

# Factors Affecting Cloves Production In Woewolo Village, Nagekeo District, East Nusa Tenggara Province, Indonesia

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## Abstract

To plant cloves is very promising for the farmers in Woewolo. The cloves plantation in Woewolo Village, Mauponggo District is an effort to obtain added value for economic life. the purpose of this study was to determine whether capital, labor, and land area affect the production income of clove farmers in Woewolo Village, Nagekeo Regency. This research is a type of quantitative research. The population determined in this study were all clove farmers in Woewolo Village with 75 samples. Primary data collection was carried out by distributing questionnaires to respondents. Based on the Multiple Linear Regression Test the Variables Capital (X1), Labor (X2), and Land Area (X3) have a positive regression coefficient direction on Clove Production in Woewolo Village, Mauponggo District. The statistical test results prove that capital affects clove production as indicated by the acquisition of t-test results, namely the t-count value of 2.452 with a significance of 0.017 at the 5% significance level where  $0.017 < 0.05$ . The results of statistical tests prove that labor affects clove production as indicated by the acquisition of t-test results, namely the t-count value of 2.489 with a significance of 0.015 at the 5% significance level where  $0.015 < 0.05$ . The results of statistical tests prove that land area affects clove production as indicated by the acquisition of t-test results, namely the t-count value of 5.347 with a significance of 0.000 at the 5% significance level where  $0.000 < 0.05$ . the percentage of the contribution of the influence of the independent variables including the capital, labor, and land area on the clove production variable is 35.8%.

## Keywords

Cloves Production, Capital, Labor, Land Area, Woewolo, Flores

## INTRODUCTION

Nagekeo Regency is one of the nine regencies in Flores Island, East Nusa Tenggara province that has quite a good potential for agriculture where the yield of these commodities increases the income per capita but most of the land has not been used optimally. Those commodities are cocoa, cloves, coffee, candlenut, and others.

Mauponggo Subdistrict, especially in Woewolo Village, has fertile land that suits clove plantation, but the whole process from plantation to harvesting process is done in traditional ways. The cloves production for the year 2019 is declining due to reduced capital, traditional labor, and very small land area, besides, there are also other types of plants that are planted together on a field, causing cloves production to decrease.

Three hamlets are the main communities of cloves farmers: Puunage, Natasule, and Lendo. Based on the survey, almost each

cloves field is owned by the farmers themselves, however, they plant the cloves with other plants closely together, therefore the way they plant may be one of the factors causing lower cloves harvesting.

The productivity of cloves in Mauponggo District, Woewolo Village in 2019-2020 is nine tons or 9000 kilograms and valued at Rp 50,000 per kilo. Therefore to plant cloves is very promising for the farmers in Woewolo. The cloves plantation in Woewolo Village, Mauponggo District is an effort to obtain added value for economic life.

Based on the results of Listiani's research, capital is an important element for a business, because without capital the operational activities of a plantation business cannot be carried out, that is, there are often farmers who lack the capital to buy seeds, and lack of capital causes farmers not to use fertilizers and pesticides as it should be (Listiani et al., 2019).

The results of Akbar's research found that workers who work as clove farmers come from members of the clove farmer household, although some come from outside the clove farmer household members. Those who come from outside the clove farmer's household members earn income by working on other people's land because they do not have clove land. Workers who work as clove farmers do not need special education, with the capital "being able to know the types of cloves that are ready to be harvested" they can and can work as clove farmers (Akbar et al., 2018).

The land area has a positive effect on income. Clove farming income will increase is followed by the addition of land area in clove farming. This means that the area of land needs intensive attention because the addition of land areas can increase farmers' income. Land can be said to be economically feasible if the results obtained exceed the total variable capital and decrease the value of fixed capital (Sukayat & Rumna, 2018).

Based on the phenomenon and facts above, the purpose of this study was to determine whether capital, labor, and land area affect the production income of clove farmers in Woewolo Village, Nagekeo Regency.

### **Capital**

According to (Tnius, 2018) Capital is a revolving fund, which was initially issued to finance daily operational activities so that the production process can run. The results of the production are then sold and from the sale, the company will get a profit which is expected to always increase. Part of the profit that has been generated will return as working capital to the company. This working capital turnover will continue to occur as long as the company is still running so that the company is also required to compete in managing its working capital.

According to (Listiani et al., 2019) capital can be divided into two criteria. Capital to improve farming consisting of depreciation costs of building, cashable wealth (seeds, fertilizers, etc.) wealth consisting of agricultural tools (machine tools for maintenance of the farm) and costs used for maintenance (caring for or replacing agricultural tools. Capital which consists of agricultural machinery and equipment including depreciation, maintenance, or replacement when there are damaged costs, food, and others.

### **Labor**

According to Dwiyatmo (Akbar et al., 2018), Labor in farming is one of the determining elements. The agricultural labor force generally consists of several farm laborers, either family or outside workers who all play a role in agricultural business activities. The use of labor in agriculture is used to produce maximum agricultural production, labor must carry out an intensive work process in its working time.

According to (Kumaat et al., 2016), clove farming labor is usually used for maintenance, harvesting or picking, transportation, and drying activities. Clove production results from the garden to the farmer's house using traditional cow-wheeled transportation or motorbike taxi, depending on the road access that must be taken.

### **Land Area**

According to Mubyarto (Harini et al., 2019), land area is one of the production factors, namely the place where agricultural products are produced which contribute to farming, where the amount of production from farming, one of which is influenced by the size of the land used.

According to (Listiani et al., 2019), land area is a very important factor in the production of cloves, therefore the land is a very valuable asset for farmers. This means that land area has a positive effect on income. The income of clove farming will increase if it is followed by the addition of land area in clove farming. This means that the area of land needs intensive attention because the addition of land areas can increase farmers' income. Land can be said to be economically feasible if the yield obtained exceeds the total variable capital and decreases the value of fixed capital.

Based on the explanation of the concepts above, the hypothesizes are as follows:

Capital has a positive effect on the production income of clove farmers.

Labor has a positive effect on the production income of clove farmers.

Land area has a positive effect on the production income of clove farmers.

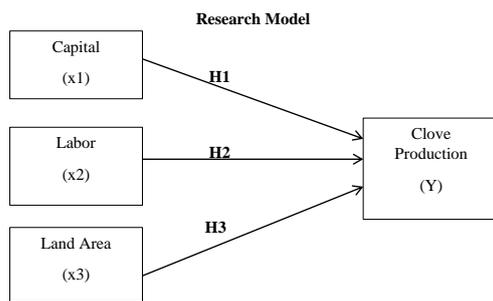


Figure 1. Research Model

## METHODS

This research is a type of quantitative research, where the research data is in the form of quantitative data obtained from the respondents' answers scores. The research location is in Woewolo Village, Mauponggo District, Nagekeo Regency.

### *Sampling Method*

The population determined in this study were all clove farmers in Woewolo Village, Mauponggo District, Nagekeo Regency that distributed in three hamlets, namely: Pu'unage Hamlet as many as 100 farmers, Natasule Hamlet as many as 150 farmers, and Lendo as many as 50 farmers. The total population is 300 farmers. To determine the number of samples, the Slovin formula is used with an allowance percentage used is 10% to obtain a total sample of 75 samples.

### *Data Collection Method*

Primary data collection was carried out by distributing questionnaires to respondents, and secondary data collection was carried out by informal interviews with clove farmers and observations of clove farming activities.

### *Data Analysis Method*

Data analysis was performed using SPSS version 27 software. First of all, analysis of validity and reliability was carried out, then performed multiple regression analysis, hypothesis testing, and F test.

## RESULTS AND DISCUSSION

### *Respondent Description*

56% of respondents who were sampled in this study were male and most of them were aged 41-45 years, as much as 29%.

### **Validity and Reliability**

Based on analysis, each variable is declared valid because the r count of each variable is greater than the r table ( $r_{count} > 0.27272$ ). Thus the validity requirements of the measuring instrument can be met and can be used for further testing.

The Cronbach's alpha value of each variable is greater than 0.60. So, it can be concluded that the instrument is declared reliable or can be trusted as a variable measuring tool.

### **Multiple Linear Regression Analysis**

Based on analysis, the regression line equation is as follows:

$$Y = 1.288 + 0.205x_1 + 0.203x_2 + 0.411x_3$$

Based on the Multiple Linear Regression Test table and the equation it can be seen that the Variables Capital (X1), Labor (X2), and Land Area (X3) have a positive regression coefficient direction on Clove Production in Woewolo Village, Mauponggo District.

### **Hypothesis Test**

Each of the variables of capital, labor, and land area has a positive and significant effect on clove production in Woewolo Village. This is indicated by the t-test which has a significance value of X1 0.017, X2 0.015, X3 0.000 which is smaller than 0.005 which is the standard of significance used in this study. It can be explained that capital, labor, and land area have a positive and significant effect on clove production, which is also strengthened by the T count value of each independent variable which is greater than t table ( $t_{count} > t_{table}$ ), and the t table value is 1.994.

### **The Effect of Capital on Clove production**

The statistical test results prove that capital affects clove production as indicated by the acquisition of t-test results, namely the t-count value of 2.452 with a significance of 0.017 at the 5% significance level where  $0.017 < 0.05$ . A sufficient amount of capital can push the level of production. This means that the more the amount of capital, the production level will also increase.

### **The Effect of Labor on Clove Production**

The results of statistical tests prove that labor affects clove production as indicated by the acquisition of t-test results, namely the t count value of 2.489 with a significance of 0.015 at the 5% significance level where  $0.015 < 0.05$ .

Labor in farming is one of the determining elements. Many laborers in Clove farming are more familiar with the traditional farming technique that is handed for generations, and also they cannot afford to pay additional workers to help them.

### **Effect of Land Area on Clove Production**

The results of statistical tests prove that land area affects clove production as indicated by the acquisition of t-test results, namely the t-count value of 5.347 with a significance of 0.000 at the 5% significance level where  $0.000 < 0.05$ .

Land area is one of the factors of production, namely the place where agricultural products are produced which contribute to farming, where the amount of production from farming is influenced by the size of the land used.

Land area is a very important factor in the production of agricultural products as a means of planting crops for farmers in farming, therefore the land is an asset very valuable for the farmers. The size of the land and the intensification of clove plantation will help farmers to increase production. Farmers need to focus on the most profitable commodity instead of others that have a low price.

### **F Statistical Test**

The F statistical test shows whether all the independent variables included in the model have a joint influence on the dependent variable. The F-count value is obtained of 14.779 with a significance level of  $0.000 < 0.05$ . This explains that the independent variables, including Capital (X1), Labor (X2), and Land Area (X3) simultaneously or collectively have a positive and significant effect on the dependent variable, namely Clove Production (Y).

Based on table 6 above, the adjusted R2 value is 0.358 (35.8%). This shows that the percentage of the contribution of the influence of the independent variables including the capital, labor, and land area on the clove production variable is 35.8%. While the rest is influenced by other variables that are not included in this research model.

### **CONCLUSION**

Farmers' capital influences Clove Production in Woewolo Village, Mauponggo District, Nagekeo District. Clove Plantation Workers influence Clove Production in Woewolo Village, Mauponggo District, Nagekeo Regency. Area of clove plantation land influences Clove Production in Woewolo Village, Mauponggo District, Nagekeo Regency.

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