying the production quantity by the selling price of pepper.
   $$TR = Q \times P$$
3. Revenue Analysis
   Revenue is calculated from the difference between total revenue and total production costs.
   $$\pi = TR - TC$$
4. Farming Business Feasibility Analysis
   Farming business feasibility is analyzed using the Revenue Cost Ratio (R/C Ratio).
   $$R/C = \frac{TR}{TC}$$
   Assessment criteria:
   R/C > 1 : Farming is feasible to run
   R/C = 1 : The farm is at break-even point
   R/C < 1 : Farming is not feasible to run

RESULTS AND DISCUSSION

Pattongko Village is one of the villages in Sinjai Tengah District that has great potential in developing pepper commodities. Most of the village community works in the agricultural and plantation sectors. Pattongko Village has a plantation area of approximately 13.85 km² consisting of five hamlets, namely Karoppa Hamlet, Sompong Hamlet, Manubbu Hamlet, Tangkulu Hamlet, as well as several Community Units (Rukun Warga) and Neighborhood Units (Rukun Tetangga). Topographically, this area is located in a hilly area with an altitude of approximately 500–600 meters above sea level and has an average rainfall of 2,000–3,000 mm per year. 8The demographic conditions of Pattongko Village show a population of 3,721 people consisting of 1,812 men and 1,909 women. The majority of the community works in the agricultural sector, especially as farmers, which reaches 1,651 people. This condition indicates that the agricultural sector remains the main source of livelihood for the village community. The geographical conditions of the village are also in a hilly area with sufficient rainfall to support the growth of pepper plants.

Respondent characteristics including age, education level, number of dependents, and length of farming experience obtained analysis results that the majority of pepper farmers are in the productive age range of 46–60 years, amounting to 16 people or 25.81%. Meanwhile, only 1 farmer aged over 60 years old or 1.61% is found. This condition indicates that pepper farming activities are still dominated by the productive age group who have sufficient experience and work skills in managing agricultural businesses. In terms of education, the majority of respondents have an elementary school education (SD), namely 15 people or 48.39%. Meanwhile, only 1 respondent or 3.23% has a bachelor's degree (S1). The low level of formal education of farmers can affect their ability to adopt modern agricultural technology and more efficient farming management. The number of dependents of respondents' families is dominated by farmers with three dependents, namely 13 people or 41.94%. The large number of dependents is one of the factors that influences the economic needs of farmer households, thus encouraging farmers to increase pepper farming production.

Based on the length of time they have been farming, the majority of respondents (19 respondents, or 30.65%) have been farming pepper for 11–20 years. This indicates that farmers have considerable experience in pepper cultivation, which can influence their skills in the production process.

Production costs are all costs incurred by farmers in the pepper farming process during one production season. Production costs consist of fixed costs and variable costs. Based on the research results, variable costs in pepper farming include labor costs of Rp570,968 and other costs such as fertilizer and pesticides of Rp649,839. Thus, the total variable costs incurred by farmers are Rp1,220,806. Meanwhile, fixed costs consist of land tax costs of Rp29,000 and equipment depreciation

costs of Rp105,837, so the total fixed costs reach Rp135,030. The calculation of total production costs is done using the formula: TC=FC+VC

Based on the calculation results, the total production costs for pepper farming in Pattongko Village are:

$$TC=135,030+1,220,806=1,355,836$$

Thus, the average total production cost incurred by pepper farmers in Pattongko Village is Rp1,355,837 per year. Relatively low production costs are one factor supporting the high profitability of pepper farmers in the study area. Based on the analysis, the net income of pepper farmers is Rp9,275,454 per year. This high income indicates that pepper farming in Pattongko Village has good economic prospects for development. In addition to being influenced by the high selling price of pepper, low production costs also contribute to the high income of farmers.

Acceptance Analysis

Farm income is obtained by multiplying the amount of pepper produced by the prevailing selling price at the farm level. Based on research, the average pepper production per farmer is 87 kg, with a selling price of Rp120,484 per kilogram. So the income from pepper farming can be calculated as follows: TR=87\times120.484=10.631.290

The analysis shows that the average annual income of pepper farmers in Pattongko Village is Rp10,631,290. This high income is influenced by the relatively high selling price of pepper and relatively good production results.

Revenue Analysis

Farming income is calculated by dividing the total revenue by the total production costs incurred by farmers during pepper cultivation. Based on the research, total pepper farming income was Rp10,631,290, while total production costs were Rp1,355,837. Income is calculated using the

$$\pi=10,631,290-1,355,837=9,275,453$$

The analysis shows that the average net income for pepper farmers in Pattongko Village is Rp9,275,454 per year. This income indicates that pepper farming can generate significant profits for farmers. This high income is influenced by low production costs compared to the amount of revenue received by farmers.

Farming Business Feasibility Analysis

The feasibility of pepper farming was analyzed using the Revenue Cost Ratio (R/C Ratio), which is the ratio of total revenue to total production costs. Based on the research results, total revenue from pepper farming was Rp10,631,290, while total production costs were Rp1,355,837. R/C=\frac{10,631,290}{1,355,837}=7.50

The analysis results show that the R/C ratio for pepper farming in Pattongko Village is 7.50. This value indicates that every Rp1 spent will generate Rp7.50 in revenue. Based on assessment criteria:

R/C > 1 : Farming is feasible to run
R/C = 1 : The farm is at break-even point
R/C < 1 : Farming is not feasible to run

Therefore, the R/C ratio of 7.50 indicates that pepper farming in Pattongko Village is highly feasible and profitable. The high R/C ratio reflects the efficient use of production costs and the high income earned by pepper farmers.

CONCLUSIONS

Based on the research results, it can be concluded that pepper farming in Pattongko Village, Central Sinjai District, provides a fairly good income for farmers. Income is obtained from the difference between total revenue and total production costs incurred during one planting season. The average production costs of pepper farming consist of fixed costs and variable costs. Variable costs are the largest cost component, including the costs of fertilizers, pesticides, and labor. Meanwhile, farmers' income is obtained from pepper production sold at the prevailing market price. This income is influenced by the relatively high selling price of pepper at the farmer level. The feasibility of farming based on the R/C Ratio shows a value of 7.50, indicating that pepper farming is feasible to run. The B/C ratio is 6.50, and the BEP price is Rp 15,584/kg, and the BEP production is 11 kg. Sensitivity analysis

shows that pepper farming in Pattongko Village has good resilience to changing conditions, both in terms of decreasing selling prices and increasing production costs. Therefore, it is necessary to increase the efficiency of the use of production facilities, implement better cultivation technologies, and get government support in the form of agricultural extension and assistance to increase the productivity and welfare of pepper farmers.

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