

Research Article

Analysis of Production Scale and Input Elasticity of Clove Farming in Umejero Village, Busungbiu District, Buleleng Regency

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Abstract: Plantation agriculture encompasses all activities involving the cultivation of specific crops and the commercialization of their products and services, supported by science, technology, capital, and management, with the aim of improving the welfare of plantation business actors and the wider community. This study aims to analyze the production scale, input elasticity, and factors affecting clove production in Umejero Village, Busungbiu District, Buleleng Regency. Given the high dependence of farmers on harvest outcomes and price fluctuations, this analysis is essential to understand the impact of economic and agronomic variables such as working capital, labor, land area, and selling price on production output. The study employs a quantitative method using multiple linear regression based on the Cobb-Douglas production function. Data were collected through questionnaires and interviews with clove farmers in Umejero Village using purposive sampling. The results indicate that all four variables simultaneously have a significant effect on clove production, with each variable also having a partial positive influence. The analysis of production scale shows increasing returns to scale, meaning that a proportional increase in all input factors leads to a more than proportional increase in output. The elasticity analysis indicates that capital input is elastic, suggesting that a small increase in capital leads to a disproportionately large increase in output. In contrast, labor, land area, and selling price are inelastic, implying that increases in these inputs result in only modest increases in output. These findings highlight the need for solid policy foundations and strategic initiatives to enhance clove productivity both at the farmer and local government levels. Furthermore, the study's results are expected to assist farmers in making more informed and sustainable decisions in farm management, ultimately contributing to the improved welfare of clove-farming communities in the region.

Keywords: Capital, Labor, Land Area, Production, Selling Price

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1. INTRODUCTION

The agricultural sector serves as the backbone of the Indonesian economy, employing up to 87.5% of the workforce in 2021 (BPS, 2021). One of the most important subsectors is plantation agriculture, particularly clove cultivation, which holds significant economic value and is widely distributed across various regions, including Bali Province. Agricultural production is influenced by a combination of input factors, efficiency, and environmental or climatic changes. In this context, cloves are a vital livelihood resource for rural communities, particularly in Buleleng Regency, the largest clove-producing region in Bali.

Clove production in Indonesia has fluctuated over the past five years, including in Bali and Buleleng Regency. Despite a temporary increase from 2019 to 2021, production began to

decline significantly from 2021 to 2023. Data shows that clove production in Buleleng decreased from 2,290 tons in 2021 to 1,639.5 tons in 2023. One of the main factors contributing to this decline is unpredictable weather and high rainfall, which negatively affect flowering and harvest yields. In addition, aging clove trees have reduced land productivity.

One of the key clove-producing areas in Buleleng is Umejero Village, located in the Busungbiu District. In this village, clove productivity dropped from 510.3 kw/ha in 2021 to 412.4 kw/ha in 2023, in line with shrinking land areas and shifting weather patterns. Selling prices have also fluctuated, declining from IDR 150,000/kg in 2021 to IDR 110,000/kg in 2023. These conditions have prompted some farmers to switch to alternative crops considered more profitable. In addition to weather and price instability, reduced harvest yields have also been attributed to inappropriate fertilizer usage and suboptimal crop maintenance.

The decline in production and farmers' income has caused concern among clove farmers in Umejero Village. Many rely solely on one annual harvest for their livelihoods. When harvest seasons are disrupted, their well-being is at serious risk. Data reveals a drastic drop in farmers' profits, from IDR 141.5 million/ha in 2019 to only IDR 9 million/ha in 2023. This indicates that high production costs combined with decreasing yields result in incomes that are no longer proportional, creating significant economic pressure on farmers.

Therefore, this study aims to further analyze the factors contributing to the decline in clove production and income in Umejero Village, focusing specifically on aspects such as weather, cultivation techniques, market prices, and production costs. The findings are expected to provide policy recommendations and strategic insights for enhancing productivity and farmer welfare, ensuring the sustainability of clove farming in the region.

2. RESEARCH METHOD

This study applies a quantitative associative approach using multiple linear regression analysis to examine the effects of capital, labor, land area, and selling price on clove production in Umejero Village, Busungbiu District, Buleleng Regency. This location was chosen due to its geographic and climatic suitability for optimal clove cultivation. The object of the research is clove farmers' production levels, with data collected through observation, questionnaires, and in-depth interviews with farmers and relevant stakeholders such as the Agriculture Office and village authorities.

A total of 72 farmers were sampled from a population of 252 using simple random sampling, based on Slovin's formula. Both primary data (collected directly from respondents) and secondary data (from official agencies) were utilized. The types of data include quantitative data (e.g., capital amount, labor count, land area, production quantity) and qualitative data (e.g., location descriptions and supporting information). Data analysis was conducted using multiple linear regression, supported by classical assumption tests including normality, multicollinearity, and heteroskedasticity to ensure model validity. Furthermore, an F-test was conducted to determine the simultaneous effect of independent variables on the dependent variable.

Operational definitions were used to standardize measurement: production (tons per year), capital (in Indonesian rupiah), labor (number of workers), land area (hectares), and selling price (in rupiah).

3. RESULTS AND DISCUSSION

Multiple Linear Regression Analysis

Table 1. Results of Regression Analysis

Variables	Y = Production			
	Coefficient	Std Error	T statistic	Prob.
Constantine	-10.85127	2.023675	-5,362161	0.0000
LN _{X1} _Modal	0.228406	0.072727	3,140597	0.0025
LN _{X2} _Labor Force	0.534796	0.059929	8.923797	0.0000
LN _{X3} _Land Area	0.453195	0.058540	7.741682	0.0000
LN _{X4} _Selling Price	0.516960	0.150654	3.431435	0.0010
R Squared	0.971336			
Adjusted R ²	0.969625			
F-Statistic	567,6033			
Prob F	0.00000			

Source: Primary Data Processed with Eviews, 2025

Based on the results of the regression test in Table 1, the regression equation model that can be created is as follows:

$$Y = \text{Ln}Y = \alpha + \beta_1 \text{LN}X_1 + \beta_2 \text{LN}X_2 + \beta_3 \text{LN}X_3 + \beta_4 \text{LN}X_4 + e$$

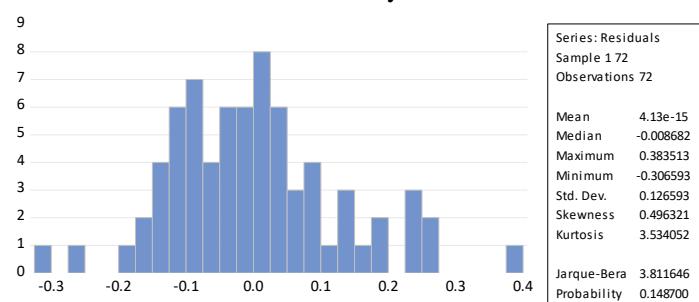
$$\widehat{\text{Ln}Y} = -10,85127 + 0,228406X_1 + 0,534796X_2 + 0,453195X_3 + 0,516960X_4$$

The regression coefficient value of the Capital (X₁), Labor (X₂), Land area (X₃) and Selling price (X₄) variables in this study has a probability value of less than 0.05. This shows that the Capital (X₁), Labor (X₂), Land area (X₃) and Selling price (X₄) variables have a significant effect on the Production variable.

Classical Assumption Test Results

1) Normality Test Results

Table 2. Normality Test Results



Source: Primary Data Processed with Eviews, 2025

The normality test aims to test whether the residual variable has a normal distribution or not in the regression model. The normality assumption test in this study uses the Jarque-Bera test. To find out whether the residual is normally distributed or not, it can be seen from the Prob value. The basis for decision making is if the Prob value is more than $\alpha = 5\%$, then the residual is normally distributed, if it is less than 5% then the residual is not normally distributed. The test results on the multiple linear regression equation in

Based on Table 2, it shows that the probability value of 0.148700 is greater than the level of significance, which is 5 percent (0.05). So it can be concluded that the regression model tested is normally distributed.

2) Multicollinearity Test

Table 3. Multicollinearity Test Results

Model	Centered VIF
LNx1_Modal	2,062871
LNx2_Labor force	7.494479
LNx3_Land area	6.482839
LNx4_ Selling price	1.403137

Source: Primary Data Processed with Eviews, 2025

Based on Table 3, the results of the multicollinearity test show that all independent variables have a VIF value < 10 , so it can be concluded that the regression model in this study does not have multicollinearity and the regression model is suitable for use.

3) Heteroscedasticity Test

Table 4. Results of Heteroscedasticity Test

Heteroskedasticity Test: Glejser

F-statistic	1.489405	Prob. F(4,67)	0.2135
Obs*R-squared	5.879422	Chi-Square Prob.(4)	0.2083
Scaled explained SS	6,188668	Chi-Square Prob.(4)	0.1855

Source: Primary Data Processed with Eviews, 2025

The heteroscedasticity test aims to test whether there is inequality in the residual variance of one observation to another in the regression model. The non-heteroscedasticity assumption test in this study uses the Glejser test. The basis for making the decision is if the value of Prob. Chi-Square (2) is less than 5%, then it is rejected, meaning there is heteroscedasticity, while if it is more than 5%, then it is accepted, meaning there is no heteroscedasticity.

Based on Table 4, it shows that the probability value of 0.2135 is greater than 0.05, so it can be concluded that there is no heteroscedasticity.

Results of the Determination Coefficient Test (R²)

Table 5. Results of the Determination Coefficient Test

R Square	Adjusted R Square
0.969625	0.969625

Source: Processed data (Appendix 9), 2025

Based on the test results in Table 5, the results obtained are that the value of R² is 0.969625. This means that 96.9 percent of the variation in clove production in Umejero Village, Busungbiu District can be influenced by the variables of Capital (X1), Labor (X2), Land area (X3) and Selling price (X4) while the remaining 3.1 percent is explained by other factors.

Model Feasibility Test Results (F Test)

Table 6. Simultaneous Test Results (F Test)

No	Information	Value
1	F Statistics	567,6033
2	F Statistic Probability	0.000000

Source: Primary Data Processed with Eviews, 2025

Based on Table 6, the results of the F test (F test) show that the calculated F value is 567.6033 with a significance value of P value 0.000 which is smaller than $\alpha = 0.05$, this means

that the model used in this study is feasible. This means that simultaneously Capital (X1), Labor (X2), Land area (X3) and Selling price (X4) have a significant effect on Production.

Partial Test Results (t-Test)

Table 7. t-Test Results (Hypothesis Test)

Variables	Regression Coefficient	T-value	Probability	Conclusion
LN Capital (X1) → Production (Y)	0.228406	3,140597	0.0025	Positive influence
LN Labor (X2) → Production (Y)	0.534796	8.923797	0.0000	Positive influence
LN Land area (X3) → Production (Y)	0.453195	7.741682	0.0000	Positive influence
LN Selling price (X4 → Production (Y)	0.516960	3.431435	0.0010	Positive influence

Source: Processed data (Appendix 5), 2025

1) The Influence of Capital on Production

The results of the t-test calculation show that the regression coefficient value of X1 or Capital is 0.228406 with a t-value of 3.140597 which is positive with a significance level of $0.00025 < 0.050$. Because the significance value is less than 0.05, H_0 is rejected, and H_a is accepted. This result means that capital has a positive and significant effect on clove production. So it can be concluded that the higher the capital issued, the higher the value of clove production. Thus, the second hypothesis which states "Capital has a positive and significant effect on Clove Production" is accepted.

Furthermore, there is an argument from the Buleleng Regency Agriculture Service on behalf of Mr. Wahyu on December 17, 2024 at the Buleleng Regency Agriculture Service. He said that:

"Production results are greatly influenced by the area of land used, therefore the wider the land used, the more cloves can be produced. In addition to the area of land, capital can also affect the level of clove production that is desired, therefore the area of land and capital are one of the very large factors in influencing production results and this is supported by the existence of production data"

His statement supports the results of this study which states that capital influences the value of clove production produced by local farmers and this is also supported by the data that has been shown.

2) The Influence of Labor on Production

The results of the t-test calculation show that the regression coefficient value of X2 or Labor is 0.534796 with a t-value of 8.923797 which is positive with a significance level of $0.0000 < 0.050$. Because the significance value is less than 0.05, H_0 is rejected, and H_a is accepted. This result means that capital has a positive and significant effect on clove production. So it can be concluded that the higher the level of labor expended, the higher the value of clove production. Thus, the second hypothesis which states "Labor has a positive and significant effect on Clove Production" is accepted.

There is an opinion from the Head of Umejero Village who was interviewed on February 27, 2025 at the Umejero Village Head Office, Busungbiu District, Buleleng Regency. He is of the opinion that:

"The workforce needed is adjusted to the needs. Clove production also really needs workers who at least understand how to be a clove farmer, because the workforce greatly affects the quality factor and the results"

obtained by the cloves in the future. The working hours of workers also affect the wages that will be issued by the clove owner, so the capital will also be greater"

Based on his statement, he agrees with the results of this study which states that labor has an effect on clove production, and indirectly wages are also included in capital and will affect the production value produced by clove farmers, this is also supported by the data that has been shown.

3) The Influence of Land Area on Production

The results of the t-test calculation show that the regression coefficient value of X3 or Land area is 0.453195 with a t-value of 7.741682 which is positive with a significance level of $0.0000 < 0.050$. Because the significance value is less than 0.05, H_0 is rejected, and H_a is accepted. This result means that land area has a positive and significant effect on clove production. So it can be concluded that the higher the land area, the higher the value of clove production. Thus, the second hypothesis which states "Land area has a positive and significant effect on Clove Production" is accepted.

There is an argument from the respondent, namely a clove farmer located in Umejero Village named Mr. Ketut Wira who was interviewed on February 27, 2025 at his residence in Banjar Waru, Umejero Village. He said that:

"The area of land also greatly affects the production results, because the wider the land used with good soil quality, it greatly supports the production of cloves that have very good quality and can reduce the impact of clove production failures, besides that capital will affect the production of cloves produced by farmers and that is in line with the workforce produced through the hours of labor that will be paid by clove farmers"

This opinion is in line with this study, namely capital, labor, and land area affect the level of production produced by clove farmers in Banyuatis Village. The quality of cloves will be influenced by the area of land and the quality of land owned by clove farmers.

4) The Influence of Selling Price on Production

The results of the t-test calculation show that the regression coefficient value of X4 or Selling Price is 0.516960 with a t-value of 3.431435 which is positive with a significance level of $0.0010 < 0.050$. This shows that the selling price has a positive and significant effect on production, so the hypothesis is accepted. This result means that the selling price has a positive and significant effect on clove production. So it can be concluded that the higher the selling price, the higher the value of clove production. Thus, the second hypothesis which states "Selling price has a positive and significant effect on Clove Production" is accepted.

Next, there is an argument from a clove trader who is also the Head of Umejero Village who lives in Banjar Umejero, Umejero Village, he said that:

"In clove production, the selling price is one of the related things where when the selling price of cloves increases, farmers tend to increase their efforts in production, including increasing the area of land cultivated and the use of other production inputs. Conversely, when the selling price decreases, some farmers choose to reduce their efforts or switch land to other crops."

Based on the statement of the village head of Umejero, he agrees with the results of this study, namely that the selling price has an effect on clove production.

Calculating Production Scale

To determine the scale of clove production in Umejero Village, Busungbiu District, Buleleng Regency, the analysis technique used is the relationship model between production and capital, labor, land area, and selling price. After conducting regression with a double log model estimated by the Cobb Douglas model on the variables of capital, labor, land area, and selling price using the Eviews program, the following results were obtained. $-10.85127 + 0.228406\text{Ln}X_1 + 0.534796\text{Ln}X_2 + 0.453195\text{Ln}X_3 + 0.516960\text{Ln}X_4$ from the equation it can be seen that the value of $\beta_1 + \beta_2 + \beta_3 + \beta_4 = 1.733357 > 1$. This means that the scale of clove production in Umejero Village, Busungbiu District, Buleleng Regency is in a condition of increasing returns to scale, because the regression coefficient of each production factor (input) of capital, labor, land area, and selling price has a value greater than 1 (one). $\widehat{\text{Ln}Y}$

Calculating Input Elasticity

The elasticity of the use of production factors in the form of capital, labor, land area, and selling price in clove production in Umejero Village, Busungbiu District, Buleleng Regency can be calculated using the formula. The calculation of the elasticity of the use of production factors is as follows:

$$|E_I| X_1 = \frac{2,1}{33.281.250} \times \frac{91.781.250}{5,6} = 1,034$$

$$|E_I| X_2 = \frac{2,1}{96} \times \frac{109}{5,6} = 0,425$$

$$|E_I| X_3 = \frac{2,1}{6,7} \times \frac{0,96}{5,6} = 0,115$$

$$|E_I| X_4 = \frac{2,1}{40.000} \times \frac{87.728}{5,6} = 0,008$$

Where the meaning of elasticity of each coefficient is:

1. $E_1 = 1.034 > 1$ which means, if capital is increased by 1 percent then clove production will increase by 1.034 percent, assuming other inputs remain constant.
2. $E_2 = 0.425 < 1$, which means that if labor is increased by 1 percent, clove production will only increase by 0.424 percent, assuming other inputs remain constant.
3. $E_3 = 0.115 < 1$, which means that if the land area is increased by 1 percent, clove production will only increase by 0.115 percent, assuming other inputs remain constant.
4. $E_4 = 0.008 < 1$, which means that if the selling price is increased by 1 percent, clove production will only increase by 0.008 percent, assuming other inputs remain constant.

Hypothesis Test Results

Simultaneous Statistical Test Results

The results of the simultaneous test (F test) show a significant influence simultaneously between the independent variables, namely Capital (X_1), Labor (X_2), Land Area (X_3), and Selling Price (X_4) on the dependent variable Production. With a calculated F value of 567.6033 and a significance value of P value of 0.000, which is clearly smaller than the α level = 0.05, it can be concluded that the model used in this study is feasible and reliable for further analysis. This finding indicates that the four factors simultaneously provide a positive contribution in determining the level of production, so it is very relevant to be applied in the context of resource management in the agricultural sector.

Partial Statistical Test Results

The results of the partial test (t-test) in this study indicate that the four independent variables, namely Capital (X1), Labor (X2), Land Area (X3), and Selling Price (X4) have a significant positive effect on the dependent variable, namely Production. From the analysis, it can be concluded that Capital provides a positive contribution with a coefficient of 0.228406 and a t-value of 3.140597 (p-value 0.0025). This means that the higher the capital issued, the higher the clove production will be. Likewise, Labor shows positive results with a coefficient of 0.534796 and a t-value of 8.923797 (p-value 0.0000), indicating that skilled labor contributes significantly to production results. Land Area has a positive influence with a coefficient of 0.453195 and a t-value of 7.741682 and a p-value of 0.0000, indicating that the more land area managed, the more clove yields obtained. Finally, Selling Price also has a positive influence on production with a coefficient of 0.516960 and a t-value of 3.431435 (p-value 0.0010), indicating the importance of pricing strategy for the sustainability of production.

Production Scale Test Results

The results of the production scale analysis show that the total elasticity of production ($\sum b_i$) is 1.733357, which means it is greater than one ($\sum b_i > 1$). With this value, it can be concluded that there is a condition of Increasing Return to Scale, where the proportion of additional production factors will produce greater additional production. This means that increasing all production inputs such as capital, labor, land area, and selling price will contribute to a significant increase in clove production output. This conclusion indicates that farmers in Umejero Village, Busungiu District, Buleleng Regency, have the potential to maximize their agricultural output through more efficient management and proper investment.

Input Elasticity Test Results

The results of the input elasticity test show that the input elasticity value (E_i) obtained from the analysis is E_1 (capital) = 1.034, E_2 (labor) = 0.425, E_3 (land area) = 0.115, and E_4 (selling price) = 0.008. The capital variable is in an elastic condition, this indicates that the use of capital production factors changes more or is proportional to changes in input. However, the labor, land area, and selling price variables show that the output changes less or is not proportional to changes in input, which is known as inelastic. In this context, it shows that a one percent increase in input factors, such as capital, labor, or fertilizer use, will result in an increase in clove production output of less than one percent. This reflects the inefficiency of resource use in the agricultural sector in Umejero Village, Busungiu District, Buleleng Regency, where farmers must consider how to manage input optimally to achieve maximum results.

4. CONCLUSION

1. Capital, labor, land area, and selling price simultaneously have a significant effect on clove production in Umejero Village, Busungbiu District, Buleleng Regency.
2. Capital, labor, land area, and selling price each have a partially significant and positive effect on clove production in Umejero Village, Busungbiu District, Buleleng Regency.

3. The production scale of clove commodities in Umejero Village, Busungbiu District, Buleleng Regency indicates an Increasing Returns to Scale, meaning that if all input factors are increased proportionally, the resulting production increase will be greater than the increase in inputs.
4. The input elasticity of clove production in Umejero Village shows that the capital variable is elastic, meaning that a small increase in capital input leads to a disproportionately larger increase in output. However, the variables of labor, land area, and selling price exhibit inelastic output responses, indicating that increases in these inputs lead to relatively smaller proportional increases in output.

References

- [1] Abdillah, Risma. 2015. Proyeksi Produksi dan Konsumsi Kedelai Indonesia. *Jurnal Ekonomi Kuantitatif Terapan*. 8 (1):9-23. ISSN: 2301-8968.
- [2] Abubakar, Rafesh dan Khaidir Sobri. (2014). *Usaha Tani Agribisnis*. UMP Fakultas Pertanian. Palembang.
- [3] Afifuddin. 2009. *Metodologi Penelitian Kualitatif*. Pustaka Setia. Bandung. 131.
- [4] Agustina, I Made dan Kartika, I Nengah. 2017. Pengaruh Tenaga Kerja, Modal, dan Bahan Baku Terhadap Produksi Kerajinan Patung Kayu di Kecamatan Tegalalang. *E-Jurnal EP Unud*, 6 [7] : 1302-1331.
- [5] Ahmad Gorjizad, Salman Dastan, Afshin Soltani, Hosein Ajam Norouzi1. 2019. Large scale assessment of the production process and rice yield gap analysis by comparative performance analysis and boundary-line analysis methods. *Italian Journal of Argonomy* Vol 11.
- [6] Anonymous. 2023. *Data Indonesia*. Badan Pusat Statistik Provinsi Bali.
- [7] Ardhiyansyah, A. M., Istanto, I., Wibowo, H., & Hastuti, D. (2024, October). Pengaruh Modal, Tenaga Kerja, Luas Lahan, dan Teknologi Pertanian terhadap Hasil Produksi Usaha Tani Padi di Desa Sriwulan Kecamatan Limbangan Kabupaten Kendal. In *Prosiding Seminar Nasional Pembangunan dan Pendidikan Vokasi Pertanian* (Vol. 5, No. 1, pp. 243-257).
- [8] Arsyad, A. 2008. *Media Pembelajaran*. PT Raja Grafindo Persada. Jakarta, 245246.
- [9] Aulya Rahma T, Salamun Pasda, Muhammad Hasan, Muhammad Dinar, Mustari. 2020. Pengaruh Luas Lahan, Tenaga Kerja, Bibit, Dan Pupuk Terhadap Produksi Cengkeh Di Desa Seppong Kecamatan Tammerodo Kabupaten Majene. *E-ISSN 2686 5661*. Vol.2 No 05 Desember 2020.
- [10] Boediono. *Ekonomi Mikro Edisi Kedua*. Yogyakarta: BPEE-Yogyakarta, 1998, 70.
- [11] Budiman, purwanto, Sambas, dan Sumardi. (2015). Tingkat Pendapatan Dan Curahan Tenaga Kerja Pada Hutan Rakyat Di Kabupaten Ciamis. *Fakultas Kehutanan Universitas Gadjah Mada*. Vol 9 No. 2 (106-119).
- [12] Danendra Putra, I Putu dan Sudirman, I Wayan. 2015. Pengaruh Modal dan Tenaga Kerja Terhadap Pendapatan Dengan Lama Usaha Sebagai Variabel Moderating. *Fakultas Ekonomi dan Bisnis, Universitas Udayana*, Vol. 4, No. 9 (9-31).
- [13] Daniel Moechar. *Pengantar Ekonomi Pertanian*. (Jakarta: PT.Bumi Aksara, 2004), 56.
- [14] Devina Shintania. 2023. Pengaruh Modal, Tenaga Kerja, dan Luas Lahan Terhadap Produksi Cengkeh di Desa Banyuatis, Kabupaten Buleleng.
- [15] Diep Thanh Tung. 2013. Changes in the technical and scale efficiency of rice production activities in the Mekong delta, Vietnam. *Agricultural and Food Economics Open Journal* Vol 1 No 16.
- [16] Dinas Pertanian dan Ketahanan Pangan Provinsi Bali, BPS Provinsi Bali, 2021.

- [17] Esther Ris Matulesy dan Agnes Uliarta Tambunan. 2023. Analisis Regresi PLS Sebagai Alternatif Dari Regresi Linear Berganda: Studi Kasus Pengaruh Luas Lahan dan Luas Panen Terhadap Produksi Padi di Kabupaten Manokwari. Jurnal Pendidikan dan Konseling Vol 5 No 1. Universitas Pahlawan Tuanku Tambusai
- [18] Firdach Nopita Sari, Azhar Bafadal, Wa Ode Yusria. 2017. Faktor-Faktor Yang Berpengaruh Dalam Usahatani Cengkeh Di Desa Puulemo Kecamatan Lembo Kabupaten Konawe Utara. Jurnal Ilmiah Agribisnis 2017:2(1):6-12
- [19] Ghazali, I. 2016. Aplikasi Mutivariate Dengan Program IBM SPSS 23 Edisi 8. Bada Penerbit Universitas Diponogoro. Semarang. 156.
- [20] Habun, F., Wiendiyaty, W., & Nurwiana, I. (2022). Analisis Faktor-Faktor Yang Mempengaruhi Produksi Usahatani Cengkeh Di Kecamatan Kuwus Barat Kabupaten Manggarai Barat. Buletin Ilmiah IMPAS, 23(1), 1-12.
- [21] Herman Jelatu. (2021). Faktor-Faktor Yang Mempengaruhi Produksi Cengkeh (Studi Kasus Di Mano Kecamatan Poco Ranaka Kabupaten Manggrai Timur). Jurnal Ilmiah Multidisiplin Vol. 1 No.2 Maret 2021
- [22] Inyung Pahan. (2010). Panduan Lengkap Kelapa Sawit. Manajemen Agribisnis Dari Hulu Sampai Hilir, Jakarta: Penerbit Swadaya, 75.
- [23] Komang Mirandini., & I Wayan Wenagama. (2024). Analisis Faktor-Faktor Yang Mempengaruhi. E-Jurnal Ekonomi dan Bisnis Universitas Udayana, (13/7):1465-1477. Vol. 13 No.7 Juli 2024.
- [24] Laim, C. O. R., & Simamora, L. (2022). Analisis Faktor-Faktor Yang Memengaruhi Produktivitas Dan Kelayakan Usahatani Padi Sawah. Mimbar Agribisnis, 8(1), 75-88.
- [25] Mankiw, Gregory N. 2006. Makro Ekonomi. Ed. Keenam. Penerbit Erlangga. Harvard University. Jakarta. 55, 213, 239.
- [26] Mubyarto. 1955. Pengantar Ekonomi Pertanian. Jakarta: LP3ES.
- [27] Muh Sumardin. 2018. Faktor-Faktor Yang Mempengaruhi Produksi dalam Budidaya Tanaman Cengkeh Di Desa Pandung Batu Kecamatan Baraka Kabupaten Enrekang. 10-12
- [28] Munir Misbahul. 2008. Pengaruh Konversi Lahan Pertanian Terhadap Tingkat Kesejahteraan Rumah tangga Petani. Program Studi Komunikasi dan Pengembangan Masyarakat Fakultas Pertanian Institut Pertanian Bogor. 23-59.
- [29] Robert S. Pindyck dan Daniel L. Rubinfeld. 2009. Mikro Ekonomi. Ed. 6, Jilid 1. PT Indeks. Jakarta. 128, 214.
- [30] Rosdianah. "Pengaruh Luas Area, Biaya Produksi, Harga Gabah, Teknologi, Keikutsertaan Kelompok Tani Terhadap Produksi Padi di Desa Pude Kecamatan Kajuara Kabupaten Bone" (Program Sarjana, Fakultas Ekonomi dan Bisnis Islam, Universitas Islam Negeri Alauddin Makassar), 16-17.
- [31] Rosyidi Suherman dan Laras Andasari Syacherman. 2020. The Effect of Macroeconomic Factors and Market Share on the Sharia Banking Industry in Indonesia. International Journal of Innovation, Creativity and Change, Volume 11, Issue 9. 210-218.
- [32] Rustami. (2014). Pengaruh Biaya Produksi, Biaya Promosi, dan Volume Penjualan Terhadap Laba Pada Perusahaan Kopi Bubuk Banyuwatis. Universitas Pendidikan Ganesha. Vol. 2 No. 1. 2-15.
- [33] Ramadhani, Yuliasuti. 2011. Analisis Efisiensi, Skala, Dan Elastisitas Produksi Dengan Pendekatan COBB-Douglas Dan Regresi Berganda. Jurnal Teknologi 4 (1).
- [34] Ramadhani, Y. (2011). Analisis efisiensi, skala dan elastisitas produksi dengan pendekatan cobb-douglas dan regresi berganda. Jurnal Teknologi, 4(1), 53-61.
- [35] Sadono Sukirno. (2016). Mikroekonomi Teori Pengantar Edisi Ketiga. PT Raja Grafindo Persada, 190, 193, 195, 202, 218. Jakarta.
- [36] Sharma, G.S. Bangarva & S.K. Sharma 2007. Factor Effecting Grodd and net income of farmers in different farming system. Indian Research Journal; Of Ext. Edu. 7(1), 52-56.
- [37] Soekartawi. (1987) Prinsip Dasar Ekonomi Pertanian, (CV Rajawali). Jakarta. 15
- [38] Soekartawi. (2011). Ilmu Usahatani dan Penelitian untuk Pengembangan Petani Kecil. Jakarta: UI-PRESS. 132, 159.
- [39] Sudaryono. (2015). Pengantar Bisnis Teori & Contoh Kasus. CV Andi Offest. Jakarta

- [40] Sudrajat, (2018) Mengenal Luas Sawah Dan Memahami Multifungsinya Bagi Manusia Dan Lingkungan, Skripsi, (Gadjah Mada University Press,). Yogyakarta. 3.
- [41] Sugiyono. 2018. Metode Penelitian Bisnis. Alfabeta, Ed. 3. Bandung. 21, 23, 25, 57, 455, 456, 457, 467.
- [42] Suhardi. (2016) Pengantar Ekonomi Mikro Cetakan Pertama. Penerbit Gava Media, 215. Yogyakarta.
- [43] Sunaryo. (2001). Akuntansi. Salemba Empat. Jakarta. 69-73
- [44] Suratiyah, P. 2014. Konsumsi Beras organik Pada Tingkat Rumah Tangga di Kota Yogyakarta. Universitas Gadjah Mada Vol. 1, No.3 (18-21). Yogyakarta.
- [45] Suroso. 2004. Ekonomi Produksi. Lubuk Agung. 109. Palembang.
- [46] Suryani, E., Hartoyo, S., & Sinaga, B. M. (2015). Pendugaan elastisitas penawaran output dan permintaan input pada usaha tani padi dan jagung: pendekatan multiinput-multioutput. Jurnal agro ekonomi, 33(2), 91-106.
- [47] Todaro, Michael, P. 1994. Pembangunan Ekonomi di Dunia Ketiga. Penerbit Erlangga. Jakarta.
- [48] Wooldridge, Jeffrey M. 2016. Introductory Econometrics. Michigan State University. Cengage Learning. Sixth edition. 257, 277.