

ANALYSIS OF LAND SPINACH FARMING INCOME IN PERBAUNGAN DISTRICT, SERDANG BEDAGAI REGENCY

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Abstract

This study aims to analyze the production costs, revenues, and income of land spinach farming in Perbaungan District, Serdang Bedagai Regency. This study uses a survey method with a quantitative descriptive approach. The data used consist of primary data obtained through direct interviews with farmers using questionnaires, as well as secondary data from related agencies. The sampling technique was carried out systematically on land spinach farmers at the research location. Data analysis was carried out using cost, revenue, and farm income analysis. The results showed that the total production costs of land spinach farming were Rp 7,300,750, with an average of Rp 197,318 per farmer. The total revenue obtained was Rp 27,950,000, with an average of Rp 755,405 per farmer per harvest. The net income obtained by farmers was Rp 20,649,250, with an average of Rp 558,087 per farmer. Based on research results, land kale farming in Perbaungan District is considered profitable and feasible to develop, as the revenue generated exceeds production costs. Therefore, increased efficiency in the use of production factors and government support in maintaining price stability are needed to improve farmer welfare.

Keywords: land spinach production costs, revenue, income, Serdang Bedagai

INTRODUCTION

Indonesia is an agricultural country with significant potential for agricultural development, particularly in the horticulture subsector. The horticulture sector plays a crucial role in meeting the population's food needs, increasing farmers' incomes, and providing employment in rural areas. Furthermore, horticultural commodities have a relatively short production cycle, enabling quick returns for farmers (Mardikanto, 2007). One of the horticultural commodities widely cultivated in Indonesia is water spinach (*Ipomoea reptans*). This plant belongs to the leafy vegetable group and has high economic value and is widely consumed due to its high nutritional content and relatively affordable price. Water spinach also offers advantages in terms of ease of cultivation, a short harvest period, and broad adaptability to various environmental conditions (Rukmana, 1994). Demand for water spinach tends to be stable and even increasing in line with population growth and public awareness of the importance of vegetable consumption. This makes water spinach a potential commodity to be developed to increase farmers' incomes. However, in practice, farmers still face various obstacles, such as price fluctuations, limited capital, and suboptimal management of production factors (Soekartawi, 2006).

Perbaungan District, located in Serdang Bedagai Regency, is one of the areas with significant potential for horticultural crop development, including water spinach. This region boasts agro-climatic conditions suitable for vegetable cultivation and is supported by ample agricultural land. Furthermore, proximity to markets is a key factor in marketing farmers' produce. Despite this, land kale farming in Perbaungan District still faces various challenges, such as unstable selling prices, high production costs, and low input efficiency. These conditions can impact farmers' income levels. Therefore, an analysis is needed to determine the income earned by farmers from land kale farming and the feasibility of the business (Gani, 2014). Farm income is the difference between total revenue and total production costs incurred during the production process. Income is a key indicator in assessing the success of a farm. The greater the income, the higher the success rate of the business (Soekartawi, 2006). Based on this description, research on the income analysis of land spinach farming in Perbaungan District, Serdang Bedagai Regency, is

essential. This study aims to analyze production costs, revenues, and income earned by farmers, thereby providing an overview of the profitability and feasibility of land spinach farming in the area.

RESEARCH METHODS

Location and Time of Research

This research was conducted in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province . The location was selected purposively, considering that the area has potential for horticultural crop development, particularly water spinach. The research period was carried out for approximately two months, namely in the period of April 2025 , which included data collection activities, data processing, and preparation of research reports.

Data Types and Sources

This research uses a survey method with a quantitative descriptive approach. The data used consists of primary and secondary data.

1. Primary data was obtained directly from land spinach farmers through interviews using a questionnaire developed to meet the research objectives. The data collected included production costs, production volume, selling price, and farmer characteristics.
2. Secondary data was obtained from relevant agencies such as the Central Statistics Agency (BPS), village offices, as well as relevant literature such as books and journals that support the research.
3. Population and Sample
4. The population in this study was all land spinach farmers in Perbaungan District, Serdang Bedagai Regency.
5. Sampling is done using systematic sampling techniques , which involves taking samples based on a specific sequence from the population list. Each member of the population is assigned a sequential number and then selected at specific intervals until the desired number of respondents is obtained.

The number of samples in this study was set at 30 , which was considered to represent the condition of land spinach farming in the research area.

Data collection technique

Data collection in this study was carried out using several techniques, namely:

1. Observation , namely direct observation of land spinach farming activities at the research location.
2. Interviews , namely collecting data through direct questions and answers with respondents using questionnaires.
3. Documentation , namely collecting data from documents or reports related to the research.

Data Analysis Techniques

Data analysis was conducted to determine production costs, revenue, and income from land spinach farming. The data obtained were analyzed descriptively and presented in tabular form.

1 Cost Analysis

Cost analysis is used to calculate the total production costs incurred in land kale farming. Total costs are the sum of fixed costs and variable costs, using the formula:

$$TC = FC + VC$$

Information:

- TC = Total Cost
- FC = Fixed Cost
- VC = Variable Cost

2 Acceptance Analysis

Farm business income is calculated based on the production results obtained multiplied by the selling price, using the formula:

$$TR = P \times Q$$

Information:

- TR = Total Revenue
- P = Selling price
- Q = Quantity of production

3 Income Analysis

Farm business income is the difference between total revenue and total production costs, with the formula:

$$I = TR - TC$$

Information:

- I = Income
- TR = Total Revenue
- TC = Total Cost

RESULTS AND DISCUSSION

Cost Structure of Land Spinach Farming

1 Fixed Cost

Fixed costs are costs that remain constant despite differences in production levels. In the land kale farming business in Perbaungan District, fixed costs consist of land taxes and equipment depreciation.

Table 1. Fixed Costs of Land Water Spinach Farming in Perbaungan District, Serdang Bedagai Regency

| Fixed Costs | Total Cost (Rp) | Average (Rp) | Percentage (%) |
|------------------------|-----------------|--------------|----------------|
| Tax | 0 | 0 | 0 |
| Equipment Depreciation | 228,750 | 6,182 | 100 |
| Amount | 228,750 | 6,182 | 100 |

Source: Processed data, 2024

Based on Table 1, it can be seen that fixed costs in land kale farming only come from equipment depreciation, while farmers do not incur taxes. This is because the land used is a home yard, both the front and back, so it is not subject to special taxes for farming activities. Total fixed costs incurred were Rp 228,750 , with an average of Rp 6,182 per farmer . Thus, equipment depreciation was the only component that dominated fixed costs.

2 Variable Costs

Variable costs are costs that change depending on the scale of production. In land kale farming, variable costs include seeds, fertilizer, medicines, outside family labor, and post-harvest costs.

Table 2. Variable Costs of Land Spinach Farming in Perbaungan District, Serdang Bedagai Regency

| Variable Costs | Total Cost (Rp) | Average (Rp) | Percentage (%) |
|----------------|------------------|----------------|----------------|
| Seed | 1,735,000 | 46,892 | 24.7 |
| Fertilizer | 3,510,000 | 94,865 | 49.6 |
| Drugs | 1,087,000 | 29,378 | 15.3 |
| TKLK | 0 | 0 | 0 |
| Post-Harvest | 740,000 | 20,000 | 10.4 |
| Amount | 7,072,000 | 191,135 | 100 |

Source: Processed data, 2024

Table 2 shows that the largest variable costs come from the use of fertilizer with a percentage of 49.6% , followed by seed costs of 24.7% , medicines of 15.3% , and post-harvest costs of 10.4% . In this study, farmers did not use outside family labor, so there were no outside family labor costs (TKLK). This indicates that farming activities still rely on family labor.

3 Total Cost

Total costs are the sum of fixed costs and variable costs incurred during the production process.

Table 3. Total Costs of Land Water Spinach Farming in Perbaungan District, Serdang Bedagai Regency

| Description | Total Cost (Rp) | Average (Rp) | Percentage (%) |
|----------------|------------------|----------------|----------------|
| Fixed Costs | 228,750 | 6,182 | 2.9 |
| Variable Costs | 7,072,000 | 191,135 | 97.1 |
| Amount | 7,300,750 | 197,318 | 100 |

Source: Processed data, 2024

Table 3 shows that variable costs dominate the cost structure of land kale farming, contributing 97.1% , while fixed costs only account for 2.9% . This indicates that kale production activities are heavily influenced by the use of production inputs.

Land Water Spinach Farming Income

Farm business income is the result obtained from the sale of land spinach production, which is calculated based on the amount of production multiplied by the selling price.

Table 4. Income from Land Water Spinach Farming in Perbaungan District, Bedagai Regency

| No | Description | Total | Average/Farmer (Rp) |
|------------------|--------------------|-------------------|---------------------|
| 1 | Production (bales) | 559 | 15 |
| 2 | Price (Rp) | 50,000 | 50,000 |
| Reception | | 27,950,000 | 755,405 |

Source: Processed data, 2024

Based on Table 4, the total income obtained by farmers was Rp 27,950,000 , with an average income of Rp 755,405 per farmer per harvest . The average production per farmer was 15 bales , with a total production of 559 bales . The selling price per bale was Rp 50,000 , where one bale consisted of approximately 50 bunches of land kale.

Land Water Spinach Farming Income

Farm income is the difference between total revenue and total production costs incurred by farmers.

Table 5. Income from Land Water Spinach Farming in Perbaungan District, Serdang Bedagai Regency

| No | Description | Total (Rp) | Average/Farmer (Rp) |
|---------------|-------------|-------------------|---------------------|
| 1 | Reception | 27,950,000 | 755,405 |
| 2 | Total cost | 7,300,750 | 197,318 |
| Income | | 20,649,250 | 558,087 |

Source: Processed data, 2024

Based on Table 5, the total income was Rp 20,649,250 , with an average income of Rp 558,087 per farmer . This income is the result of subtracting total revenue from total production costs.

These results indicate that land spinach farming in Perbaungan District provides benefits for farmers, so it is worthy of being developed as a potential horticultural business in the area.

CONCLUSION

Based on the results of research on the analysis of land spinach farming income in Perbaungan District, Serdang Bedagai Regency, the following conclusions can be drawn:

1. The cost structure of land kale farming consists of fixed and variable costs. Total production costs are Rp 7,300,750, with an average of Rp 197,318 per farmer. Variable costs are the largest cost component, accounting for 97.1%, while fixed costs only account for 2.9%.
2. The total income earned by farmers was IDR 27,950,000, with an average of IDR 755,405 per farmer per harvest, which was obtained from a production of 559 bales with a selling price of IDR 50,000 per bale.
3. Farmers' net income was Rp 20,649,250, with an average of Rp 558,087 per farmer. This income represents the difference between total revenue and total production costs.
4. Based on these results, the land spinach farming business in Perbaungan District is considered profitable and worth developing, because the income value is greater than the costs incurred.

SUGGESTION

Based on the results of the research that has been conducted, the following suggestions can be given:

1. **For Farmers** : Farmers are expected to increase the efficiency of their use of production inputs, particularly fertilizers and pesticides, to reduce production costs without reducing yields. Furthermore, the use of simple cultivation technologies can also help increase productivity.
2. **For Regional Governments** : Regional governments are expected to provide support in the form of counseling, training, and production facility assistance to land kale farmers. Furthermore, efforts are needed to maintain market price stability to ensure farmers' incomes are more secure.
3. **For Further Researchers** : Further research is recommended to examine in more depth the factors that influence the production and income of land spinach farming, such as land area, input use, and market access, using more complex analysis methods.

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