# INCOME ANALYSIS OF CLOVE FARMING IN BENGKEL VILLAGE, BUSUNGBIU SUB-DISTRICT, BULELENG REGENCY

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**ABSTRACT**

*The agricultural sector is a very important sector in economic development in Indonesia. Buleleng Regency is the area with the largest plantation area in Bali. The plantation sub-sector commodity in Buleleng Regency until now still relies on coconut, Robusta coffee and cloves. Clove (Syzygium aromaticum L.) is one of the plantation commodities that has the potential to be cultivated in Buleleng. Clove farming income that exists today is still not able to support the life of farmers properly. Busungbiu District is a clove center in Buleleng Regency. Clove yields in Buleleng Regency from year to year are not the same. Fluctuations in clove yields occur due to climatic influences. Busungbiu District is a clove center in Buleleng Regency. Clove yields in Buleleng Regency from year to year are not the same. Fluctuations in clove yields occur due to climatic influences. This research was conducted on clove farming in Bengkel Village, Busungbiu District, Buleleng Regency. The selection of the research location was determined purposively (purposive sampling). The population in this study was 40 people and the sample in this study was 20 people. The results of the income analysis show that the average cost of production inputs incurred in clove farming in one season is Rp. 5,359,000/cultivated area and farmers' income is Rp. 5,441,000 and revenue is Rp. 10,800,000. This value shows that the total revenue is greater than the costs incurred by clove farmers in Bengkel Village, Busungbiu District, Buleleng Regency.*

Keywords: *farming, cloves, income, acceptance*

## 1. INTRODUCTION

The agricultural sector is a very important sector in economic development in Indonesia. The agricultural sector is one of the foreign exchange earners for the country, one of which comes from plantation commodities. The development of the plantation sub-sector agriculture has an important meaning, especially in developing countries, which are always trying to: (1) utilize natural resource wealth in a sustainable and sustainable manner; (2) utilizing science and technology to produce plantation products and industrial raw materials. Nationally, the plantation sub-sector has also made a real contribution to national development. For example, in terms of employment where the majority (80.04%) are cultivated by smallholders (Tondok, 1999).

Buleleng Regency is the area with the largest plantation area in Bali. In 2017 the area of plantation land in Buleleng Regency was 26% of the total area of plantation land in Bali or 31,323 Ha (BPS Bali Province in Bali in Figures 2017). The plantation sub-sector commodity in Buleleng Regency until now still relies on coconut plants deep, robusta coffee and cloves. Clove (*Syzygium aromaticum* L.) is one of the plantation commodities that has the potential to be cultivated in Buleleng (Buleleng Plantation Office, 2018). Clove commodity is one of the plantation commodities that contributes to the country's economy, no less than small to large industries which include cigarette, cosmetics, perfume and spice manufacturing industries that really need this commodity. Tjionger's (2010) argues that apart from meeting increasing domestic demand, clove commodities from

Indonesia are also aimed at meeting foreign market demand. Farmers must pay attention to clove farming, especially in relation to income.

Tarigans (2011) states that the current income from clove farming is still insufficient to properly support farmers' lives. Income in farming has a close relationship with the level of production achieved, if the level of production increases, the income will also tend to increase at the level of income. Farming activities aim to achieve production in agriculture, which will ultimately be valued in money after calculating the costs incurred. Farming revenue or income will encourage farmers to allocate various uses or production costs in the next period (Hernanto, 1998). So it is necessary to empower farmers, where farmer empowerment is all efforts to increase the ability of farmers to carry out better farming through education and training, counseling and assistance, development of systems and marketing facilities for agricultural products (Mika, 2018).

Busungbiu District is a clove center in Buleleng Regency. Clove yields in Buleleng Regency from year to year are not the same. Fluctuations in clove yields occur due to climatic influences. Climate is closely related to rainfall and factors that affect climate such as air temperature, air humidity, length of sunlight, wind speed and direction. Climate change also has an impact on clove growth and production. This is very detrimental to both clove farmers and traders because the profits obtained are unstable (Jiwantari, Artini, and Bachelor, 2021). The purpose of this study was to determine the income of clove farming in Bengkel Village, Busungbiu District, Buleleng Regency.

## 2. RESEARCH METHODOLOGY

This research was conducted on clove farming in Bengkel Village, Busungbiu District, Buleleng Regency. The selection of the research location was determined purposively (*purposive sampling*). Isbandi (1983) defines the population as the total number of units of analysis whose characteristics will be suspected in a study. The population in this study totaled 40 people. According to Notoatmojo (2003) a sample is a portion of the object taken from the entire object under study and is considered to represent the entire population. The sample in this study amounted to 20 people. The data taken in this study are primary data and secondary data. Primary data is data obtained directly from respondents which include the characteristics of the farmers (age, number of household members, education, occupation, and cultivated area). Data regarding the cost of clove farming which includes (production facilities, labor and agricultural tools). Secondary data is data obtained from various agencies including: the condition of the research area (geographical location, area size, population according to age, education, livelihoods, facilities and infrastructure, transportation and communication) related to this research. The data analysis used is income analysis with the formula:

Pd =TR-TC
TR = P x Q
TC = FC + VC

Information :
Pd = Income (Rp)
TR = Total Revenue (Rp)
TC = Total Cost (Rp)
P = Price (Price) (Rp)
Q = Production obtained (kg)
FC = Cost Fixed (Rp)
VC = Variable Cost (Rp).

## 3. RELATED RESEARCH/LITERATUR REVIEW

### Clove (*Syzygium aromaticum* L.)

According to Suwarto, et al. (2014), the scientific classification of cloves is as follows:

Division : Spermatophyta
Subdivision : Angiospermae
Class : Dicotyledoneae
Nation : Myrtales
Family : Myrtaceae
Genus : Syzygium
Species : *Syzygium aromaticum* L.

Clove plants begin to flower after 4.5–8.5 years old, depending on the environmental conditions. Clove is a plantation commodity that is mostly cultivated by smallholders. The main product of clove plants is the flowers, which are harvested when the flower petals have not yet bloomed. Young clove flowers are light green in color, then turn pale greenish yellow and turn reddish when already old. Dried clove flowers will be blackish brown in color and taste spicy because they contain essential oils (Thomas, 2007).

### Farming

According to Soekartawi (1995) that the science of farming is the science that studies how a person allocates existing resources effectively and efficiently to obtain high profits at a certain time. Farming costs are usually classified into two, namely fixed costs and variable costs. These fixed costs are generally defined as costs that are relatively fixed in amount, and continue to be incurred even if a lot or a little production is obtained. So the magnitude of this fixed cost does not depend on the size of the production obtained. These fixed costs vary, and sometimes it depends on the researcher whether they want to treat these variables as fixed costs, including land rent, taxes, agricultural equipment, and irrigation fees. The nature of the cost of Farming Science there are also what are called paid fees and unpaid fees. Expenses paid consist of the purchase price of fertilizer, purchase of medicine, purchase of seeds, purchase of fodder, and labor wages, and unpaid costs consist of use of family labour, interest on capital and depreciation. The nature of direct costs are costs that are directly used in the production process (*actual costs*), and indirect costs consist of capital depreciation. The types of costs consist of:

1. total fixed cost
2. *average total fixed*
3. total *variabel cost*
4. *average variabel cost*
5. Marginal Cost
6. Total cost
7. *average total cost*

### Income

According to Soekartawi, (1995) describes and divides farm income into two, namely:*gross farm income*and*net farm income*. Gross income of farming, namely the value of the total product of farming in a certain period of time which includes all products produced, both those that are (1) sold, (2) consumed by farming households, (3) used in farming such as for seeds or fodder, (4) used for payment, and (5) for safekeeping. To calculate the value of the product, it must be multiplied by the prevailing price, namely the net selling price at the farm level. While the net income of farming is the difference between the gross income of farming and the total expenditure of farming. Farming income is influenced by farm revenue and

production costs. Farming income is determined by the selling price of the product received at the farmer level as well as the prices of production factors issued by farmers as production costs. If product prices or production factor prices change, the farm income will also change.

### Farming Revenue

According to Syahputra (1994) farming revenue is the multiplication of the product obtained by the selling price. According to Hermanto, (1989) the things that can be influenced in the acceptance of farmers are:

a. Land area covering land area, average planting area
b. Production Level
c. Choice of business branch combination
d. The intensity of the plantation entrepreneur as indicated by the number of workers

## 4. RESULTS AND DISCUSSION

Land area is one of the important factors in increasing production, the wider the land planted, the higher the production that will be produced. Conversely, the narrower the land planted, the lower the production. In more detail, the area of land controlled by farmers is presented in Table 1.

**Table1. Average size of land tenure (Ha)**

| No | Land area (Ha) | Frequency (people) | Percentage (%)) |
|---|---|---|---|
| **1** | <1 | 9 | 45 |
| **2** | 1-2 | 8 | 40 |
| **3** | 2-3 | 2 | 10 |
| **4** | >3 | 1 | 5 |
| | **Total** | 20 | 100 |

Source: Obtained from primary data

Table 1 shows that the area of land used by farmers in cultivating clove farming is around less than one (<1) ha, which is 45%, then 1 ha up to 2 ha, which is 40%, the land area is between 2-3 ha. 10%, and land control over 3 ha is 5%.

### Farming Costs Farming

Costs in this study are classified into fixed costs and variable costs. Variable costs include production inputs such as fertilizers, medicines and labor, while fixed costs such as land tax and agricultural tools used in clove farming.

**Table 2. Average cost of clove farming (expand cultivation)**

| No | | Type of expenditure | Unit | price (Rp/set) | Value |
|---|---|---|---|---|---|
| | I | **Variable Cost (VC)** | | | |
| | **A** | Production Facility: | | | |
| | | Fertilizer | | | |
| | | a. Urea | 254 kg | 5.000 | 1.270.000 |
| | | b. SP 36 | 150 kg | 5.000 | 750.000 |
| | | Pesticides/fungicides | 7,6 lt | 65.000 | 494.000 |
| | | | | **Subtotal** | **2.514.000** |
| | **B** | Labor: | | | |
| | | Maintenance/sanitation | 7HOK | 70.000 | 490.000 |
| | | Cultivating | 6 HO | 70.000 | 420.000 |
| | | Pest and Disease | 5 HOK | 70.000 | 350.000 |
| | | Harvesting and drying | 15 HOK | 70.000 | 1.050.000 |
| | | Subtotal | | | **2.310.000** |
| II | | **Fixed costs (FC)** | | | |
| | **C** | Tools/depreciation of tools: | | | |
| | | Bamboo Ladder | 2 bh | 200.000 | 400.000 |
| | | Hoe | 3 bh | 60.000 | 36.000 |
| | | Sickle | 3 bh | 15.000 | 9000 |

| | | | | | |
|---|---|---|---|---|---|
| | Subtotal | | | | **445.000** |
| **D** | Land tax | | 1,2 ha | 2 | **90.000** |
| | | Total | | | **5.359.000** |

Source: Obtained from primary data

Table 2 shows that the cost of production inputs is the cost incurred by farmers in the process of clove production. / cultivated area. In more detail, the average costs incurred by farmers in clove farming. In the table it can be seen that the smallest cost incurred by clove farming is equipment/depreciation of equipment Rp.445,000 and the largest cost in clove farming is labor reaching Rp.2,310,000. Labor costs that are devoted are all costs incurred in real terms through the wage system and labor costs from within the family are not counted. The use of labor includes costs for maintenance (weed eradication, pest and disease control), harvesting and so on. The amount of labor costs incurred by farmers for clove farming in one harvest season is IDR 2,310,000/per cultivated area. Meanwhile, the costs incurred for tools/depreciation of tools are calculated at a value of Rp. 445,000. In addition, other costs incurred are for land tax, which is Rp. 90,000. So the total costs incurred by clove farmers are:

TC = FC + VC
= 535.000 + 4.824.000
= Rp.5.359.000

**Acceptance and Revenue of Clove Farming**

According to Soekartawi (1987) farming revenue is the amount of production of the commodity produced by farmers multiplied by the price prevailing at that time. Meanwhile, income is the difference between revenue and farming costs. Based on the results of the study, it was shown that the average income obtained by farmers from clove farming in Bengkel Village, Busungbiu District, Buleleng Regency was 100 kg/cultivated area. At the time of the study, the average price of dried clove flowers produced by farmers was Rp. 108,000/ kg with a range between Rp. 95,000 to Rp. 120,000/kg. In calculating the acceptance of clove farming using the formula:

TR = P x Q
= 108.000 x 100
= Rp.10.800.000

So that the total revenue of clove farmers in Bengkel Village, Busungbiu District, Buleleng Regency was Rp. 10,800,000. For the acceptance of clove farming and the costs incurred, it can be calculated the amount of farmers' income from clove farming using the formula:

Pd = TR – TC
= 10.800.000 – 5.359.000
= Rp.5.441.000

Farmers' income is IDR 5,441,000 and receipts are IDR 10,800,000, so the total costs received by farmers are IDR 5,359,000.

## 5. CONCLUSION

The results of the income analysis show that the average cost of production inputs incurred in clove farming in one season is Rp. 5,359,000/cultivated area and farmers' income is Rp. 5,441,000 and revenue is Rp. 10,800,000. This value shows that the total revenue is greater than the costs incurred by clove farmers in Bengkel Village, Busungbiu District, Buleleng Regency.

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