

INCOME ANALYSIS OF PATCHOULI OIL BUSINESS IN TAPAKTUAN SUB-DISTRICT, SOUTH ACEH DISTRICT

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Abstract : Indonesia, as an agricultural country, has an agricultural sector that is vital to the national and regional economy, including in the production of patchouli oil. Aceh is specifically known as a producer of high-quality patchouli oil with high patchouli alcohol content, making it highly sought after in the perfume, cosmetics, and aromatherapy industries. This study aims to analyze the income and feasibility of the patchouli oil distillation business in Tapaktuan District, South Aceh Regency. The method used is quantitative analysis with a census approach to all patchouli oil entrepreneurs in the area, totaling eight people. Primary data were collected through observation and interviews, then analyzed using the formula for revenue, total costs, income, and business feasibility ratio (R/C Ratio). The results showed that the average daily income of patchouli oil entrepreneurs was IDR 2,453,991.25, with an R/C Ratio value of 1.87. An R/C Ratio value greater than one indicates that the patchouli oil distillation business in Tapaktuan District is profitable and feasible to develop. This study recommends improving refining technology and local government support to improve the efficiency and welfare of local patchouli oil entrepreneurs.

Keywords: Patchouli Oil, Income, Business Feasibility, R/C Ratio, Tapaktuan

1. Introduction

Indonesia is an agricultural country with abundant natural resources that can improve the country's economy. As a result, our country cannot be separated from the agricultural sector, which is responsible for the survival of most of the Indonesian population. Even in the current era of globalization, the agricultural sector has shown strong strength to support the national economy, so it is expected to play an important role in overcoming the economic crisis. The agricultural sector plays a strategic role in both national and regional economic development. Indonesia, especially in its regions such as Aceh and North Sumatra, is known to produce high-quality patchouli oil that is highly demanded in the global market, making it one of the largest producers of patchouli oil in the world, along with countries such as China, Malaysia, and Brazil. While there are several other producers, Indonesia is often recognized as the leader in patchouli oil production, especially in terms of volume and quality.

Patchouli is one of the leading crops in Aceh, with many farmers and communities in the area depending on patchouli as their source of income. Aceh's climatic conditions are very favorable for patchouli plant growth, such as stable temperatures throughout the year, adequate rainfall, and sufficient amounts of sunlight. Aceh also has patchouli varieties that are famous for their unique quality and aroma. (Kautsarah, H., Juanda, J., & Martunis, 2023).

Aceh patchouli oil is widely recognized for its high patchouli alcohol content (Isnaini et al., 2022). This special quality is the main attraction that makes Aceh patchouli oil one of the best in the world. Patchouli alcohol is the chemical compound that gives patchouli oil its distinctive, warm and long-lasting aroma (Kadang et al., 2019). This is why Aceh patchouli oil is in high demand in the perfume, cosmetics, and aromatherapy industries, cementing Aceh's reputation as one of the best patchouli oil producers worldwide.

South Aceh is one of the districts in Aceh that has the largest patchouli oil production.

Patchouli (*Pogostemon cablin*, Benth) is a smallholder plantation commodity primarily destined for non-oil and gas exports both domestically and abroad, contributing significantly to the country's foreign exchange earnings. Patchouli oil, also known as "patchouli oil", is produced from the steam distillation of the leaves, twigs, and stems of the patchouli plant which are first dried in the sun. Because it is widely used as a raw material and mixture in the perfume, pharmaceutical, cosmetic, soap, food, and beverage industries, the patchouli plant deserves to be called a versatile shrub. So far, there is no natural or synthesized product that can serve as a binder or substitute for patchouli oil.

The patchouli oil production process in Tapaktuan District has several obstacles, such as still using simple technology so that it can affect income and the results achieved have not been in accordance with expectations. The income level of patchouli oil in the patchouli oil industry is obtained by means of revenue minus the total costs incurred in the patchouli oil production process, while the feasibility level of the patchouli oil industry is obtained by dividing total revenue by total costs. The problem faced by patchouli distillers in this area is that the price of patchouli oil that occurs often fluctuates, thus greatly affecting the volume of patchouli oil production.

Based on the description above, the author's desire to conduct research on "Analysis of Patchouli Oil Business Income in Tapaktuan District, South Aceh Regency"

2. Research Method

The research location was carried out in Tapaktuan District, South Aceh Regency. The determination of this research area was carried out purposively (purposive sampling). Research Methods.

The analysis model that will be used in this research is a quantitative analysis model that analyzes patchouli oil business income. The data obtained is tabulated in tabular form according to the needs of the analysis.

2.1 Population and Sample

The population in this study were all entrepreneurs who cultivate patchouli oil in Tapaktuan District, South Aceh Regency. The sample is part or representative of the population studied. The population taken in this study was 8 patchouli oil entrepreneurs. The sampling technique was carried out by the census method, where all members were sampled.

2.2 Data Analysis Methods and Models

a. Revenue

Revenue is the multiplication of production by the selling price.
Can be calculated by the formula:

$$TR = Q \times P$$

Description:

TR : Total Revenue

Q: Total Sales

P : Product Price

b. Total Cost

Total cost is the total amount of fixed and variable costs incurred by the company to produce a number of products in a certain period. The formula for calculating costs is as follows :

$$TC = TFC + TVC$$

Description:

TC : Total Cost

TFC : Total Fixed Cost

TVC : Total Variable Costs

Total costs are all costs incurred in the patchouli oil production process, such as fixed and variable costs. Fixed costs are the costs of the production process that are not used up in one patchouli oil production process, such as equipment depreciation. Variable costs are costs whose amounts change in proportion to changes in the volume of activities.

c. Revenue

Business income is the difference between the costs incurred and the money received.

To find out the net income, the following formula can be used :

$$\pi = TR - TC$$

Description :

π = Revenue (Rp)

TR = Total Revenue / Total Revenue (Rp) TC = Total Cost / Total Cost (Rp)

d. Feasibility Analysis

Feasibility Analysis is a feasibility analysis test with a comparison between total revenue and total costs incurred. Can be calculated by the following formula :

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

Description :

TR = Total Revenue

TC = Total Cost

The criteria based on the R / C Ratio are :

R / C Ratio > 1, patchouli oil business is feasible to be cultivated

R / C Ratio = 1, patchouli oil business is not profitable and does not lose

R / C Ratio 1, patchouli oil is profitable.

3. Results And Discussion

Characteristics of Patchouli Oil Entrepreneurs

The characteristics of entrepreneurs referred to in this study include age, education, patchouli oil business experience, and number of family dependents. The characteristics of farmers are closely related to the activities and branches of the patchouli oil business. For details on the characteristics of patchouli oil entrepreneurs in Tapaktuan District, South Aceh Regency can be seen in Table 1 below.

Table 1. Average Characteristics of Patchouli Oil Entrepreneurs in Tapaktuan District South Aceh District in 2025 per day

No	Characteristics	Unit	Average
1	Age	Years	47,88
2	Education	Years	11
3	Experience	Years	11,5
4	Family Dependents	Soul	3

Source: Primary Data 2025

The average age of patchouli oil entrepreneurs in Tapaktua District, South Aceh Regency, is 47.88 years. The age of the entrepreneur can be classified into productive age, because the

productive age limit is 50 years. At a productive age, thinking power and physical strength and to work can be achieved optimally so that work productivity can be increased.

The average education of patchouli oil entrepreneurs in Tapaktuan District, South Aceh Regency is 11 years, which is equivalent to high school, meaning that patchouli oil entrepreneurs in Tapaktuan District have been able to write and read well and receive all new information. Education is very important in improving human resources Education is the main thing to be able to develop yourself, including how to train abilities in terms of utilizing existing facilities and infrastructure properly and optimally. The level of education is also one of the supporting means in increasing knowledge about the latest industrial technology in order to be able to create and produce a new product that can provide satisfaction to consumers. In the economic system, education is one way to obtain new information in a business field.

The average experience of entrepreneurs in trying patchouli oil in Tapaktuan District, South Aceh Regency is 11.5 years, which is classified as entrepreneurs who are quite experienced in their business. Experience greatly affects the success of a business, the more experience you have, the more knowledge you can utilize.

The number of dependents is closely related to the cost of living that must be incurred, the more family members the greater the burden of life that will be borne or fulfilled. The average patchouli oil entrepreneur is 3 people. This means that the number of dependents of the entrepreneurs is not so much and can save the income received.

Production Costs of Patchouli Oil Entrepreneurs in Tapaktuan District

Variable Costs

Variable costs are costs whose total amount changes proportionally with changes in the volume of activities. Variable costs in this patchouli oil business consist of patchouli leaves, firewood, and water.

Table 2 : Average Variable Costs of Patchouli Oil in Tapaktuan District, South Aceh Regency per Day

No.	Description	Average Variable Costs (Rp)
1	Patchouli Leaf	2.350.000
2	Firewood	250.000
3	Water	-
4	Labor	200.000
	Total	2.800.000

Source: Primary Data 2025

Table 2. Shows that the average variable cost used by patchouli oil entrepreneurs in Tapaktuan sub-district, South Aceh Regency is IDR 2,800,000.

Fixed Costs

Fixed costs are costs that are always the same even though the amount of production changes. Fixed costs are costs that do not affect production and continue to be incurred even though the production obtained is much or little and even though it does not depend on the size of the production costs obtained. Fixed costs incurred in this study can be seen in Table 3 below.

Table 3. Average Fixed Costs of Patchouli Oil Business in Tapaktuan District, South Aceh Regency per Day

No	Description	Average Depreciation Cost (Rp)
1	Oil Drum	156,25
2	Glass Bottle	6,60

3	Hose	583,33
4	Stanlis Pipe	575
5	Ladle	55,56
6	Oil Funnel	76,39
7	Scales	111,11
8	Huts	3.195
Total		4.758,75

Source: Primary Data 2025

Based on Table 3 above, it can be seen that the average total depreciation cost of patchouli oil business is IDR 4,758.75, the largest average depreciation cost is the depreciation cost of the hut, which is IDR 3,195.

Patchouli Oil Revenue Analysis in Tapaktuan District, South Aceh Regency

Revenue analysis is the process of analyzing the details of business activity revenues that show evidence related to the facts of cost expenditures and revenues during business activities. Patchouli oil entrepreneurs' income is the result obtained by entrepreneurs from the total revenue earned after deducting all costs incurred by entrepreneurs in the production process, for more details can be seen in Table 4 below.

Table 4. Average Production Costs of Patchouli Oil Business in Tapaktuan District, South Aceh Regency per Day

No.	Description	Unit	Average Value
1	Revenue (TR)= Y.P		
	A. Production	Kg	3,05
	B. Price (p) (rp)	Rp	1.725.000
	Total revenue	Rp	5.258.750
2	Cost		
	A. Variable Cost (VC)		
	Patchouli Leaf	Rp	2.350.000
	Firewood	Rp	250.000
	Water	Rp	-
	Labor	Rp	200.000
	Total Variable Cost	Rp	2.800.000
	B. Fixed Cost (FC)		
	Total Fixed Cost	Rp	4.758,75
3	Total Cost (TC)		
	Variable Cost	Rp	2.800.000
	Fixed cost	Rp	4.758,75
	Total Production Cost	Rp	2.804.758,75
4	Revenue (PD)= TR-TC	Rp	2.453.991,25

Source : Primary Data 2025

Table 4 shows that the total average revenue of patchouli oil entrepreneurs in Tapaktuan District is Rp 5,258,750 with a production amount of 3.05 Kg with an average price of Rp 1,725,000/Kg. The average variable cost of patchouli oil entrepreneurs is IDR 2,800,000 with an average fixed cost of IDR 4,758.75 and the average income of patchouli oil entrepreneurs in Tapaktuan District, South Aceh Regency is IDR 2,453,991.25 per day.

Business Feasibility

A business can be said to be feasible if the entrepreneur benefits from the business he does. With good management, a business will be able to provide maximum profit. Likewise, the Patchouli Oil business requires good management to carry out its business management, to find out whether the Patchouli Oil business carried out by entrepreneurs in the research area is feasible or not, it can be analyzed using Cost Ratio (R / C) Ratio analysis, and (B / C) Ratio, namely :

Ratio Between Revenue and Cost (R / C Ratio)

$$(R / C) = TR / TC$$

With the criteria :

R / C > 1, then the farm is feasible to be cultivated

R / C = 1, then the farm breaks even

R / C < 1, then the farm is not feasible to cultivate

By using primary data that has been processed, the R / C value of this business is :

$$\begin{aligned} R/C \text{ Ratio} &= \frac{TR}{TC} \\ &= \frac{5.258.750}{2.804.758,75} \\ &= 1,87 \end{aligned}$$

From the results of the above calculations, the R / C value is 1.87. The value of 1.79 > 1, so that the patchouli oil business in Tapaktian District, South Aceh Regency is feasible to cultivate, meaning that if every cost sacrificed by the entrepreneur is Rp. 1, the entrepreneur will get Rp. 1.87 in revenue.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The average income of patchouli oil entrepreneurs in Tapaktuan District, South Aceh Regency is IDR 2,453,991.25 with an R / C Ratio of 1.87 so that the patchouli oil refining business in Tapaktuan District, South Aceh Regency is profitable and feasible to develop.

Suggestions

1. It is hoped that patchouli oil distillation entrepreneurs in Tapaktuan District, South Aceh Regency will continue to cultivate and increase patchouli oil production.
2. It is suggested that future researchers discuss other aspects of patchouli oil distillation such as business opportunities.
3. To the local government so that it can reach out / help entrepreneurs in the provision of agricultural equipment in the form of refining machines so that agriculture is increasingly developing and can improve the welfare of patchouli oil entrepreneurs, especially patchouli oil entrepreneurs in Tapaktuan District, South Aceh Regency.

ACKNOWLEDGMENTS

Acknowledgments :

1. The main supervisor, Mrs. Khumaira, S.P M.Si. who has helped complete this final project.
2. Member supervisor Mrs. Sri Fitri, S.P, M.P. who has also helped the process of completing this final project.
3. All Lecturers of the Faculty of Agriculture, Abulyatama University who have also helped the

process of completing this final project.

4. All parties that we cannot mention one by one.

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