

Research Article

Development Strategy of Arabica Coffee in Conto Village, Bulukerto District, Wonogiri Regency

Yos Wahyu Harinta*, Muhammad Fathul Anwar, and Toyibatun Tutuko

Agribusiness Study Program, Faculty of Agriculture, Veteran Bangun Nusantara University, Sukoharjo, Indonesia

Abstract.

This study aims to identify developing arabica coffee farming strategy in Conto Village, Bulukerto District, Wonogiri Regency. This study uses the descriptive analysis method to determine SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) to see internal factors, namely strengths and weaknesses, and external factors, namely opportunities and threats. The results showed that the analysis of the strategy owned by arabica coffee farming in Conto Village, Bulukerto District, Wonogiri Regency was in the position of cell or quadrant I (growth), which used incentive strategies including market penetration, market development, and product development. Alternative strategies for developing arabica coffee farming in Conto Village, Bulukerto District, Wonogiri Regency are the development of integrated coffee-based arabica coffee in each main area of arabica coffee production; the development of an arabica coffee agribusiness system on local resources and culture; the use of environmentally friendly and market-oriented technology, and the development of an arabica coffee agribusiness system directed at increasing the ability of farmers in cultivating coffee plants through increased counselling and demonstrating plot implementation. The priorities of the arabica coffee development strategy in Conto Village, Bulukerto District, Wonogiri Regency are as follows: increased counselling carried out by the government.

Keywords: developing, coffee, strategy, farming

1. Introduction

Coffee is one of the most important export commodities globally and plays an essential role in people's income in the world [1,2]. Based on the Ministry of Industry of the Republic of Indonesia, Indonesian coffee production ranks fourth in the world with a total production of more than 600,000 tons. Indonesia also has various types of superior coffee that have distinctive flavours [3]. Growth in Indonesian coffee production during 1990–2019 it increased by 2.11% per year supported by an increase in production area wide 0.63% compared to the same period. The crisis and drastic decline in global coffee has an impact on domestic Indonesian coffee prices [4]. One of the

Corresponding Author: Yos
Wahyu Harinta; email:
yoswahyuhar-
inta@univetbantara.ac.id

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domestic Indonesian coffees which was affected was wonogiri coffee, especially the Conto Arabica coffee. One of the important factors that determines the survival of Conto coffee is that it has its own unique coffee qualities, which is a valuable asset in an increasingly global society. This sector is important to continue to play a direct role in the region and national economy, through the formation of Gross Domestic Product (GDP), and providing industrial raw materials, to providing employment opportunities [5–7]. Conto Village has enormous potential as an Arabica coffee plantation area which is supported by various aspects such as land area, geographical conditions, topography and also history. The area of Bulukerto District is 4,125.32 hectares, with the area of Conto Village being 1,004.50 hectares, which around 166.77 hectares are moorland and 588.50 hectares are forest areas which are used as coffee plantations by the people of Conto Village. In global coffee, the characteristics of Arabica coffee which require various optimal growing conditions such as soil height, temperature and rainfall make Conto village a location with great potential as Arabica coffee plantation land, because Conto Village is at an altitude of 625-2012.5 meters above sea level, the air temperature is average. -average 20 °C, rainfall 600-1,500 mm/year.

Conto Village has an Arabica coffee producing area, there are several obstacles faced by the community. Some of them are infrastructure that is not yet complete, communication between the government and Arabica coffee farmers that is not yet optimal, as well as processing that is not yet in accordance with best standards. The most important problem is an increase in farmers' income and welfare [8–10]. Conto Coffee has an important role in various aspects of people's lives in Bulukerto District. With all these core problems, a development strategy will be carried out in the form of counseling, training and assistance regarding the care and farming of Arabica coffee plants in Conto Village because with problems in the paradigm or views of the community, it is very necessary to carry out counseling along with training and assistance by figures who can be trusted. and has credibility regarding Arabica coffee. Practices of Conto local wisdom are inclined to focus on long-term sustainability, this vision is in line with the economic and environmental sustainability, which prioritizes fulfilling the needs of the future generation [11,12]. Development of the agricultural sector in general, especially coffee, is considered to be right on target if existing policies are ultimately able to place this commodity as the main driving force (improvement) of a rural economy that is highly competitive, just and sustainable [4, 5]. Therefore, discussions with relevant stakeholders are needed to identify problems in Arabica coffee cultivation

so that Arabica coffee development in Conto Village, can run in a better direction and is able to increase farmers' interest.

2. Methods

This research was calculated conducted in Conto Village, Bulukerto District, Wonogiri Regency, Central Java. The location was determined purposively because the research location was based on an area that has enormous potential as one of the best Arabica coffee producing areas but is experiencing very slow progress due to several internal and external factors. The data sources used are primary data by conducting interviews with selected respondents in this study and secondary data collected from various sources such as journals, books and data from the Central Statistics Agency (BPS), etc. in this study, data collection methods used an observation and in-depth interviews with several respondents and key informants [13–15]. Key informants are preferred in this research as sources who have key competencies and answer or master a particular field in which they are skilled and focus on the field they study. Key informants in this study, used five informants, including: the Head of Conto Village, the Head of Bulukerto Subdistrict, Arabica coffee farmers in Conto Village, totalling 10 people, and 1 coffee activist. This research uses mixed methods by using quantitative and qualitative data. Data analysis uses a strategic method of SWOT analysis [16]. The research instrument used a questionnaire. Sampling is done by the purposive sampling method, where researchers choose respondents based on certain considerations. Data analysis using the SWOT method (Strength, Weakness, Opportunity, Threats) and QSPM. SWOT matrix is obtained from identification Internal Factors Evaluation (IFE) used strength dan weakness. External Factors Evaluation (EFE) used opportunity dan threats. SWOT matrix produces four types of strategies, which is Strength-Opportunity (SO), Weakness-Opportunity (WO), Strength-Threats (ST) and Weakness-Threats (WT). Furthermore, to determine which strategy is right in the development of coffee plantation agro-tourism using a matrix grand strategy. Many researchers have used the SWOT matrix, because QSPM is the best strategy among many available strategy alternatives through an analytical tool. It can help a person or organization to identify their internal and external factors in their business competition or a project with many critical success factors that have been formulated in determining the strategic priorities [11,12].

3. Results and Discussion

3.1. Respondent education level

Based on the study, all respondents are still relatively productive at work, between 30 - 60 years old. From the average age of respondents, they are still able to work to meet their family's living needs. From the education level of the respondents, it is still relatively low, where the education level of respondents who graduated from elementary school (SD) was 14 respondents, and the education level of respondents who graduated from junior high school was 6 respondents, while the education level of respondents who graduated from high school (SMA) was 2 respondents. Education has a significant and positive effect on farmers' income, and so important. According to the education level in Tran [17], about farmers education in Thailand and Vietnam is important because education can increase farmers knowledge in using agricultural inputs and has the potential to be a solution in alleviating poverty. From the business experience of the twenty-two farmers Conto respondents, there were 6 respondents who had established more than 10 businesses and 16 respondents who had less than 10 years of running their businesses. And it can be seen from the respondents' family responsibilities, there were nineteen respondents who had family responsibilities of between 1 - 2 people and there were 3 respondents who had family responsibilities of between 3 - 4 people. Where the number of dependents can be categorized as a medium family dependent group.

3.2. Internal-external factor analysis

Based on Table 1, there are nine internal factors for the strength of Arabica coffee in Conto Village, including a unique and distinctive taste profile, good post-harvest processing, green beans that can last a long time in storage, have touched local and national markets, good relationships. good relations with buyers, the availability of very large land, very supportive geographical conditions, the availability of abundant human resources, and a long history that supports the existence of Arabica coffee in Conto Village. Meanwhile, there are 4 internal factors that weaken Arabica coffee in Conto Village, which include a sorting process that is not very good, a marketing system that is not yet structured, low quality human resources, and community paradigms.

TABLE 1: Internal factors of arabica coffee in Conto Village.

| No | Internal Factor | Strength | Weakness |
|----|-----------------|---|--|
| 1 | Production | Unique and distinctive coffee flavor profile Good post-harvest process Green beans durability | The sorting process is not good |
| 2 | Market | has touched local and national markets Good relations with coffee buyers and activists | Not yet well structured |
| 3 | Land | Very large land availability | - |
| 4 | Geographi | Geographical conditions are very supportive | - |
| 5 | Human Resources | Availability of abundant human resources | The quality of human resources tends to be low |
| 6 | History | A long history supports the existence of Arabica coffee | - |

Source: Primary data processed in 2023

TABLE 2: External factors of arabica coffee in Conto Village.

| No | External Factors | Opportunity | Threat |
|----|---------------------------------|--|--|
| 1 | Competitiveness | Quality that can compete in the national market | - |
| 2 | Economy | - | Fluctuations in agricultural tools and raw materials |
| 3 | Politics, Law, and Institutions | There have been steps to help develop Arabica coffee | The steps are still slow and not sustainable |
| 4 | Sosial Budaya | People's culture and habits always include coffee | - |
| 5 | Consumer Purchasing Power | Good public purchasing power | - |
| 6 | Facilities and infrastructure | Facilities and infrastructure that support and meet good standards | - |

Source: Primary data processed in 2023

Based on Table 2, there are 6 external factors for opportunities for Arabica coffee in Conto Village, including quality that can compete in the national market, starting with steps from the government to help develop Arabica coffee, the culture and habits of the community which always include Arabica coffee in cultural activities or just entertaining guests, the transition period from conventional system to a modern system, good public purchasing power, and infrastructure that supports and meets good standards. The Conto farmers respect their traditional values but are also open to innovations that can increase their cultivation, which the results of this study are in line with the research of [2] [5,6]. Meanwhile, there are 2 external factors of weakness, namely fluctuations

in agricultural equipment and raw materials, as well as government steps that are still slow and unsustainable.

3.3. IFE & EFE matrix analysis

TABLE 3: IFE matrix for arabica coffee in Conto Village, Bulukerto District, Wonogiri Regency.

| Key Internal Factors | Weight | Rate | Score |
|---|--------|------|-------|
| Strength | | | |
| Unique and distinctive flavor profile | 0,09 | 4 | 0,36 |
| Good post-harvest processes | 0,06 | 3 | 0,18 |
| <i>Green beans that last a long time in storage</i> | 0,06 | 3 | 0,18 |
| Has touched local and national markets | 0,06 | 3 | 0,18 |
| Good relationships with coffee buyers and activists | 0,07 | 3 | 0,21 |
| Availability of very large land | 0,10 | 4 | 0,40 |
| Geographical conditions are very supportive | 0,09 | 4 | 0,36 |
| Availability of abundant human resources | 0,08 | 4 | 0,32 |
| A long history supports the existence of Arabica coffee | 0,05 | 3 | 0,15 |
| Weakness | | | |
| The sorting process is not very good | 0,08 | 2 | 0,16 |
| Not yet well structured | 0,08 | 2 | 0,16 |
| The quality of human resources tends to be low | 0,09 | 3 | 0,27 |
| Community paradigm | 0,09 | 3 | 0,27 |
| Total | 1,00 | | 3,20 |

Source: Primary data processed in 2023

Based on Table 3, it is explained that in the Arabica coffee farming in Conto Village, there are 9 strengths and 4 weaknesses that exist among the respondent farmers. The data in the table shows that the strength weight is 0.66 and the weakness weight is 0.34. This shows that the weight of strengths is greater than the weight of weaknesses.

Based on Table 4, it is explained that in the Arabica coffee farming in Conto Village, there are 6 opportunities and 2 threats that exist for the respondent farmers. The data in the table shows that the opportunity weight is 0.73 while the weakness weight is 0.27. This shows that the weight of strengths is greater than the weight of weaknesses. The results of the analysis of internal factor calculations (IFE) obtained a total score of 3.20

TABLE 4: EFE matrix for arabica coffee in Conto Village, Bulukerto District, Wonogiri Regency.

| Key External Factors | Weight | Rate | Score |
|---|-------------|------|-------------|
| Opportunity | | | |
| Quality that can compete in the national market | 0,11 | 3 | 0,33 |
| Start taking steps to help develop Arabica coffee | 0,15 | 4 | 0,60 |
| People's culture and habits always include coffee | 0,10 | 3 | 0,30 |
| Transition period from conventional to modern systems | 0,15 | 3 | 0,45 |
| Good public purchasing power | 0,10 | 3 | 0,30 |
| Facilities and infrastructure that support and meet standards | 0,12 | 4 | 0,48 |
| Threats | | | |
| Fluctuations in agricultural tools and raw materials | 0,15 | 2 | 0,30 |
| Steps are still slow and not sustainable | 0,12 | 2 | 0,24 |
| Total | 1,00 | | 3,00 |

Source: Primary data processed in 2023

and an EFE score of 3.00. The IFE and EFE values are above the average value of 2.5, which shows that the internal position of farmers is quite strong, farmers have above average ability to utilize strengths and minimize weaknesses [18]. Mapping business position is very important for selecting alternative strategies in facing competition and changes that occur. The combination of these two values shows that the main strategy for business development lies in cell I. Cell I is grouped into growth strategies, namely strategies designed to achieve growth, both in sales, assets, profits, or a combination of the three. is in quadrant I, which means the Arabica coffee business in Conto Village is a growth strategy. Growth strategies are designed to achieve growth, both in sales, assets, profits, or a combination of the three. This case is exactly the same as the local wisdom in Padangsidempuan in [9] which is the 40 percent of people tend to live more in rural areas and are involved in the agricultural sector. The position in quadrant I provides an indication that the position of Arabica coffee farming in Conto Village is currently in a growth and build position.

Strategies that can be implemented by Arabica coffee farming because they are in Quadrant I include incentive strategies or integrative strategies. Incentive strategies

include market penetration, market development, and product development. Meanwhile, integrative strategies include forward integration, backward integration and horizontal integration. However, the most appropriate strategy for the current conditions of Arabica coffee farming in Conto Village is an incentive strategy which includes market penetration, market development and product development. An integrative strategy is considered less suitable for implementation because this approach involves controlling distributors, suppliers and/or competitors, which currently cannot be implemented by Arabica coffee farming businesses in Conto Village due to limited current capacity. Therefore, the right alternative strategy for Arabica coffee farming in Conto Village is market penetration, market development and product development. The Arabica coffee farming development strategy can be carried out using several alternatives. Determining alternative strategies that are appropriate for a development is by creating a SWOT matrix. This SWOT matrix clearly describes how opportunities and threats can be combined with strengths and weaknesses to produce a business development strategy formulation.

TABLE 5: Alternative strategy matrix for arabica coffee in Conto Village, Bulukerto District, Wonogiri Regency.

| | Strength | Weakness |
|---------------|--|--|
| Opportunities | SO Strategy Empowering existing land to plant coffee Taking advantage of market availability to make it easier for farmers to market coffee Adding skilled human resources to produce Arabica coffee in Conto Village, Bulukerto District, Wonogiri Regency | WO Strategy Increased use of modern technology to overcome the process of producing quality coffee Improve technical skills in post-harvest technology through training |
| Threats | ST Strategy Optimizing the use of sophisticated machines and superior raw materials so that it can balance the costs incurred with a selling price that is commensurate with the quality provided | WT Strategy Forming assistant staff to guide the community in managing farming businesses using input factors as maximally as possible |

Source: Primary data processed in 2023

3.4. QSPM strategy

The final stage in strategy formulation is the decision stage. QSPM is a tool that allows strategists to evaluate strategic alternatives objectively. Alternative formulation strategies on the SWOT matrix directly evaluated using QSPM [11,12]. Based on Table 5, the alternative strategy for developing Arabica coffee that desired by farmers in Conto Village, is increasing education carried out by the government. The education that

farmers expect from the government is the introduction of new methods/technology that are easily accepted by the community regarding improving coffee farming. Apart from that, what farmers want is ease in obtaining production inputs such as fertilizer, pest and disease control drugs, and coffee plant seeds, as well as markets to sell agricultural products. The primary source of a product can win the competition because of product development [19].

There are 3 alternative strategies that are most appropriate to implement in the context of developing Arabica coffee in Conto Village, Bulukerto District, Wonogiri Regency, namely as follows :

- Development of integrated coffee-based Arabica coffee in every main Arabica coffee producing region
- Development of local resources and culture, use of environmentally friendly technology and market orientation.
- The Arabica coffee system is directed at increasing farmers' abilities in cultivating coffee plants through increasing counseling and implementing demonstration plots.

These three alternatives are processed using the Quantitative Strategic Planning Matrix. As seen in the table 6 below.

Based on the QSPM analysis, the third alternative strategy is the recommended strategy, namely the development of an Arabica coffee agribusiness system directed at increasing farmers' abilities in cultivating coffee plants through increasing counseling and implementing demonstration plots. This strategy can solve the main problem of Arabica coffee farming in Conto Village, ensuring quality products and competitive products. The development of Arabica coffee farming can be aimed at increasing farmer household income and increasing regional economic growth. The synergy of, SWOT matrix and QSPM results in this study use a single decision that is both methodological and measurable. The decision priority. Provides a solution that the right strategy related to product and market aspects is a product development strategy [11,13]

4. Conclusion

Through the results of analysis and identification of internal factors, there are strengths and weaknesses. The main strength in developing an Arabica coffee farming strategy is the availability of very large land. Meanwhile, regarding weaknesses, the main weakness is the bad sorting process and structure. In terms of external factors, indicators found

TABLE 6: QSPM of arabica coffee in Conto Village.

| Strategic Factors | Weight | Alternative Strategy | | | | | |
|---|-------------|----------------------|-------------|-------------|-------------|--------------|-------------|
| | | Strategy I | | Strategy II | | Strategy III | |
| | | AS | TAS | AS | TAS | AS | TAS |
| Strength | | | | | | | |
| 1. Unique and distinctive flavor profile | 0,09 | 3,00 | 0,27 | 2,00 | 0,18 | 4,00 | 0,36 |
| 2. Good post-harvest processes | 0,06 | 2,00 | 0,12 | 3,00 | 0,18 | 1,00 | 0,06 |
| 3. Green beans that last a long time in storage | 0,06 | 2,00 | 0,12 | 4,00 | 0,24 | 3,00 | 0,18 |
| 4. Has touched local and national markets | 0,06 | 3,00 | 0,18 | 2,00 | 0,12 | 4,00 | 0,24 |
| 5. Good relationships with coffee buyers and activists | 0,07 | 2,00 | 0,14 | 3,00 | 0,21 | 4,00 | 0,28 |
| 6. Availability of very large land | 0,1 | 4,00 | 0,40 | 2,00 | 0,20 | 3,00 | 0,30 |
| 7. Geographical conditions are very supportive | 0,09 | 3,00 | 0,27 | 4,00 | 0,36 | 2,00 | 0,18 |
| 8. Availability of abundant human resources | 0,08 | 3,00 | 0,24 | 2,00 | 0,16 | 4,00 | 0,32 |
| 9. A long history supports the existence of Arabica coffee | 0,05 | 2,00 | 0,10 | 3,00 | 0,15 | 4,00 | 0,20 |
| Weakness | | | | | | | |
| The sorting process is not very good | 0,08 | 3,00 | 0,24 | 4,00 | 0,32 | 2,00 | 0,16 |
| Not yet well structured | 0,08 | 2,00 | 0,16 | 1,00 | 0,08 | 3,00 | 0,24 |
| The quality of human resources tends to be low | 0,09 | 4,00 | 0,36 | 2,00 | 0,18 | 3,00 | 0,27 |
| Community paradigm | 0,09 | 3,00 | 0,27 | 4,00 | 0,36 | 2,00 | 0,18 |
| Total | 1,00 | | | | | | |
| Opportunities | | | | | | | |
| Quality that can compete in the national market | 0,11 | 3,00 | 0,33 | 4,00 | 0,44 | 2,00 | 0,22 |
| Start taking steps to help develop Arabica coffee | 0,15 | 3,00 | 0,45 | 2,00 | 0,30 | 4,00 | 0,60 |
| People's culture and habits always include coffee | 0,10 | 2,00 | 0,2 | 3,00 | 0,30 | 4,00 | 0,40 |
| Transition period from conventional to modern systems | 0,15 | 2,00 | 0,3 | 4,00 | 0,60 | 3,00 | 0,45 |
| Good public purchasing power | 0,10 | 3,00 | 0,3 | 2,00 | 0,20 | 1,00 | 0,10 |
| Facilities and infrastructure that support and meet standards | 0,12 | 2,00 | 0,24 | 1,00 | 0,12 | 3,00 | 0,36 |
| Threats | | | | | | | |
| Fluctuations in agricultural tools and raw materials | 0,15 | 3,00 | 0,45 | 4,00 | 0,60 | 2,00 | 0,30 |
| Steps are still slow and not sustainable | 0,12 | 2,00 | 0,24 | 3,00 | 0,36 | 4,00 | 0,48 |
| Total | 1,00 | | 5,38 | | 5,66 | | 5,88 |

Source: Primary data processed in 2023

that are the main opportunities in developing Arabica coffee farming strategies are the start of steps to help develop Arabica coffee and the transition period from conventional to modern systems. Meanwhile, the main threat to the development of Arabica coffee farming is the fluctuation of agricultural tools and raw materials. Alternative strategies for developing Arabica coffee farming in Conto Village, namely developing integrated Arabica coffee based on coffee in every main Arabica coffee producing area, developing an Arabica coffee system based on local resources and culture as well as the development of an Arabica coffee agribusiness system which is directed at increasing the ability of farmers in cultivating coffee plants through increasing counseling and implementing demonstration plots. The next research should explore the new developing coffee products as the primary purpose of this research.

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