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# Competitiveness Analysis of the Productive Business Unit Catur Paramita's Kintamani Coffee in Catur Village, Kintamani District, Bangli Regency

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***ABSTRACT***

*Kintamani coffee is grown at an altitude of 900-1000 meters above sea level near Mount Batur. As already discussed, the taste and aroma of Kintamani Coffee tends to taste citrusy. The purpose of the study entitled Analysis of Arabica Coffee Competitiveness in UUP (Productive Business Unit) Catur Paramitha in Catur Village, Kec. Kintamani Regency Bangli is to analyze the competitive advantage of Arabica coffee in the UUP (Productive Unit) Catur Paramitha in Catur Village, Kec. Kintamani, and to analyze the comparative advantage of Arabica coffee in UUP (Productive Business Unit) Catur Paramitha in Catur Village, Kec. Kintamani Regency Bangli. This research was conducted from October to December 2022. The analytical method in this study uses the Policy Analysis Matrix (PAM) or government policy analysis. The results of the PAM analysis research show that Arabica Coffee farming produced by Arabica Coffee farmers in Catur Village, Kintamani District, Bangli Regency has very strong competitiveness because it is seen from the value of the Private Cost Ratio (PCR) <1, namely 0.17 and the Domestic Resources Ratio (DCR) <1, namely 0.10, which means that Arabica coffee farming has a competitive advantage and a comparative advantage, because economic efficiency is already able to compete with Arabica coffee farming in other regions. The policies owned by the government have been able to provide effective protection (protection) for Arabica coffee farming to survive until now, this is due to the existence assistance from the government.*

***Keywords*** *: Arabica Coffee, Competitiveness, Policy Analysis Matrix* (PAM)

## 1. Introduction

Agriculture includes subsectors of food crops, horticulture, plantations, fisheries, and forestry. Based on the plantation subsector, there are commodities that have an important role in the national economy and play a major role in Indonesia's export products [9]. Of the several plantation commodities in Indonesia, there are 5 (five) important plantation commodities in Indonesia. The development of five important plantation commodities includes palm oil, rubber, cocoa, coffee, and sugar cane [7]. Coffee is one of the plantation commodities that has a high economic value among other plantation crops and plays an important role as a source of foreign exchange [25]. Coffee not only plays an important role as a source of foreign exchange but is also a source of income for no less than one and a half million coffee farmers in Indonesia [18].

Arabica coffee (Coffea Arabica) is the best quality coffee compared to other types of coffee, the signs are dark green and choppy beans [21]. Arabica coffee has a unique brewing taste and has a very promising market opportunity in business development [1].

One of the areas that received geographical indication (GI) certification for arabica coffee in Bali is in Catur Village, Kintamani District, Bangli Regency. [5] States that Kintamani has a coffee plantation area of 5,656 ha and production of 2134.48 tons in 2017 with arabica coffee. Kintamani arabica coffee production is marketed to the international market, so demand is not only influenced by the domestic market, but also influenced by international market demand [20]. This is based on data on the volume and value of coffee exports in Bali Province over the past five years, showing fluctuations

in the volume and value of Balinese coffee exports where in 2014 the total export volume reached 240 tons with an export value of US$1.2 million. The export volume increased from 2013 which was recorded at 36 tons with an export value of US$205 thousand, but in 2015 the volume and value of coffee exports in Bali Province decreased dramatically to 5 tons with an export value of US$143 thousand [8]. This requires Arabica coffee production to meet the standards of Arabica coffee geographical indication certification so that coffee quality and prices are more guaranteed in the domestic market and export market [24]. Therefore, the role of geographical indication certification is to determine the price and guarantee the market [11].

## 2. Materials and Methods

The research location chosen was Catur Village, Kintamani District, Bangli Regency. The selection of this research location was carried out purposively, namely based on certain considerations tailored to the research objectives [17].

Arabica coffee cultivation in Catur Village is carried out by people who are members of the Subak organization. One of the Business Unit Catur Paramita's Kintamani Coffee with 55 households. The Subak is located in the Banjar (neighborhood) of Mungsengan, Catur Village [16]. The sample is part of the number and characteristics of the population [22]. The sampling method in this study was purposive sampling. By taking 15 farmer respondents in Business Unit Catur Paramita's Kintamani Coffee. Data collection in this research on arabica coffee supply chain management was carried out through: Observation is a data collection method that is carried out by directly observing, seeing and taking the data needed at the research site. [3]. In this study, researchers made direct observations to the location, namely UUP Catur Paramitha, Catur Village, Kintamani District, Bangli Regency, Interviews are data collection techniques carried out by conducting direct interviews with selected sources or respondents to obtain the necessary data [6]. Questionnaire is a data collection method that is carried out by giving a set of questions or written statements to respondents to answer [4]. Literature Study is a method of collecting data by collecting existing documents or records both from company owners and from browsing the internet, other references related to research. Documentation is a method of providing or collecting evidence of information such as pictures, quotes and other references to complement the data collected by the research questionnaire [23]. In this case the data sources used are primary data and secondary data.

### 2.1 Data Analysis Method

In this study used analysis to support the objectives include Descriptive Analysis, Policy Analysis Matrix (PAM) can provide baseline information that is important for investment activities in agriculture, including competitiveness about competitive advantage and comparative advantage obtained from private prices and social prices. [2] (Ali, 2009). So as to know and identify the characteristics of coffee farming [19] (Rezki, 2020). The analysis method used to measure the competitiveness of the coffee farming system is the analysis of the competitiveness of coffee farming with the approach of competitive advantage and comparative advantage. (To answer the competitive advantage, the following model was used:

a. Private Cost Ratio: PCR

PCR = $\frac{C}{(A-B)}$

The farming system is competitive if PCR < 1. The smaller the PCR value, the more competitive it is [12]. To answer comparative advantage, the following model is used:

b. Domestic Resource Cost Ratio: DRCR

DRC = $\frac{G}{(E-F)}$

## 3. Result And Discussion

### 3.1 Characteristics of Respondents

#### 3.1.1 Respondent Age

Age or commonly called age is a unit of time to measure the existence of an object or creature based on time, both living and dead. [14] Age determination is done using a count of years. The characteristics of respondents based on age can be seen in the following table.

Table 1.
Respondent Identity Based on Age

| No | Age (Year) | Amount (People) | Percentage (%) |
|---|---|---|---|
| 1 | 44 – 50 | 8 | 53,33 |
| 2 | >50 | 7 | 46,67 |

*Source : Primary data after processing (2023)*

Looking at table 1 above, it can be concluded that the majority of coffee farmers are aged 44 - 50 years with a total of 8 people (53,33). Meanwhile, the lowest was 50 years old with 7 people (46.67). This shows that the average coffee farmer is still predominantly in the productive age group.

### 3.2 Production Costs of Kintamani Coffee Farming Businesses

#### 3.2.1 Fixed Cost

Fixed costs that do not depend on the amount of production produced. Fixed costs in this study are the cost of depreciation of equipment in producing kintamani coffee farms. The description of kintamani coffee farming production facilities and infrastructure invested and the depreciation value per year can be seen in Table 2.

Table 2.
Fixed costs of Kintamani Coffee Farming in Catur Village, Kintamani District, Bangli Regency

| No | Type of Facilities/Infrastructures | Investment Value (IDR) | Length of Use (/years) | Amount (/unit) | Unit Price (IDR) | Depreciation Value (IDR) |
|---|---|---|---|---|---|---|
| 1 | Hoe | 375.000 | 5 | 5 | 75.000 | 60.000 |
| 2 | Machete | 150.000 | 5 | 3 | 50.000 | 20.000 |
| 3 | Sickle | 176.467 | 4 | 4 | 42.867 | 35.733 |
| 4 | Sprayer | 1.493.333 | 3 | 4 | 603.333 | 310.333 |
| | Total Tool Depreciation | | | | | 426.066 |

*Source : Primary data after processing (2023)*

Based on table 2 shows that the total depreciation value is 426.066 IDR of the costs - the highest depreciation cost incurred is the Sprayer for fixed costs.

#### 3.2.2 Variable Costs

Variable costs used in Kintamani Coffee farming in Catur Village, Kintamani District, Bangli Regency consist of compost fertilizer, NPK fertilizer, pesticides and labor can be seen from table 3 below.

Table 3.
Variable Costs of Kintamani Coffee Farming in Catur Village, Kintamani District, Bangli Regency

| Criteria | Amount | Unit Price (IDR) | Total |
|---|---|---|---|
| Compost Fertilizer | 11 | 2.500.000 | 27.500.000 |
| NPK Fertilizer | 59 | 200.000 | 11.800.000 |
| Pesticides | 3 | 50.000 | 150.000 |
| Labor | 17 | 30.000 | 510.000 |
| Total | 90 | 2.780.000 | 39.960.000 |

*Source : Primary data after processing (2023)*

In table 3, it can be seen that the total variable costs incurred by Arabica Coffee farmers amounted to 39.960.000 IDR. The variable costs that are most widely used are compost fertilizer and NPK fertilizer, this is because the 2 fertilizers are important ingredients for soil fertility that will be used later.

### 3.3 Competitiveness Analysis

The results of the analysis of the competitiveness of Kintamani coffee farms in Catur Village, Kintamani District, Bangli Regency using PAM analysis techniques or Government Policy Analysis used to analyze the economic situation of business owners can be seen from the point of view of private business profit and at the same time provide a measure of the level of economic efficiency of the business or social profit can be seen in the table below:

Table 4.
PAM analysis of Kintamani Coffee farming in Catur Village, Kintamani District, Bangli Regency

| Description | Reception | Input | | Profit |
|---|---|---|---|---|
| | | Tradable | Non-Tradable | |
| Private Price | 11.666.666 | 2.750.000 | 945.000 | 7.971.666 |
| Social Price | 7.500.000 | 2.145.000 | 945.000 | 4.410.000 |
| | 4.166.666 | 605.000 | 0 | 3.561.666 |

*Source : Primary data after processing (2023)*

Based on the table, the Kintamani Coffee farm shows a positive profit. This condition can show that private profits or financial profits on Arabica coffee farms in Catur Village, Kintamani Subdistrict, Bangli Regency are positive, which in this condition shows that the intervention of the government in coffee farming is able to provide a positive value to Arabica Coffee farms of 7.971.666 IDR for every 6 months of harvest production.

While the economic benefits can be seen from the profits of Arabica Coffee farming in Catur Village, Kintamani District, Bangli Regency, obtaining positive social benefits of 4.410.000 IDR per each semester for one production. The existence of positive social benefits indicates that coffee farming can survive without government intervention. However, the intervention of the government is also able to increase the profit of Arabica coffee farming in Catur Village, Kintamni Subdistrict, Bangli Regency because with goverment policies farmers can buy farming tradable inputs cheaper than the price on the international market.

The difference between private and social benefits indicates divergence. Divergence is the difference between the private price of a commodity and its social price. Meanwhile, the input costs incurred by Kintamani Coffee farmers to produce one period amounted to 2.750.000 IDR (private tradable input) and the social tradable input amounted to 2.145.000 IDR with a divergence of 605.000 IDR.

Where the non-tradable inputs that must be spent by Kintamani Coffee farmers in one semester are the same value of 945.000 IDR which is due to nothing that must be imported so that non-tradable

costs between private prices and social prices are the same with a divergence value of 0 (zero) while the divergence of their own income is 4.166.666 IDR with a divergence profit received by Arabica Coffee farmers of 3.561.666 IDR.

### 3.4 Competitive Advantages

Competitive advantage can be analyzed using the Private Cost Ratio (PCR) indicator calculated from the components in the PAM Table.

$$\text{PCR} = \frac{\textit{private non tradable input costs}}{\textit{private reception} - \textit{private tradable input cost}}$$

$$\text{PCR} = \frac{945000}{11.666.666 - 2.750.000} = \mathbf{0{,}10}$$

This competitive advantage shows the extent to which arabica coffee farming is able to finance its domestic factors at actual or prevailing market prices. The prevailing price to measure the competitive advantage of arabica coffee is the price received by farmers in the market, where the prices of the inputs used have received positive intervention (subsidies) from the government. The Privat Cost Ratio (PCR) is the division between private non-tradable input costs and the difference between private revenue and private tradable costs. PCR can be calculated from the notation in the PAM Table C/(A-B). Arabica Coffee farming is said to have a competitive advantage if it has a PCR value ≤ 1, which means that Arabica Coffee farming has a competitive advantage, the smaller the PCR value, the greater the level of Competitive Advantage.

Based on the results of the calculation of Kintamani coffee farming in Catur Village, Kintamani Subdistrict, Bangli Regency has a PCR value obtained of 0.10 or PCR ≤1, which means that Arabica Coffee farms cultivated by farmers are competitive advantages in production competitiveness in the sense that Kintamani coffee farmers are able to finance domestic factors at actual prices (private) and farmers are also able to compete with Arabica Coffee farms in other areas.

### 3.5 Comparative Advantage

Comparative advantage can be used to measure the efficiency of Arabica Coffee farming based on economic analysis. The comparative advantage of Kintamani coffee farms can be analyzed using the Domestic Resources Ratio (DRCR) indicator which can be calculated from the components in the PAM Table.

$$\text{DRC} = \frac{\textit{social non tradable input costs}}{\textit{social reception} - \textit{social tradable input cost}}$$

$$\text{DRC} = \frac{945.000}{7.500.000 - 2.145.000} = 0{,}17$$

Domestic Resources Cost Ration (DRCR) is an indicator assessing the ratio of non-tradable input costs (domestic resource costs) to value added calculated in social prices. DRC can be calculated from the notation in Table PAM = G/(E-F). A commodity is said to have a comparative advantage if it has a DRC value ≤ which means that the benefits obtained by farmers are greater when compared to their social non-tradable inputs, the smaller the DRC value, the greater the level of comparative advantage and the more economically efficient.

Based on the results of the calculation of Kintamani coffee farming in Catur Village, Kintamani District, Bangli Regency has a DRC value obtained 0.17 or DCR value ≤ 1, which means that coffee farming is able to finance domestic factors at social prices and is economically efficient. Even without

assistance and intervention from the government, coffee farms have comparative competitiveness and are able to survive in a perfectly competitive market.

## 4. Conclusion

### 4.1 Conclusion

Based on the results of research and discussion of the competitiveness of Arabica coffee farming in Catur Village, Kintamni District, Bangli Regency, the following conclusions can be drawn:

1. Arabica coffee farming in Chess Village, Kintamni District, Bangli Regency has a PCR value < 1, namely 0.10 and a DRC value < 1, namely 0.17, this indicates that Arabica coffee farming in Chess Village, Kintamni District, Bangli Regency has a competitive advantage and comparative advantage.
2. Arabica coffee in Catur Village, Kintamani District, Bangli Regency has strong competitiveness because it has a competitive advantage and comparative advantage with a DRC value of 0.10 and a competitive advantage with a PCR value of 0.17.

So, it can be concluded that without government policy intervention, the analysis of Kintamani Coffee farming in Catur Village, Kintamani District, Bangli Regency produces lower results than using intervention.

### 4.2 Suggestion

From the results of the discussion and conclusions of the competitiveness of Kintamani coffee farming in Catur Village, Kintamani District, Bangli Regency, there are several suggestions as follows:

1. Arabica coffee in Catur Village, Kintamani Subdistrict, Bangli Regency is important to be developed in order to increase the efficiency of production input users and increase the output of Kintamani Coffee farms on each Kintamani Coffee farm in order to increase profits and comparative advantage and competitive advantage.
2. The government is expected to increase subsidies for farmers such as superior seed subsidies, pay attention to changes in variables that have an impact on the increase or decrease in farm competitiveness such as changes in international commodity prices, changes in international fuel prices, and changes in labor prices. And the government needs to increase the role of institutions such as extension agencies to provide information and motivation to farmers who can help to improve their business and financial institutions to help provide capital for farmers to run their farms.

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