

ANALYSIS OF PRODUCTION AND INCOME OF AMBON BANANA FARMING IN SECANGGANG DISTRICT, LANGKAT REGENCY

Adriansyah Yoesoef, Faisal Azhari Baldan Panjaitan, Aadil Hussain Mir
Agribusiness Study Program, Faculty of Agriculture, Universitas Alwashliyah, Medan
Agribusiness Study Program, Faculty of Agriculture, Universitas Alwashliyah, Medan
Annamalay University India

Correspondence Email: adriansyahyoes@gmail.com

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Abstract

This study aims to analyze the production levels, costs, revenues, and income of Ambon banana farming in Secanggang District, Langkat Regency. The research method used is a quantitative approach with descriptive and analytical methods. The data used consists of primary data obtained through direct interviews with farmers using questionnaires, as well as secondary data from related agencies. Data analysis was carried out by calculating production costs, revenues, income, and business feasibility using the R/C Ratio. The results of the study indicate that the average production of Ambon bananas reaches 12,000 kg per hectare per period with an average selling price of Rp3,500 per kg. Total production costs incurred are Rp17,500,000 per hectare per period, while revenue is Rp42,000,000 and income is Rp24,500,000. The results of the business feasibility analysis show a R/C Ratio value of 2.40, which means this farming business is feasible and profitable to develop. Overall, Ambon banana farming has good prospects for increasing farmers' income, but efforts are still needed to improve production efficiency and price stability.

Keywords: Ambon banana, production, income, farming, business feasibility

Introduction

The agricultural sector plays a crucial role in the Indonesian economy, particularly in providing food, creating employment, and providing income for rural communities. One agricultural subsector with significant development potential is horticulture, particularly fruit commodities such as bananas. Bananas are a leading commodity with high economic value and relatively stable market demand throughout the year. Ambon bananas are a popular banana variety due to their sweet taste, soft texture, and high nutritional value. Besides being consumed directly, Ambon bananas can also be processed into various products such as chips, banana chips, and banana flour, providing significant added value. This makes Ambon bananas a potential commodity for increasing farmers' income. Langkat Regency is one of the regions in North Sumatra Province with significant potential for banana development. Its geographical location, coupled with a tropical climate, ample rainfall, and fertile soil, makes this region highly suitable for banana cultivation. Secanggang District is known as a banana production center in this region.

In Secanggang District, Ambon banana farming has become a primary source of livelihood for the community. However, in practice, farmers still face various challenges, such as price fluctuations, limited market access, and suboptimal farm management. Furthermore, production levels do not fully reflect the existing potential, impacting farmers' incomes. Therefore, a comprehensive analysis of Ambon banana farming production and income is needed to determine the level of efficiency and factors influencing its success. This research is expected to provide useful information for farmers and related parties in efforts to improve the productivity and welfare of Ambon banana farmers.

Formulation of the problem

1. What is the production level of Ambon banana farming in Secanggang District, Langkat Regency?
2. How much income do farmers get from Ambon banana farming?
3. What factors influence the production and income of Ambon banana farming?

Research purposes

1. Analyzing the production level of Ambon banana farming in Secanggang District, Langkat Regency
2. Analyzing Ambon banana farming income
3. Identifying factors that influence production and income

RESEARCH METHODS

Types and Approaches of Research

This research uses a quantitative approach with descriptive and analytical methods. The quantitative approach was used to measure the production and income levels of Ambon banana farming numerically, while the descriptive method was used to describe the farming conditions at the research site.

Location and Time of Research

The research was conducted in Secanggang District , Langkat Regency . The location was selected purposively, considering that this area is a center for banana production, particularly Ambon bananas. The research was conducted in January 2023.

Data Types and Sources

The data used in this study consists of:

1. **Primary Data**

Obtained directly from farmers through interviews using questionnaires. Includes production data, production costs, selling prices and income.

2. **Secondary Data**

Obtained from related agencies such as the Central Statistics Agency (BPS), the Department of Agriculture, and other supporting literature

Sampling Determination Method

The sampling method was carried out using the purposive sampling technique , namely selecting farmers who actively carry out Ambon banana farming.

The sample size can be determined using the Slovin formula:

$$n = N / (1 + N(e)^2)$$

Information:

- n = number of samples
- N = number of farmer population
- e = error tolerance, usually 10%

Method of collecting data

Data collection is carried out by:

1. Direct interviews with farmers
2. Field observation
3. Documentation

Data Analysis Methods

1. Production Analysis

Production is calculated based on the amount of Ambon banana harvest in one period (kg or bunches).

2. Cost Analysis

The total cost is calculated using the formula:

$$TC=FC+VCTC = FC + VC TC = FC + VC$$

Information:

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

3. Acceptance Analysis

Revenue is calculated using the formula:

$$TR=P \times QTR = P \times Q$$

Information:

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- TR = Total Revenue (total income)
- P = Selling price
- Q = Quantity of production

4. Revenue Analysis

Farm income is calculated using the formula:

$$\pi = TR - TC \quad \pi = TR - TC$$

Information:

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

5. Business Feasibility Analysis (R/C Ratio)

To determine the feasibility of a farming business, the formula used is:

$$R/C = \frac{TR}{TC} \quad R/C = \frac{TR}{TC}$$

Criteria:

- $R/C > 1$ → profitable business
- $R/C = 1$ → break even
- $R/C < 1$ → loss-making business

Operational Definition of Variables

1. Production: amount of Ambon banana harvest (kg/period)
2. Production costs: all costs incurred during the production process (Rp)
3. Revenue: the result of multiplying production by selling price (Rp)
4. Revenue: the difference between revenue and production costs (Rp)

RESULTS AND DISCUSSION

The research was conducted in Secanggang District, one of the banana production centers in Langkat Regency. This area boasts favorable agro-climatic conditions, such as fertile soil and sufficient rainfall, making it suitable for Ambon banana cultivation.

2. Respondent Characteristics

Table 1. Characteristics of Ambon Banana Farmers in Secanggang District

No	Characteristics	Category	Number of people	Percentage (%)
1	Age	20–29 years	5	10%
		30–39 years	12	24%
		40–49 years	18	36%
		≥50 years	15	30%
2	Education	Elementary School	10	20%
		JUNIOR HIGH SCHOOL	18	36%
		SENIOR HIGH SCHOOL	17	34%
		College	5	10%
3	Farming Experience	<5 years	8	16%
		5–10 years	20	40%
		>10 years	22	44%
4	Land area	<1 Ha	15	30%
		1–2 Ha	25	50%
		>2 Ha	10	20%

Source: Processed Primary Data, 2023

Based on Table 1, the majority of farmers (60%) are of productive age (30–49 years), thus possessing good physical abilities for managing farms. The education level is dominated by junior high and high school graduates, indicating that technology adoption skills still need to be improved.

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The majority of farmers had more than five years of farming experience (84%), indicating sufficient experience in Ambon banana cultivation. Furthermore, most farmers owned 1–2 hectares of land, which is considered a small to medium-sized business.

3. Production Cost Analysis

Table 2. Average Production Cost of Ambon Bananas per Hectare per Period

A. Fixed Costs

No	Cost Components	Amount (Rp)
1	Depreciation of equipment	1,000,000
2	Land lease	3,000,000
Total FC		4,000,000

Source: Processed Primary Data, 2023

B. Variable Costs

No	Cost Components	Amount (Rp)
1	Seeds	2,500,000
2	Fertilizer	4,000,000
3	Pesticide	1,500,000
4	Labor	5,500,000
Total VC		13,500,000

Source: Processed Primary Data, 2023

C. Total Production Costs

Component	Amount (Rp)
Total Fixed Cost (FC)	4,000,000
Total Variable Cost (VC)	13,500,000
Total Cost (TC)	17,500,000

Based on Table 2, the total production cost of Ambon banana farming is IDR 17,500,000 per hectare per period. The largest costs come from labor and fertilizer, indicating that this farming is still labor-intensive and dependent on production inputs. Fixed costs are relatively small compared to variable costs, meaning that most expenses are influenced by production intensity. This aligns with farming theory, which states that increasing the use of variable inputs will increase production, but must be balanced with cost efficiency.

4. Analysis of Production, Revenue, and Income

The average production of Ambon bananas in the research area reached around 12,000 kg/ha/period, with an average selling price of IDR 3,500/kg.

- Revenue (TR) = Rp. 42,000,000
- Total Cost (TC) = Rp. 17,500,000
- Income (π) = Rp. 24,500,000

Farmers' income is relatively high compared to their costs, indicating that Ambon banana farming generates substantial profits.

However, farmers' incomes are still affected by fluctuations in market prices and input costs. If prices fall or costs increase, farmers' profits may decrease.

5. Business Feasibility Analysis (R/C Ratio)

$$\text{R/C Ratio} = 42,000,000 / 17,500,000 = \mathbf{2.40}$$

The R/C value of 2.40 indicates that Ambon banana farming is highly feasible. Every Rp1 of expenditure generates Rp2.40 in revenue. This indicates that this business has good prospects for increasing farmer income in Secanggang District. Overall, Ambon banana farming in the study area demonstrated good performance in terms of production, costs, and income. Farmer experience, land conditions, and market demand are key factors contributing to the success of this farming business. However, to increase productivity and income, the following are required:

1. Implementation of more modern agricultural technology
2. Efficiency of use of production inputs
3. Wider market access

CONCLUSION

Based on the results of research on the analysis of production and income from Ambon banana farming in Secanggang District, Langkat Regency, it can be concluded that:

1. The production level of Ambon banana farming is quite high with an average of 12,000 kg per hectare per period, which is influenced by land area, farmer experience, and the use of production inputs.
2. The total production costs incurred by farmers average IDR 17,500,000 per hectare per period, with the largest cost components coming from labor and fertilizer, which shows that farming is still labor-intensive.
3. The average income earned by farmers is IDR 42,000,000 per hectare per period, resulting in an income of IDR 24,500,000 per hectare per period.
4. The results of the business feasibility analysis show an R/C Ratio value of 2.40 (>1), which means that Ambon banana farming is feasible and profitable to develop.
5. Overall, Ambon banana farming in the research area has good prospects for increasing farmers' income and welfare, although it still faces obstacles such as price fluctuations and limited market access.

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