



## Research Article

# Apuy Banana Farming Development Strategy (*Musa paradisiaca* L.) in Majalengka Regency, West Java Province, Indonesia

Jaka Sulaksana<sup>1\*</sup>, Rosdiana Haq<sup>2</sup> and Dinar<sup>1</sup>

<sup>1</sup>Lecturer of the Agribusiness Study Program, Faculty of Agriculture, University of Majalengka, Jln. KH. Abdul Halim No. 103 Majalengka Regency – West Java 45468; <sup>2</sup>Student of the Agribusiness Study Program, Faculty of Agriculture, University of Majalengka, Jln. KH. Abdul Halim No. 103 Majalengka Regency, West Java 45468.

**Abstract** | This research focuses on the development strategy for apuy banana farming (*Musa paradisiaca* L.) in Argamukti Village, recognized as an apuy banana development area in the Majalengka Regency. Apuy bananas are a local variety inaugurated on May 29, 2024, and efforts are underway to develop apuy banana farming. This study aims to gain more insights into agriculture, identify effective techniques, and prioritize development strategies applicable to apuy banana cultivation in Argamukti Village. The research employs qualitative and quantitative descriptive approaches, including SWOT analysis and the QSPM matrix. The respondents in this study consisted of 25 individuals selected through the snowball sampling technique. The total score for IFE is 3.39, while the total score for EFE is 3.25. This indicates that farming is in a growth and build position in the IE matrix, reflecting the growth and development stage. The result is that 10 alternative strategy formulations are obtained that produce three main strategic priorities that can be applied using the QSPM matrix. The priorities of the strategy include carrying out cultivation activities with a structured period to meet market demand with a TAS amount of 5.80, increasing productivity accompanied by increasing facilities and infrastructure with a TAS amount of 5.42, and developing a pest protection system for diseases with coaching assistance with a TAS of 5.34.

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**\*Correspondence** | Jaka Sulaksana, Lecturer of the Agribusiness Study Program, Faculty of Agriculture, University of Majalengka, Jln. KH. Abdul Halim No. 103 Majalengka Regency – West Java 45468; **Email:** jsulaksana@gmail.com

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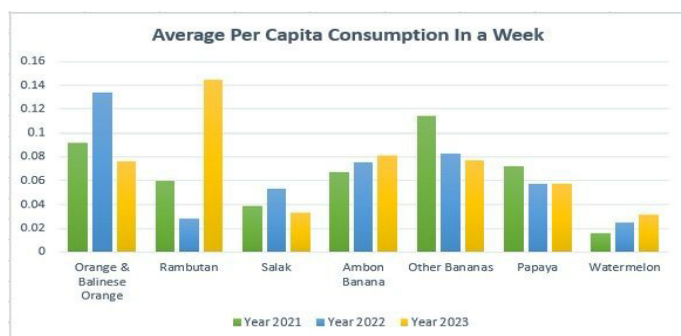
## Introduction

Agriculture is one of the sectors of interest in the Indonesian economy, especially in rural areas. As an agrarian country, Indonesia has several superior commodities that can be developed to improve

the welfare of farmers. One of the most promising agricultural products to be created is horticulture. Horticultural commodities can generate state foreign exchange, increase farmers incomes, and contribute to national agricultural economic growth, ultimately promoting community prosperity (Simanjuntak and

Wijayanti, 2023).

The population's per capita consumption has increased in Indonesia due to the country's annual population growth. In some communities, like Majalengka Regency, horticulture is a common source of plant consumption, where most people work in the agricultural sector to meet food self-sufficiency or increase regional food security. People consume a lot of fruits because they contain nutrients and minerals that benefit the body. One of the fruits that the people of Majalengka Regency widely consumed in 2021–2023 consists of bananas, rambutans, oranges, papaya, salak, and watermelons. Some of these fruits are diverse, such as citrus fruits and bananas (Central Statistics Agency, 2024). This is evident in the data from the Central Statistics Agency, 2024, regarding the average weekly per capita fruit consumption in Majalengka Regency from 2021 to 2023, as illustrated in the Figure 1.



**Figure 1:** Average Per Capita Consumption of Fruits in Majalengka Regency in 2021–2023.

**Source:** Central Statistics Agency, 2024

Apyu bananas are a type of banana cultivated in the Majalengka Regency. One of the areas at the center of apyu bananas in Majalengka Regency is Argamukti Village, Argapura District. Apyu bananas have the characteristics of soft and fragrant fruit flesh and good taste, which is why the price of apyu bananas is high and can even reach IDR 70,000 – IDR 200,000/ bunch of apyu. Apyu bananas are also known as ‘cherry plantains’ (lemongrass) in the Priangan region. The Regional Government of Majalengka Regency will register and launch apyu bananas in 2024 on the plant variety registration certificate as a local variety No. 045/A.9/05/2024, dated May 29, 2024, authorised by the Ministry of Agriculture.

One of the problems with apyu banana cultivation is that farmers prefer to carry out vegetable cultivation activities, so apyu banana cultivation is not carried

out optimally or is not cultivated as the main crop of farmers (Arifin, 2013; Sulaksana, 2020). This is because the cultivation of apyu bananas is unlike vegetable crops that can be harvested 2–3 months after planting. In contrast, apyu bananas can be harvested in the 8<sup>th</sup> to 12<sup>th</sup> month after planting. In addition, farmers who cultivate apyu bananas experience difficulties when planting because the characteristics of apyu banana plants are susceptible to pests and diseases, resulting in failure when carrying out apyu banana cultivation activities. Another reason this farming development activity is challenging is the limited facilities and knowledge of farmers for apyu banana farming and the technology that has been developed today, so farming activities are still carried out modestly with traditional cultivation techniques, resulting in a harvest that is not optimal. Farmers who cultivate apyu bananas experience difficulties in the marketing process and distribution because the existence of apyu bananas is not sufficiently known by the wider community.

Apyu bananas fall under the Majalengka Regency's local biodiversity category and the well-known gedong gincu mango plant, domestically and abroad. In Majalengka Regency, apyu bananas are a local variety whose existence is decreasing (Atma Wijaya *et al.*, 2019). Farmers prefer cultivating better-producing banana varieties over apyu bananas, but their population of apyu bananas continues to decline steadily. If unaddressed, apyu bananas may face extinction (Wijaya, 2020). Determining the development strategy for apyu bananas, as one of the regional varieties of Majalengka, needs to be formulated appropriately with the aim of short-term and long-term farming.

## Materials and Methods

The research is situated in Majalengka Regency's Argamukti Village, Argapura District. The selection of this research's location was deliberately (*purposively*) made considering that Argamukti Village is the only happy banana cultivation area in Majalengka Regency. Research is necessary to avoid the scarcity of apyu banana varieties in Argamukti Village. This research was carried out for five months, from November 2024 to April 2025.

The research method used in this study is a qualitative and quantitative descriptive approach with survey

and interview methods. In this study, we will find out about the description of apuy banana farming in Argamukti Village and then obtain data using a qualitative descriptive research method. Then, in analyzing internal and external factors to produce a strategy, a quantitative approach is used to create alternative strategies and strategic priorities that are described with numbers according to the phenomenon that appears at the time of the research.

The data collection methods used in this study are primary and secondary data. The first source of primary data was the respondents, who were questioned either orally (via interviews), in writing (through questionnaires), or through direct field observations. Secondary data was obtained based on literature contained in the agribusiness study program of the Faculty of Agriculture, University of Majalengka, the Central Statistics Agency, related agencies or institutions, and other literature related to this research topic.

This study used non-probability sampling with the snowball sampling technique. According to Sugiyono (2018), non-probability sampling is a sample determination technique that does not give all population members the same opportunity to be selected as a sample. Meanwhile, snowball sampling is a method that starts with a small number and then grows.

The analysis technique used to answer the problem formulation is a descriptive analysis technique by first identifying internal and external factors that exist in apuy banana farming, which is then processed using IFAS (Internal Strategic Factors Analysis Summary) and EFAS (External Strategic Factors Analysis Summary) which is then followed by a SWOT analysis to formulate alternative strategies and determine priority strategies using the QSPM (Quantitative Strategic Planning Matrix) framework.

## Results and Discussion

### *Description of banana farming*

Descriptive analysis describes, decrypts, analyses, and summarises the phenomenon being studied and collects data through questionnaires, direct interviews, or direct field surveys. The internal environment analysis aims to list the business's strengths and weaknesses. External environmental

analysis identifies several potential opportunities and threats to avoid (Elly *et al.*, 2020; Zaroni and Pujiati, 2019).

The description of apuy banana farming from upstream to downstream in Argamukti Village, Argapura District, is as follows:

### *Procurement of production facilities*

Means of production: The production facilities in banana farming consist of the bit of the apuy banana plant that already exists in Argamukti Village. The fertilizers and pesticides used are organic fertilizers from animal manure, such as goats, chickens, and compost fertilizers that farmers make themselves. As for the pesticides used, they are liquid pesticides consisting of herbicides, insecticides, and fungicides. The agricultural tools used to cultivate apuy bananas include hoes, machetes, sprayers, and sickles.

### *Production and cultivation*

Land treatment: The land cultivation stage in the cultivation of apuy banana plants uses a hoe to clean the planting area, loosen the soil, make beds, and plant holes measuring about 40 x 40 cm, to which manure or compost is added for soil fertility.

Planting: The stage of planting bananas is carried out by moving banana shoots/seedlings from their parents in different fields into the planting hole and filling the hole with soil. The planting distance of an apuy banana seedling is about 2-3 m.

Irrigation: The irrigation stage in apuy banana cultivation occurs during the dry season. However, farmers usually plant apuy banana seedlings when they are about to enter the rainy season, so watering is only done when the soil is dry due to the dry season.

Fertilization: The fertilization stage for apuy banana plants is carried out as many as 2-3 times in the planting period, with two fertilization techniques: spreading and moving. During the planting of seedlings, fertilizer is applied using the "tugal" technique, while during the growth phase, the fertilizer is applied by spreading it around the puy banana plant.

Therapy: The maintenance stage, usually carried out by farmers, is cleaning the plant area by environmental sanitation using a sickle or herbicide. The hump and leaves are done by spraying pesticides. The traditional

way that farmers do without pesticides is to clean 'ulam' and worms on the hump and leaves of banana apuy using a machete or knife. The maintenance stage occurs 2-3 times during growth and before harvest.

**Harvesting:** The harvesting stage of apuy banana plants is carried out in 2 ways: when the apuy bananas are unripe and underripe. The technique of picking fruit is carried out as usual, namely, cutting the fruit part.

#### *Post-harvest/yield processing*

**Post-harvest banana apuy:** The post-harvest stage of apuy bananas goes through two stages of sorting apuy bananas, which are only carried out by farmers who will sell the apuy bananas at this stage. Bananas that are of poor size and quality are cut and separated. Then, at the storage stage, which is the stage where farmers store bananas in a closed place naturally or with the help of chemicals such as carbides and the like, the aim is that bananas ripen quickly and can be sold or consumed.

#### *Marketing*

**Marketing of banana apuy:** The marketing process usually involves farmers selling apuy banana cultivation products to intermediaries in the market, banana dealers in Argamukti Village, and consumers who have ordered apuy bananas before. Local officials usually buy apuy bananas as a treat for guests or cultural events in the Majalengka Regency. Promotional techniques some farmers use include promoting on their social media or doing so face-to-face with individuals. Farmers offer relatively high prices, ranging from IDR 70,000 to IDR 200,000/bunch.

#### *Supporting institutions*

**Farmer group institutions:** The institution of farmer groups in Argamukti Village plays a vital role in the development process of banana apuy farming because, in the institution of the farmer group, the farmers help each other and support the farming activities of local farmers.

**Government agencies:** The government, especially extension workers, is crucial in counseling, supporting, and encouraging farmers to develop banana farming.

#### *Internal and external factors of apuy banana farming*

Development strategies serve as a formulation tool

in considering an organization or company's internal and external factors (Kurniawan and Haryati, 2017; Soetriono *et al.*, 2021). SWOT analysis is determining diverse elements that contribute to systematically formulating various challenges. One of the company's well-known tools for analyzing the internal and external environment is SWOT analysis (Kuncoro, 2010):

#### *Internal factors*

Strengths and weaknesses are internal characteristics that affect apuy banana farming (Suryani, *et al.*, 2024).

**Table 1** presents the identification of internal factors.

**Table 1:** Identification of internal factors of apuy banana farming.

| Strength                                 | Weakness                                            |
|------------------------------------------|-----------------------------------------------------|
| The existence of farmer groups           | Limited farmer capital                              |
| Supporting facilities and infrastructure | Plants that are susceptible to pest diseases        |
| Farmers' experience in cultivating       | Lack of public interest                             |
| Support from the government/ agency      | Farmers' knowledge of apuy bananas is still limited |
| Good product quality                     | Cultivation is still small-scale and traditional    |
| Suitable areas for cultivation           |                                                     |

Source: Primary Data, 2025 (processed).

Furthermore, these internal factors were analyzed using the Matrix Internal Factor Evaluation (IFE). The results of the IFE matrix are presented in Table 2.

In Table 2, the results of each Internal Factor Evaluation (IFE), namely the total value (score) of the internal strength factor (strength), are 2.14. The highest indicator value of 0.45 is found in areas suitable for cultivation. Meanwhile, the lowest indicator value of 0.30 is found in support from the government/agency.

The internal weakness factor (Weakness) has a total value of 1.25 and 5 indicators. The highest indicator value, 0.34, is found in plants susceptible to pests and disease. Meanwhile, the lowest indicator value, 0.18, is found in farmers' knowledge of apuy bananas.

#### *External factors*

Opportunities and threats are external factors that the apuy banana producers should be aware of Table 3 presents the identification of external factors.



**Table 2:** *Matrix internal factor evaluation (IFE).*

| No.                       | IFE                                                 | Weight | Rating | Score |
|---------------------------|-----------------------------------------------------|--------|--------|-------|
| <b>Strength indicator</b> |                                                     |        |        |       |
| 1.                        | The existence of farmer groups                      | 0,11   | 3,56   | 0,39  |
| 2.                        | Supporting facilities and infrastructure            | 0,10   | 3,32   | 0,33  |
| 3.                        | Farmers' experience in cultivating                  | 0,09   | 3,48   | 0,31  |
| 4.                        | Support from the government/agency                  | 0,10   | 3      | 0,30  |
| 5.                        | Good product quality                                | 0,11   | 3,28   | 0,36  |
| 6.                        | Suitable areas for cultivation                      | 0,12   | 3,72   | 0,45  |
| Total Strength Score      |                                                     |        |        | 2,14  |
| <b>Weakness indicator</b> |                                                     |        |        |       |
| 1.                        | Limited farmer capital                              | 0,07   | 3,68   | 0,26  |
| 2.                        | Plants that are susceptible to pest diseases        | 0,09   | 3,76   | 0,34  |
| 3.                        | Lack of public interest                             | 0,07   | 3,24   | 0,23  |
| 4.                        | Farmers' knowledge of apuy bananas is still limited | 0,07   | 2,52   | 0,18  |
| 5.                        | Cultivation is still small-scale and traditional    | 0,07   | 3,36   | 0,24  |
| Total weakness score      |                                                     |        |        | 1,25  |
| Total IFE                 |                                                     | 1,00   |        | 3,39  |

**Source:** *Primary Data, 2025 (processed).*

**Table 3:** *Identification of external factors.*

| Opportunity                                | Threat                                                             |
|--------------------------------------------|--------------------------------------------------------------------|
| High market potential                      | Differences in the selling price of other banana varieties         |
| Favorable geographical conditions          | Extreme weather                                                    |
| Government programs on local varieties     | Competition for other banana varieties in the name of apuy bananas |
| Selling price stability                    | Farmers choose other crops that are more promising                 |
| Construction by the agriculture department | Technological developments                                         |

**Source:** *Primary Data, 2025 (processed).*

Furthermore, these external factors were analyzed using the External Factor Evaluation Matrix (EFE) in [Table 4](#).

In [Table 4](#), the results of each External Factor Evaluation (EFE), namely the total value (score) of the external factor of opportunity (Opportunity), are 1.71. The highest indicator value is 0.46 in favorable geographical conditions. Meanwhile, the lowest indicator value is 0.28 for the government's program for local varieties.

The total value of the external threat factor (Threat) is 1.54, comprising five indicators. The highest indicator value of 0.43 is found in farmers who prefer cultivating more promising crops. Meanwhile, the lowest indicator value of 0.19 is found in the difference in the selling price of other banana varieties.

**Table 4:** *Matrix external factor evaluation (EFE).*

| S. EFE                                                                | Wei-<br>ght | Rat-<br>ing | Sho-<br>es |
|-----------------------------------------------------------------------|-------------|-------------|------------|
| <b>Opportunity indicator</b>                                          |             |             |            |
| 1. High market potential                                              | 0.11        | 3.04        | 0.33       |
| 2. Favorable geographical conditions                                  | 0.13        | 3.52        | 0.46       |
| 3. Government programs on local varieties                             | 0.10        | 2.76        | 0.28       |
| 4. Selling price stability                                            | 0.12        | 2.88        | 0.35       |
| 5. Construction by the agriculture department                         | 0.10        | 2.88        | 0.29       |
| Total Opportunity Score                                               |             |             | 1.71       |
| <b>Threat indicator</b>                                               |             |             |            |
| 1. Differences in the selling price of other banana varieties         | 0.06        | 3.08        | 0.19       |
| 2. Extreme weather                                                    | 0.10        | 3.72        | 0.39       |
| 3. Competition for other banana varieties in the name of apuy bananas | 0.07        | 3.04        | 0.23       |
| 4. Farmers choose other crops that are more promising                 | 0.12        | 3.48        | 0.43       |
| 5. Technological developments                                         | 0.09        | 3.16        | 0.30       |
| Total threat score                                                    |             |             | 1.54       |
| Total EFE                                                             |             | 1.00        | 3.25       |

**Source:** *Primary Data, 2025 (processed).*

The results of the calculation of Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) above are then combined into the Internal-External (IE) matrix. In the IE matrix, the position of apuy banana farming in Argamukti Village will be shown in 9 cells, consisting of 2 axes for the IFE matrix value (score) and the Y axis for the EFE

matrix value (score). The calculation on the IFE–EFE matrix that has been carried out previously is known to be the total value (score) of the IFE matrix in apuy banana farming in Argamukti Village, which is 3.39, while the total value (score) of the EFE matrix in apuy banana farming in Argamukti Village is 3.25. The following are the results of matching IE values (scores) entered into the IE matrix.

**Table 5:** *IE matrix results (Internal External).*

|          | IFE 3,39        | Tall (3–4.00) | Keep (2–2.99) | Low (1–1.99) |
|----------|-----------------|---------------|---------------|--------------|
|          | Tall (3 – 4.00) | I             | II            | III          |
| EFE 3.25 | Keep (2 – 2.99) | IV            | V             | VI           |
|          | Low (1 – 1.99)  | VII           | VIII          | IX           |

**Source:** *Primary Data, 2025 (processed)*

Calculating the IE matrix above produces an external internal score (value) in quadrant I (3.39; 3.25). This shows that apuy banana farming in Argamukti Village is in a Growth and Build position, namely at the growth and building stage. In this position, the strategy that can be applied is intensive. Intensive strategies consist of market penetration and diversification.

#### *Intensive strategy*

The intensive strategy of apuy banana farming is described as follows:

##### *Market penetration strategy (Market Development)*

The market development strategy in apuy banana farming aims to expand the market by finding new distribution channels, increasing existing sales, and gaining a substantial market share. Here are three market penetration strategies that can be applied to banana farming.

- Through marketing counseling, public awareness of the quality and superiority of apuy bananas is increased.
- Conducting market segmentation to expand the market to uncultivated areas by involving farmer groups to introduce bananas.
- Establish cooperation with distributors or collectors to increase sales volume.

#### *Product development strategy*

The development strategy of Apuy banana farming products can focus on improving the quality of existing products to meet the needs of the growing market. In this case, it is essential to diversify products to make them more diverse and durable. Here are 3 product development strategies that can be applied to

the banana farm.

- Increasing farmers' knowledge about apuy banana cultivation techniques that are more efficient and environmentally friendly.
- Conducting research and development on the resistance of banana apuy plants to pest and disease attacks.
- Creating Apuy banana derivative products to expand the market and increase the selling value.

#### *Vertical integration strategy*

Vertical integration strategies can strengthen control of the production and distribution processes. This strategy addresses farmers' capital problems because it can help increase access to greater resources. Here are two vertical integration strategies that can be done in banana farming.

- Establish partnerships between farmer groups and entrepreneurs to improve production and distribution efficiency.
- Forming farmer business groups that can access joint financing and utilize government programs or microfinance institutions for capital.

#### *Technology and capacity building strategy*

Capacity-building and technology strategies are efforts a business can make to increase productivity and operations by developing available resources, assisted by technological developments. The following are strategies for increasing capacity and technology that can be used on the banana farm.

- Continuous counseling is conducted for farmers about the apuy banana cultivation techniques using the right technology.

#### *Partnership and collaboration strategy*

A partnership and collaboration strategy is where a business collaborates with other organizations, companies, institutions, or individuals to achieve mutually beneficial goals. In this strategy, the business is run with other parties to utilize resources, expertise, and a broader market to be competitive. Here are two partnership and collaboration strategies that can be applied to the apuy banana farm.

- Increase collaboration with local agriculture offices to obtain technical support, access to coaching programs, and funding for the development of apuy banana farming.
- Involving private companies or investors to provide additional capital to develop more modern and large-scale apuy banana farms.

# Formulation of alternative strategies for the development of apuy banana farming

SWOT matrix: Alternative strategies for the company's development are formulated using a SWOT matrix. This approach can clearly show how a company's strengths and weaknesses can be adapted to the external opportunities and threats a business faces. Four potential cells of alternative strategies, namely the S-O strategy, the W-O strategy, the W-T strategy, and the S-T strategy, are generated by this matrix (Sulaksana and Nuryanti, 2019). The summary SWOT matrix analysis results are presented in Table 6 as follows.

Based on the SWOT matrix analysis in Table 5 above, 10 alternative strategies are produced. The SWOT matrix generates four strategy elements by combining the four components analyzed. The four elements consist of SO, WO, ST, and WT. First, the Strength-Opportunity (SO) strategy aims to make the best use of the company's internal resources and take advantage of current possibilities so that it can continue to compete. Second, the Weakness-Opportunity (WO) strategy is a strategy that uses opportunities to minimize weaknesses. Third, the Strength-Threats (ST) strategy is a strategy that maximizes the company's strengths while minimizing the company's external threats. Fourth, the Weakness-Threats (WT) strategy is a defensive strategy that reduces the company's external threats and weaknesses (Kurniawan and Abidin, 2020).

## SO strategy (Strength – Opportunity)

The SO strategy is an alternative formulation that combines internal forces and external opportunities in apuy banana farming in Argamukti Village. It is a strategy that uses power by taking advantage of opportunities. In this study, the three SO strategies are as follows.

- Expanding the network of partnerships and strengthening farmer groups ( $S_{1,4}, O1$ )
- Promote and build product branding ( $S_5, O_{3,4}$ )
- Increase productivity accompanied by improvement of facilities and infrastructure ( $S_{2,3,6}, O2,5$ )

## WO strategy (Weakness – Opportunity)

The WO strategy is an alternative formulation resulting from internal weaknesses and external opportunities in apuy banana farming in Argamukti Village. It reduces weaknesses by taking advantage of

opportunities. In this study, the two WO strategies are as follows.

**Table 6:** *Alternative strategies.*

| Internal and external analysis                                                                              |
|-------------------------------------------------------------------------------------------------------------|
| <b>Strength</b>                                                                                             |
| 1. The existence of farmer groups                                                                           |
| 2. Supporting facilities and infrastructure                                                                 |
| 3. Farmers' experience in cultivating                                                                       |
| 4. Support from the government/agency                                                                       |
| 5. Good product quality                                                                                     |
| 6. Suitable areas for cultivation                                                                           |
| <b>Weakness</b>                                                                                             |
| 1. Limited farmer capital                                                                                   |
| 2. Plants that are susceptible to pest diseases                                                             |
| 3. Lack of public interest                                                                                  |
| 4. Farmers' knowledge of apuy bananas is still limited                                                      |
| 5. Cultivation is still small-scale and traditional                                                         |
| <b>Opportunity</b>                                                                                          |
| 1. High market potential                                                                                    |
| 2. Favorable geographical conditions                                                                        |
| 3. Government programs on local varieties                                                                   |
| 4. Selling price stability                                                                                  |
| 5. Construction by the agriculture department                                                               |
| <b>Threat</b>                                                                                               |
| 1. Differences in the selling price of other banana varieties                                               |
| 2. Extreme weather                                                                                          |
| 3. Competition for other banana varieties in the name of apuy bananas                                       |
| 4. Farmers choose other crops that are more promising                                                       |
| 5. Technological developments                                                                               |
| <b>S–O Strategy</b>                                                                                         |
| 1. Expanding the network of partnerships and strengthening farmer groups ( $S_{1,4}, O1$ )                  |
| 2. Promote and build product branding ( $S_5, O_{3,4}$ )                                                    |
| 3. Increase productivity accompanied by improvement of facilities and infrastructure ( $S_{2,3,6}, O2,5$ )  |
| <b>W – O Strategy</b>                                                                                       |
| 1. Increasing farmer capital through KUR or government assistance ( $W_1, O3$ )                             |
| 2. Increase public interest in development ( $W_{3,5}, O1.2$ )                                              |
| 3. Development of a protection system against pest diseases with the help of construction ( $W_{2,4}, O5$ ) |
| <b>S–T Strategy</b>                                                                                         |
| 1. Improve product quality and authenticity ( $S_{5,6}, T1.3$ )                                             |
| 2. Building communication and cooperation between farmers and the government ( $S_1, T4$ )                  |
| <b>W–T Strategy</b>                                                                                         |
| 1. Conducting counseling on technology and innovation in farming ( $W_{2,3,4}, T5$ )                        |
| 2. Carry out cultivation activities within a structured period to meet market demand ( $W_{3,5}, T2.4$ )    |

**Source:** *Primary Data, 2025 (processed).*

- Increasing farmer capital through KUR or government assistance ( $W_1, O3$ )
- Increase public interest in development ( $W_{3,5}, O1.2$ )
- Development of protection against pest diseases with the help of construction ( $W_{2,4}, O5$ )

#### ST strategy (Strength – Threat)

The ST strategy is an alternative formulation resulting from internal forces and external threats in apuy banana farming in Argamukti Village. It uses force to avoid threats. In this study, the 2 ST strategies are as follows.

- Improve product quality and authenticity ( $S_{5,6}, T1.3$ ).
- Building communication and cooperation between farmers and the government ( $S_1, T4$ )

#### WT strategy (Weakness – Threat)

The WT strategy is an alternative formulation resulting from internal weaknesses and external threats in the apuy banana farming in Argamukti Village. It reduces weaknesses to avoid threats. In this study, two WT strategies are as follows.

- Conducting counseling on technology and innovation in farming ( $W_{2,3,4}, T5$ )
- Carry out cultivation activities within a structured period to meet market demand ( $W_{3,5}, T2.4$ )

#### Determining the priorities of the banana farming development strategy

QSPM analysis encourages the development of strategies to integrate internal and external factors into the decision-making process (Atmodjo and Sarjana, 2023). In this method, it is necessary to carry out weighting, calculate attractiveness scores (AS), and calculate total attractiveness scores (TAS). The weight and value of the US can be multiplied to obtain the TAS value. After receiving the TAS score, it is then accumulated to get the score level from the alternative strategy that has been determined (Jaka Sulaksana and Dwirayani, 2024).

Analysis of internal and external factors has been carried out through the IFE and EFE matrix. The position of apuy banana farming in the IE matrix and produce alternative strategies from the matching results in the SWOT matrix. The next stage is deciding priority strategies that can be applied to apuy banana farming using QSPM analysis. A summary of the calculation of alternative strategies using QSPM is

described in Table 7 below.

**Table 7: QSPM results.**

| Alternative strategies                                                                 | STAS | Rank |
|----------------------------------------------------------------------------------------|------|------|
| Carry out cultivation activities within a structured period to meet market demand      | 5.80 | 1    |
| Increase productivity accompanied by the improvement of facilities and infrastructure  | 5.42 | 2    |
| Development of a protection system against disease mites with the help of construction | 5.34 | 3    |
| Increase public interest in development                                                | 5.26 | 4    |
| Conducting counseling on technology and innovation in farming                          | 5.25 | 5    |
| Building communication and cooperation between farmers and the government              | 5.04 | 6    |
| Expanding partnership networks and strengthening farmer groups                         | 5.01 | 7    |
| Increasing farmers' capital through KUR or government assistance                       | 4.87 | 8    |
| Promote and build product branding                                                     | 4.63 | 9    |
| Improve product quality and authenticity                                               | 4.61 | 10   |

**Source:** Primary Data, 2025 (processed)

Based on Table 7 above regarding the assessment of alternative strategies that have been analyzed using QSPM, the results of the order of the highest to lowest alternative strategy TAS values are obtained. The results of the alternative priorities of the plan can be applied to develop apuy banana farming in Argamukti Village. In order of priority, alternatives to the strategy above, the three priority strategies with the highest number of TAS include the following:

- Carry out cultivation activities within a structured period to meet market demand
- The first strategy with the highest TAS amount of 5.80 is the alternative strategy of carrying out cultivation activities within a period arranged to meet market demand.
- Increase productivity accompanied by the improvement of facilities and infrastructure
- The second strategy with the highest TAS number, which is 5.42, is in the alternative strategy of increasing productivity accompanied by increasing facilities and infrastructure because there is a need to increase the production of apuy bananas, accompanied by increased infrastructure facilities such as land. Currently, apuy bananas are only planted on moorland, so it is necessary to expand the land for planting apuy bananas to increase production.
- Development of a protection system against



disease mites with the help of construction

The third strategy that has the highest number of TAS, which is 5.34, is found in an alternative strategy for the development of a protection system for pests and diseases with the help of fostering farmers difficulties in the cultivation process of apuy banana plants that are susceptible to pests and diseases, therefore the need for assistance and guidance from the government and related agencies for the prevention and control of pests and diseases to reduce losses to farmers.

## Conclusions and Recommendations

### Conclusion

Apuy bananas are a local variety in Majalengka Regency, which was inaugurated on May 29, 2024, by the Regional Government of Majalengka Regency. Apuy bananas are cultivated in Argamukti Village, Argapura District, a mountainous area in Majalengka Regency. Currently, apuy bananas are developing due to the significant market demand, but have not been fulfilled due to the lack of productivity of the apuy bananas produced. Apuy bananas have the characteristics of their unique taste, fragrance, and shape, so the price offered in the market is relatively high, which is around Rp 70,000–Rp.200,000 / bunch of apuy bananas according to the weight and size available, usually in one apuy banana tree can produce  $\pm$  15 Kg of fruit in a harvest period of 8-12 months.

Based on an analysis of the growth of apuy banana farming in Argamukti Village, the following inferences can be made.

- The results of the IFE Matrix that have been carried out have resulted in a total score of IFE matrix in apuy banana farming in Argamukti Village of 3.39 and a total score of EFE matrix in apuy banana farming in Argamukti Village of 3.25.
- The IE (Internal–External) matrix identification results show that farming is in the growth and build stage, which means it is in the growth stage. Then, the SWOT analysis produced 10 alternative strategies that can be applied to the apuy banana farming in Argamukti Village.
- Based on the results of QSPM, the three priority alternative strategies are in the highest order: carrying out cultivation activities within a period to meet market demand with a TAS amount of 5.80. The second strategy, the number of TAS, is

5.42, increasing productivity and accompanied by improving facilities and infrastructure. The third strategy, with a TAS of 5.34, is developing a protection system for pests and diseases with the help of coaching.

### Suggestion

Based on the conclusions of the analysis that has been carried out, suggestions that may be useful for consideration include the following:

- For agribusiness actors: It is necessary to improve the farming activities that have been carried out by reducing weaknesses, avoiding threats, using strengths, and taking advantage of the opportunities in apuy banana farming in Argamukti Village.
- For the government: The government should contribute to and be involved in the development of apuy banana farming in Argamukti Village because the assistance and guidance that the government can provide will make it easier for farmers to carry out development.
- For further research: Further research related to development strategies is needed, modifying analytical tools such as SWOT and QSPM methods and expanding the scope of research to identify similarities and differences in other types of research.

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## Novelty Statement

It is an initial research on developing of “Apuy” banana farming strategy as one of local advantage of agribusiness region in Indonesia.

## Author's Contribution

**Jaka Sulaksana:** Conceived idea, supervision of the research, writing and financing

**Rosdiana Haq:** Conducted the research, and write-up of the manuscript

**Dinar:** Assisted in guiding of the research and final proofreading.

### Conflict of interest

The authors have declared no conflict of interest.

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