

**ANALYSIS OF BUSINESS PROFIT LEVEL AND PROCESSING PRODUCTION
ELASTICITY AT CV. AMFOANG JAYA AT DESA SIKUMANA, KECAMATAN
MAULafa, KOTA KUPANG**

**(Analisis Tingkat Keuntungan Usaha Dan Elastisitas Pengolahan Produksi Pada
CV. Amfoang Jaya Di Desa Sikumana Kecamatan Maulafa Kota Kupang)**

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ABSTRACT

This study aims to analyze the factors influencing production, business profitability, and production elasticity in a honey processing business at CV. Amfoang Jaya, Sikumana Village, Maulafa District, Kupang City. The research method used was a case study with a quantitative approach. Data were collected through interviews, observations, questionnaires, and documentation, then analyzed using business profit analysis and the Cobb-Douglas production function in natural logarithm form. The results showed that capital, labor, raw materials, and demand simultaneously significantly influenced honey production, with a significance value of 0.003 (<0.05) and a coefficient of determination (R^2) of 0.877. Partially, raw materials and demand had a positive and significant effect on production, while capital and labor did not. The average total business revenue was Rp30,430,000 per month, with total costs of Rp16,800,361 per month, resulting in an average profit of Rp13,629,639 per month. The business profit level reached 81.13%, which is considered high. Maximum profit analysis indicates that optimal production is achieved at an output level of 185,000 ml per month. The results of the production elasticity analysis indicate that all input variables are inelastic, with a total elasticity of 0.688, indicating decreasing returns to scale. Therefore, CV. Amfoang Jaya's honey processing business is considered profitable, but increasing production is more effective through efficient use of production factors, particularly raw materials.

Keywords: agribusiness, business profit, Cobb-Douglas, honey, production elasticity

ABSTRAK

Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi produksi, profitabilitas bisnis, dan elastisitas produksi pada usaha pengolahan madu di CV. Amfoang Jaya, Desa Sikumana, Kecamatan Maulafa, Kota Kupang. Metode penelitian yang digunakan adalah studi kasus dengan pendekatan kuantitatif. Data dikumpulkan melalui wawancara, observasi, kuesioner, dan dokumentasi, kemudian dianalisis menggunakan analisis laba usaha dan fungsi produksi Cobb-Douglas dalam bentuk logaritma natural. Hasil penelitian menunjukkan bahwa modal, tenaga kerja, bahan baku, dan permintaan secara simultan berpengaruh signifikan terhadap produksi madu, dengan nilai signifikansi 0,003 ($<0,05$) dan koefisien determinasi (R^2) sebesar 0,877. Secara parsial, bahan baku dan permintaan berpengaruh positif dan signifikan terhadap produksi, sedangkan modal dan tenaga kerja tidak berpengaruh. Rata-rata total pendapatan usaha adalah Rp30.430.000 per bulan, dengan total biaya Rp16.800.361 per bulan, menghasilkan rata-rata laba Rp13.629.639 per bulan. Tingkat keuntungan bisnis mencapai 81,13%, yang dianggap tinggi. Analisis keuntungan maksimum menunjukkan bahwa produksi optimal dicapai pada tingkat output 185.000 ml per bulan. Hasil analisis elastisitas produksi menunjukkan bahwa semua variabel input bersifat inelastis, dengan elastisitas total 0,688, yang mengindikasikan penurunan skala hasil produksi. Oleh karena itu, usaha pengolahan madu CV. Amfoang Jaya dianggap menguntungkan, tetapi peningkatan produksi akan lebih efektif melalui penggunaan faktor produksi yang efisien, khususnya bahan baku. Kata kunci: agribisnis, keuntungan bisnis, Cobb-Douglas, madu, elastisitas produksi

INTRODUCTION

Forests are a natural resource that provide various benefits for human life. These benefits can be in the form of timber forest products and non-timber forest products known as Non-Timber Forest Products (NTFPs) (Tang et al., 2019). Currently, the management of NTFPs is becoming increasingly important along with the decline in wood productivity from forests to meet human needs. The utilization of NTFPs can be a potential alternative to be developed because it can reduce community dependence on timber forest products. Thus, forests can still provide economic value while supporting efforts to conserve forest resources sustainably (Dahyanti et al., 2019).

Honey is a natural, sweet liquid produced by honeybees from the nectar of various plants. Chemically, honey is composed of approximately 80–85% carbohydrates, 15–17% water, approximately 0.3% protein, 0.2% ash, and contains small amounts of amino acids and vitamins (Cantarelli et al., 2008). In Indonesia, honey is not only used as a food ingredient but also has great potential as an agribusiness commodity that can contribute to improving the community's economy. Data from the Central Statistics Agency (BPS) shows that honey production in Indonesia experienced significant fluctuations during the 2016-2020 period. In 2016, national honey production was recorded at 362.2 thousand liters, but in 2017 it experienced a drastic decline of up to 85% to 54.3 thousand liters. Furthermore, in 2018, production increased again by 171.3% to 147.3 thousand liters. This increase continued in 2019, with a significant 238.1% increase, bringing production to 498,000 liters. However, in 2020, national honey production again experienced a sharp decline of 89.7%, with total production only around 51.34,000 liters (bps.go.id, 2021).

East Nusa Tenggara Province has significant potential for developing forest honey production, particularly honey produced by the *Apis dorsata* bee. Protected forest areas such as Mutis Timau and Gunung Mutis National Park are the primary sources of high-quality honey in the region. Honey from *Apis dorsata* bees is also one of 14 leading Non-Timber Forest Product (NTFP) commodities developed in East Nusa Tenggara (Mesakh et al., 2024).

Honey production in East Nusa Tenggara Province has been unstable from year to year. According to data from the East Nusa Tenggara Central Statistics Agency (BPS), wild honey production from hunting in 2021 was recorded at 411 liters, then decreased to 330 liters in 2022. The following year, in 2023, production increased again to 471 liters (BPS, 2024). These changes in production reflect the various challenges in maintaining the sustainability of wild honey production. One contributing factor is the honey harvesting process, which is still carried out traditionally and has not been widely developed through more managed cultivation systems.

As a region in East Nusa Tenggara Province, Kupang City plays a significant role in the development and marketing of forest honey. One of the businesses involved in the processing and marketing of forest honey in this area is CV. Amfoang Jaya. The company has been operating since 2003 and is located in Sikumana Village, Maulafa District, Kupang City. CV. Amfoang Jaya produces Timor Amfoang Forest Honey, which is marketed not only domestically but also internationally, including in Singapore, the Philippines, and China (djkn.kemenkeu.go.id, 2023).

In addition to CV. Amfoang Jaya, there are several other business actors in East Nusa Tenggara who are also involved in the production and marketing of forest honey. Some of these are Madu Asli Amfoang NTT, Juragan Madu Hutan Amfoang, JMP Madu, Madu Hutan NTT An Nahl, and Madu Hutan Mutis Olla. The existence of these various business actors shows that the honey business in the NTT region is not only dominated by a single company, but has developed into a business sector involving many local actors. This indicates that forest honey from NTT has quite broad market opportunities. However, based on actual conditions in the field, the current production volume of CV. Amfoang Jaya is only 82,200 ml per month, and has not yet reached the maximum profit that should be obtained. Therefore, the study entitled "Analysis of Business Profit Levels and Production Elasticity of

Honey Processing (Case Study on CV. Amfoang Jaya in Sikumana Village, Maulafa District, Kupang City)" is expected to provide a more comprehensive picture of the level of business profits and production elasticity of honey processing in East Nusa Tenggara. Based on the description, the objectives of this study are to analyze the factors that influence production, determine the level of business profitability, and assess the production elasticity of the honey processing business at CV. Amfoang Jaya, Sikumana Village, Maulafa District, Kupang City.

RESEARCH METHODS

This research was conducted at CV. Amfoang Jaya, located in Sikumana Village, Maulafa District, Kupang City, East Nusa Tenggara Province. The location was selected purposively, considering the company's active and sustainable honey processing business. The research period was one month, from September to October.

The research method used was a case study with a quantitative approach. The data used consisted of primary and secondary data. Primary data was obtained through direct interviews with owners and employees, field observations, and questionnaires. Meanwhile, secondary data was obtained from company documents, literature, and relevant agencies.

The population in this study was all parties involved in honey production activities at CV. Amfoang Jaya. The sampling technique used was a saturated sampling method, where the entire population was used as the research sample.

The variables analyzed included honey production (Y) as the dependent variable, and capital (X1), labor (X2), raw materials (X3), and demand (X4) as independent variables. Data analysis was performed using business profit analysis and multiple linear regression analysis with the Cobb-Douglas production function transformed into the natural logarithm.

Business profit analysis was calculated using the formula: total revenue ($TR = P \times Q$), total costs ($TC = FC + VC$), and profit ($\pi = TR - TC$). The profit level was calculated by comparing profit to total production costs as a percentage.

Next, the data analysis technique used was multiple linear regression. Prior to analysis, all input and output variable data were converted to natural logarithms to suit multiple linear regression. There are four input variables: capital, labor, raw materials, and demand, so the Cobb-Douglas production function is formulated as follows:

$$Y = aX_1^{\beta_1}X_2^{\beta_2}X_3^{\beta_3}X_4^{\beta_4}e^u \quad (1)$$

The results of this regression analysis are then transformed into a natural logarithm equation (Ln), so that the following equation is obtained:

$$\text{Ln}Y = \text{Ln} a + \beta_1\text{Ln}X_1 + \beta_2\text{Ln}X_2 + \beta_3\text{Ln}X_3 + \beta_4\text{Ln}X_4 + e \quad (2)$$

Testing was conducted through simultaneous tests (F tests), partial tests (t tests), and coefficients of determination (R^2) to determine the level of influence of independent variables on the dependent variable. In addition, production elasticity was calculated based on the regression coefficient value (β_i), while returns to scale were obtained from the sum of all elasticity coefficients ($\beta_1 + \beta_2 + \beta_3 + \beta_4$) to determine the business scale conditions.

RESULTS AND DISCUSSION

The results of the analysis show that production factors consisting of capital, labor, raw materials, and demand simultaneously have a significant effect on honey production at CV. Amfoang Jaya. This is indicated by a significance value of 0.003 (<0.05). This is in line with research (Prasetyo, 2019) examining the factors that influence honey pineapple production in Beluk Village, Belik District, Pemalang Regency, which shows that the value can be concluded from the calculated F value $>$ F table or $112.402 > 2.04$, then the significance level value shows 0.000 or less than 0.05.

Table 1. Results of Simultaneous Significance Test (F Test)

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.044	4	.011	12.454	.003 ^b
	Residual	.006	7	.001		
	Total	.050	11			

Source: Primary Data processed 2026

The coefficient of determination (R^2) value of 0.877 indicates that 87.7% of the variation in honey production can be explained by these variables, while the remaining 12.3% is influenced by other factors outside the model. This is in line with research (Wiguna et al., 2024) on factors that influence honey bee production in Karangnunggal District, Tasikmalaya Regency, which shows that the R-Square value is 0.970 or 97%, where this value means that the variance of the independent variable (honey production) can be explained by the remaining 3% is explained by other independent variables outside the model.

Table 2. Results of the Determination Coefficient (R^2) Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.936 ^a	.877	.806	.02956

Source: Primary Data processed 2026

Partially, the capital variable does not have a significant effect on the honey production results of CV. Amfoang Jaya with a significance value of $0.716 > 0.05$ and a calculated T value of $-0.379 < T$ Table of 2.364, therefore, the null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected. The regression coefficient is -0.082, so statistically it does not have a significant effect on honey production at CV. Amfoang Jaya. This is in line with research (Vaziritabar et al., 2014) where the capital variable does not have a significant effect on honey production.

The labor variable also has no significant effect on the honey production results of CV. Amfoang Jaya with a significance value of $0.601 > 0.05$ and T Count $-0.548 < T$ Table of 2.364, therefore the null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected. The labor regression coefficient value is -0.060, which means statistically the addition of working hours actually tends to reduce honey production. This is in line with research (Wiguna et al., 2024) which shows that the number of workers does not have a significant effect on honey production.

The raw material variable has a significant effect on the honey production of CV. Amfoang Jaya with a significance value of $0.000 < 0.05$ and T Count $6.091 > T$ Table of 2.364, therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. The positive regression coefficient is 0.738. This indicates that raw materials are the most dominant production factor in increasing the honey production of CV. Amfoang Jaya. This is in line with research (Syukran, 2015) which shows that raw material variables have a significant effect on production. In the raw material variable, a production is required to require raw materials in production if raw materials are hampered then production is also hampered therefore raw materials greatly influence a company's production process.

The demand variable also has a very significant effect on the honey production results of CV.

Amfoang Jaya with a significance value of $0.020 < 0.05$ and T Calculation of $3.007 > T$ Table of 2.364, therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. The positive regression coefficient is 0.092. This means that the increase in market demand significantly encourages an increase in honey production. Demand serves as a market signal for producers. When demand increases, producers will adjust production volumes to suit market needs. Tabel 3. Hasil Uji t

Table 3. Coefficient Regression

Model	Unstandardized Coefficients ^a B	Std. Error	Standardized Coefficients	t	Sig.
(Constant)	3.907	4.249		.920	.388
CAPITAL	-.082	.215	-.053	-.379	.716
LABOR	-.060	.109	-.082	-.548	.601
RAW ATERIAL	.738	.121	.969	6.091	.000
REQUEST	.092	.031	.435	3.007	.020

Source: Primary Data processed 2026

From the profit analysis side, the average total revenue (TR) of the business is Rp30,430,000 per month, while the total cost (TC) is Rp16,800,361 per month consisting of fixed costs (FC) of Rp6,378,194 and variable costs (VC) of Rp10,422,167. Thus, the average profit (π) is Rp13,629,639 per month. The business profit level reaches 81.13%, which is classified as high. This indicates that the honey processing business at CV. Amfoang Jaya is economically feasible and is able to provide significant profits. These results indicate that every Rp1 of production costs incurred produces a profit level of Rp0.8113 or 81.13%.

Table 4. Average Profit Per Month

No	Description	Average per Month (Rp)
1.	Total Revenue (TR)	30.430.000
2.	Fixed Cost (FC)	6.378.194
3.	Variable Cost (VC)	10.422.167
4.	Total Cost (TC = FC + VC)	16.800.361
5.	Profit (π = TR-TC)	13.629.639

Source: Primary Data processed 2026

The profit level of an agribusiness can be calculated by comparing net income (π) to total production costs (TC), then multiplying by 100% to obtain the profit rate. Mathematically, it is written as:

$$\begin{aligned}
 \text{Profit Rate} &= \frac{\pi}{TC} \times 100\% \\
 &= \frac{13.629.639}{16.800.361} \times 100\% \\
 &= 81,13 \%
 \end{aligned}$$

A maximum profit analysis using the marginal profit approach ($MR = MC$) shows that the optimal production level is achieved at an output of 185,000 ml per month. Under these conditions, the company is able to maximize profits by utilizing a relatively efficient combination of inputs.

Furthermore, the results of the production elasticity analysis show that the elasticity values for each variable are capital (-0.082), labor (-0.060), raw materials (0.738), and demand (0.092). All elasticity values are less than one (inelastic), meaning that changes in input do not result in a

proportionally large change in output.

Table 5. Production Elasticity Results

No	Variable	Production Elasticity	Description of Elasticity
	Capital	-0,082	Inelastic and negative
	Labor	-0,060	Inelastic and negative
	Raw Materials	0,738	Inelastic (dominant)
	Demand	0,092	Inelastic

Source: Primary Data processed 2026

Based on the results of the Cobb-Douglas production function analysis, the elasticity coefficient values for each production factor are obtained, namely capital (β_1) of -0.082, labor (β_2) of -0.060, raw materials (β_3) of 0.738, and demand (β_4) of 0.092. The total of all these elasticity coefficients is:

$$\beta_1 + \beta_2 + \beta_3 + \beta_4 = -0,082 + (-0,060) + 0,738 + 0,092 = 0,688$$

The Return to Scale (RTS) value of 0.688 indicates that the honey processing business at CV Amfoang Jaya is in a condition of Decreasing Return to Scale as per Figure 4.2. This means that every 1 percent increase in production factors together will only increase production by 0.688 percent. This Decreasing Return to Scale condition indicates that the proportional addition of production inputs has not been able to produce a comparable increase in output. Therefore, increasing honey production at CV. Amfoang Jaya is more effective through increasing the efficiency of the use of production factors, especially raw materials which are the most dominant factor, compared to simply increasing the number of production inputs.

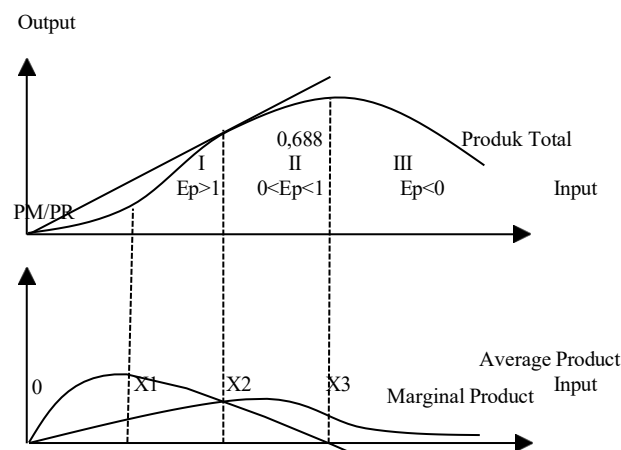


Figure 1. Production Elasticity Curve

This condition indicates that the efficiency of production factor utilization still needs to be improved, particularly in the use of raw materials, which is the most dominant factor influencing production. Furthermore, these results also suggest that production increase strategies should focus not solely on increasing inputs, but rather on optimizing and making the use of existing production factors more efficient.

CONCLUSSION AND RECOMMENDATION

Conclusion

The analysis results show that production factors consisting of capital, labor, raw materials, and demand simultaneously have a significant effect on honey production at CV. Amfoang Jaya. This is indicated by a significance value of 0.003 (<0.05). The coefficient of determination (R^2) value of 0.877 indicates that 87.7% of the variation in honey production can be explained by these variables, while the remaining 12.3% is influenced by other factors outside the model. Partially, raw materials and demand have a positive and significant effect on honey production. Raw materials have a coefficient of 0.738 with a significance value of 0.000, which indicates that increasing the use of raw materials will directly increase production output. Demand also has a significant effect with a coefficient of 0.092 and a significance value of 0.020, which reflects that increasing market demand encourages increased production. Meanwhile, capital and labor do not have a significant effect on production, with coefficients of -0.082 and -0.060, respectively. This negative value indicates that there is suboptimal or inefficient use of inputs in the production process. The honey processing business at CV. Amfoang Jaya has proven profitable, with an average profit of Rp13,629,639 per month and a profit margin of 81.13%, which is considered high. The optimal production level to maximize profits is achieved at 185,000 ml per month. The results of the production elasticity analysis indicate that all input variables are inelastic, with a total elasticity of 0.688, indicating a condition of decreasing returns to scale. This indicates that the increase in the use of production factors is not followed by a proportional increase in output.

Recommendation

CV. Amfoang Jaya is advised to prioritize raw material management, considering that this variable has the highest elasticity value of 0.738 and has a significant impact on production. Efforts to maintain the availability of raw materials on an ongoing basis are necessary so that production can continue to be increased. With an average business profit of Rp13,629,639 per month, CV. Amfoang Jaya is advised to maintain production cost efficiency, so that the profit level remains stable and can be increased in the future. Because the business is in a condition of Decreasing Return to Scale with a value of 0.688, CV. Amfoang Jaya is advised to not only increase production inputs,

but also emphasize increasing the efficiency of input use, so that additional inputs used can produce optimal output.

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