

Farmers' Survival Strategies in Facing Uncertainty in Agricultural Commodity Prices in Margaluyu Village, Bandung Regency

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ABSTRACT

This study aims to analyze the survival strategies used by farmers in Margaluyu Village, Bandung Regency, in dealing with the uncertainty of agricultural commodity prices. The instability of agricultural product prices is one of the main challenges faced by farmers, which has an impact on their economic and social welfare. A qualitative descriptive approach was used in this study with data collection techniques through in-depth interviews, observation, and documentation. The results of the study indicate that farmers in Margaluyu Village developed several adaptive strategies, such as diversifying income sources by borrowing capital from dealers, using the Tumpang sari technique to overcome challenges arising from the uncertainty of agricultural commodity prices, and forming social networks between farmers. In addition, support from the government and local institutions also plays an important role in strengthening farmers' resilience to market price fluctuations. This study provides in-depth insight into effective survival mechanisms for farmers in dealing with economic uncertainty in the agricultural sector. These findings are expected to be the basis for policy makers in designing programs that support the sustainability of the agricultural sector.

Keywords: survival strategies, price uncertainty, agricultural commodities, farmers, margaluyu village

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INTRODUCTION

Indonesia is an agrarian country with most of the population working in the agricultural sector. The agricultural sector is one of the economic sectors that has great potential in contributing to economic growth and development (Sihombing, 2021). One of the agricultural sectors in Indonesia is the agricultural sector in the plantation sector. Safitri & Yaherwandi, (2020) stated that plantation crops are one of the agricultural subsectors consisting of a number of commodities with great diversity.

Most of the residents of Margaluyu Village depend on the agricultural sector for their livelihood. This is due to most of the Margaluyu Village area which is a plantation area, lack of jobs, low level of education, and the existence of a gardening culture inherited by parents. However, the agricultural sector is often faced with uncertainty, especially in terms of fluctuations in commodity prices. The factor that causes fluctuations in vegetable commodity prices is the planting season which is carried out simultaneously or at the same time. One of the factors that causes the growing season to be carried out simultaneously or simultaneously is the climatic and weather conditions so that the availability of vegetables is very abundant during the growing season only (Saleh et al., 2022; Widaryanto & Azizah, 2018).

Farmers in Margaluyu Village often have to face a dilemma in managing agricultural land, between surviving on the main commodity or switching to other more promising alternatives. However, most farmers in Margaluyu Village continue to strive to survive through various adaptive strategies.

This study aims to identify the survival strategies used by farmers in dealing with commodity price uncertainty, as well as analyze the factors that affect the success of these strategies. The focus of this research is vegetable farmers in Margaluyu Village. Theoretically, this study will enrich the study of farmers' adaptation strategies in the face of economic uncertainty, especially in the agricultural sector.

The concept of adaptation and survival strategies will be explored in the context of vegetable farmers, who are often affected by price and market fluctuations. In addition, this research is also expected to increase knowledge about factors such as access to capital, commodity prices, and the role of the government to farmers.

Practically, the results of this study are expected to provide more targeted policy recommendations to support the welfare of farmers. For example, forming a new farmer group for the farmers there. This is an effort to develop farmers by them getting counseling on knowledge about agriculture or more equitable assistance for existing farmers, or creating cooperatives so that farmers can sell their production to parties other than the dealer at a higher or stable price so that the profits they get are even more.

With this background, this research becomes relevant in contributing both academically and practically to the development of the agricultural sector in rural areas, especially for vegetable farmers in Margaluyu Village.

METHOD

This study is a type of research with a qualitative descriptive approach that aims to describe the survival strategies of farmers in the face of commodity price uncertainty in Margaluyu Village, Pangalengan District. The location of the place used as a research site is Hamlet 2, Margaluyu Village, Pangalengan District, while for the determination of the research subject, the *purposive sampling* method is used with criteria, such as farmers who rely on main commodities, farmers who experience price fluctuations, farmers who have a history of survival strategies and farmers who have many years of experience. The data sources obtained are in the form of primary and secondary data. Primary data is data obtained directly from resource persons through direct interviews. While secondary data is data obtained from data that has been processed and produced from the government and also articles or journals.

Participatory Rural Appraisal (PRA) is an approach that allows the community to jointly analyze the problems they face by formulating plans and policies independently (Muhsin et al., 2018; Suharyani & Tamba, 2020; Sulaeman et al., 2023). Through PRA, this research succeeded in identifying the situation and information of the local community, including the needs, problems, and potentials that exist in the region. With these results, it is hoped that the research can analyze the problems faced by the community more comprehensively. The main objective of the PRA that has been carried out is to find the right solution to the problems identified (Bahri, 2019). In addition, PRA also helps researchers produce primary data, such as seasonal calendars, village history, and various other relevant information to support this research.

In this study, the data collection method uses an observation method carried out in the environment of Hamlet 2, Margaluyu Village by making observations directly related to existing problems. Furthermore, data collection was also carried out using interviews or questions and answers conducted with farmers who were there. Data analysis in this study is data generated from interviews, observations or observations of the research environment and other secondary sources which are then analyzed qualitatively and then explained descriptively in the results and discussion sections.

RESULTS AND DISCUSSION

Overview of Margaluyu Village

Margaluyu Village is located in Pangalengan District, Bandung Regency, West Java, has a population of around 9,000 people with geographical conditions dominated by mountainous highlands at an altitude of about 1,200–1,500 meters above sea level. The majority of the population works in the agricultural sector, including vegetable and tea plantations and dairy farms. This work reflects the agrarian characteristics of the village which takes advantage of the cool climate and fertile soil. Some residents also open side businesses such as stalls or processing agricultural products to support the family economy. The majority of the religion practiced by the residents of Margaluyu Village is Islam, which plays an important role in the social and cultural life of the local community. The cool climate and high rainfall support agricultural and plantation activities, such as vegetables, tea, and coffee. Surrounded by lush green land and small rivers, Margaluyu is one of the important agricultural areas in Pangalengan. Demographically, this village is inhabited by the majority of Sundanese people who mostly work as farmers and dairy farmers. Sundanese tradition and culture are still strong here, with

Sundanese as a colloquial language. Dairy farming is one of the main economic drivers of the village, apart from agricultural and plantation products.

Agricultural Activities

Each type of agricultural crop has a varied planting cycle and care method. In general, farmers in Margaluyu start the planting process by considering the estimated time that allows them to maximize profits, especially when commodity prices are predicted to increase. Such as during holidays or the turn of the year. This consideration is an important part of their agricultural business management strategy.

Table 1. Agricultural commodity planting period in Margaluyu Village

Plant Type	Planting Period	Number of Harvests in 1x Planting	Cost Per 100 Tumbak
Tomato	3 Months	5-10 times	8 Million
Chinese Cabbage	2 Months	1 time	1.5 Million
Red Cayenne Pepper	3-4 Months	5-10 times	7.5 Million
Chayote	3 Months	1 time per week	6 Million

The cost includes various production needs, including seeds, fertilizers, pesticides, medicines, as well as specific needs needed for each type of plant, such as tomatoes and chayote that require bamboo and other supporting materials.

Capital Loans

In an effort to maintain the continuity of agricultural businesses, many farmers rely on the practice of borrowing capital from bookmakers or middlemen (Megasari, 2019). A 52-year-old farmer explained that in anticipation of needs or losses, they often seek loans, either from banks or through bookmakers. He revealed that this is a common thing done by farmers. When the price of the crop is good, they feel grateful, but if the price falls, the farmer has to bear the loss.

This dependence occurred because, at the time the study was conducted, there were no farmer cooperatives in the area, so farmers in Margaluyu preferred to borrow capital from the city. Bookmakers offer a variety of loan options, including medicines, fertilizers, pesticides, and cash, which must then be paid through farmers' crops. Farmers who receive loans are required to deposit their crops to the dealer who provides the loan.

Table 2. Analysis of Bandar Loan Calculation as of August 2024

Loan Amount	Yields	Harvest Price/kg	Bandar Pieces per kg	Money to Farmers
5 Million	2 Tons	IDR 1,000	IDR 200	1.6 Million
			200 x total harvest (2000)= IDR 400.00	

Farmers who borrow funds from bookmakers are obliged to return the loan amount according to the nominal amount received. After that, farmers are required to submit their crops to the city, which is entitled to take a commission from each kilogram of harvest according to the agreement. The amount of this commission is adjusted to the market price, if the price of the commodity increases, the

bookmaker will take a commission based on a higher price, and vice versa. The table above illustrates one of the cases experienced by farmers in August 2024.

Thus, bookmakers profit from commissions taken from farmers' profits. However, if the market price falls, farmers tend to suffer losses because they are unable to cover the loan capital that has been provided by the bookmaker, which ultimately has an impact on the economic welfare of farmers.

Patterns of Agricultural Commodity Price Fluctuation

Farmers in Margaluyu Village, Pangalengan District, often face serious problems related to fluctuations in agricultural commodity prices which are very unstable. Commodity prices can change drastically over time, influenced by various factors such as unpredictable weather, fluctuating market demand, and often unpredictable supply chain dynamics. Some horticultural commodities that are the mainstay of local farmers, such as potatoes, chayote, tomatoes, and chili, are particularly vulnerable to these changes. Farmers' dependence on local markets as well as large markets outside the region such as Jakarta and Bandung further exacerbates price uncertainty. When there is a surge in supply or a decrease in demand, commodity prices can drop drastically.

Table 3. Fluctuations in Agricultural Commodity Prices in Margaluyu

Types of Vegetables	Lowest Price	Highest Price	Ideal Price
Tomato	IDR 1,000	IDR 20,000	IDR 8,000
Chinese Cabbage	IDR 2,000	IDR 6,000	IDR 3,000
Red Cayenne Pepper	IDR 19,000	IDR 40,000	IDR 27,000
Chayote	IDR 200	IDR 2,000	IDR 1,000
Potato	IDR 8,200	IDR 12,000	IDR 7,000

This price is the price that generally applies in Margaluyu Village, which is set by bookmakers or middlemen to farmers based on market demand and needs. Price fluctuations that occur in potato commodities, for example, are often caused by a large harvest that causes overproduction. On the other hand, farmers in this region do not yet have access to a special market to sell their agricultural products, so they are forced to sell their crops individually to middlemen. This causes farmers to not have strong bargaining power in determining prices. In fact, potato production in Pangalengan District continues to experience a significant increase, but the weak market strategy and lack of access to market information make it difficult for them to expand their market share (Arliman, 2017).

In addition, the lack of access to adequate information related to market dynamics and price fluctuations at the national and global levels is also a factor affecting the income of farmers in Margaluyu. In these conditions, farmers often find it difficult to determine the right time to plant and harvest their products to maximize profits. They also have to face the risk of huge losses when prices plummet during the harvest. This condition is further exacerbated by the limitations of storage infrastructure, so farmers have no other option but to sell their crops even though prices are low. As a result, farmers' bargaining power becomes weak, and their income potential is significantly reduced.

Table 4. Capital and Selling Price August 2024

Types of Vegetables	Capital per Plant	Selling Price
Tomato	IDR 2,000	Rp. 3,000/kg
Chinese Cabbage	IDR 700	Rp. 4,000/piece
Red Cayenne Pepper	IDR 5000	Rp. 27,000/kg

Chayote

IDR 3,000

IDR 1,000/piece

The Impact of Price Uncertainty on Farmers' Lives

Price uncertainty in the agricultural sector in Margaluyu Village, Pangalengan, West Java, has a profound and complex impact on farmers' lives. This is in line with what was stated Salampessy et al., (2018) that farmers who do not have the ability to carry out strategies as adaptation in the face of natural uncertainties (climate change and pest and disease attacks) do not get maximum profits, while farmers who are able to carry out strategies by changing planting patterns get better profits (Luthfiasari et al., 2022; Novrilia et al., 2016). Sudrajat, (2018) revealed that the uncertainty of physical conditions, biological, economic considerations and institutional factors greatly affect the use of land for farming. Physical and biological factors include the conformity of physical properties such as; geological conditions, soil, water, climate, plants, animals and population. Economic consideration factors are characterized by profits, market conditions and transportation. Institutional factors are characterized by land law, political conditions, social conditions and administratively feasible.

From an economic perspective, fluctuations in agricultural commodity prices make farmers' incomes unstable, so they often find it difficult to cover production costs (Syaputri et al., 2024). This can result in a decrease in quality of life, where farmers are forced to reduce food consumption and other basic needs. This uncertainty also hampers farmers' intention to invest in improving land quality and production, such as buying better fertilizers or agricultural tools.

Socially, the impact of price uncertainty can cause tension within the farming community, creating unhealthy competition among them (Judge & Son, 2023). Some farmers who manage to sell their agricultural products at a good price can alienate others who are not so lucky, so conflicts and competition can arise. In addition, this uncertainty encourages some farmers to look for additional work or even migrate to other areas, which can change the social dynamics in the village.

From a psychological perspective, farmers often experience levels of stress and anxiety that create fear for the future, both for the sustainability of their farming business and the well-being of their families. Most farmers eventually decided not to return to farming due to the instability of commodity prices that continued to fluctuate. For example, when the chili harvest occurs, the price can drop drastically because supply exceeds demand. This causes farmers' income to decline sharply, sometimes even not enough to cover production costs. This situation triggers high levels of stress and anxiety due to insufficient income as well as worries about meeting the needs of their families. Many farmers end up considering leaving the farming profession or switching to other jobs. Farmers who have spent all their capital on the planting process face additional difficulties, namely losing trust from the bookmakers to obtain new capital loans, because the previous loans have not been able to be repaid due to suboptimal crop yields or low commodity prices. As a result, the welfare of farmer families can be significantly disrupted. Unstable incomes have a significant impact on children's education, as financial constraints can hinder their access to adequate education, ultimately affecting their future prospects. This phenomenon is widely found in Margaluyu Village, where most children only study up to the junior high school (SMP) level. After completing junior high school, they generally work as farm laborers to help the family economy, so continuing their education to a higher level becomes limited.

Farmers' Survival Strategies in the Face of Price Uncertainty

According to Sri Rejeki (2019) stated that the survival strategy or survival strategy is a strategy for farmers who have narrow land and are classified as poor. Farmers with a survival strategy usually manage very limited natural resources or are forced to become cultivators or farm laborers with low remuneration and are usually only enough to just continue living without being able to save to develop their capital.

Agricultural intercropping in the context of farmers in Margaluyu is a crucial strategy to overcome the challenges arising from the uncertainty of agricultural commodity prices, which are caused by various factors such as fluctuations in market demand, climate change, and government policies that affect the agricultural sector. In conditions of falling commodity prices, farmers who depend on one type of commodity face a high risk of loss when the price of that product decreases. Therefore, the application of intercropping provides an opportunity for farmers in Margaluyu to reduce

financial risks and increase their economic resilience through planting several types of crops. A 53-year-old farmer said that he usually grows several types of crops, and the results of these efforts can at least help meet his needs.

Farmers in Margaluyu generally apply intercropping techniques in their agricultural activities. On one land, they usually plant several types of crops at the same time, such as tomatoes, chili, and cabbage. The application of this technique provides several advantages, including increasing the yield of various types of crops and reducing the need for fertilizer use, because the plants share the same land so that they can use available resources more efficiently.

In addition, it is customary for farmers in Margaluyu to carry out the practice of working for other farmers. For example, a farmer who previously only managed his small plot of land in the morning can help other farmers who need support in the moment of farming and harvesting during the day. Generally, the wage given is IDR 30,000/day which can function as an alternative source of income.

These efforts not only play a role in reducing dependence on one type of commodity, but also allow farmers to adapt to market dynamics and increase overall income. With this effort, farmers in Margaluyu can be better prepared to face risks arising from price fluctuations and other external factors, thereby improving the sustainability of their agricultural businesses. In addition, being a worker for other farmers is a collaborative practice often referred to as farm labor, showing that farmers support each other in the process of planting seedlings and harvesting garden products, and make a significant contribution in meeting their needs, especially for smallholder farmers.

Farmer Groups and Farmer Cooperatives

In Margaluyu Village, farmer group programs are often initiated to provide support in the form of seeds, fertilizers, and agricultural equipment to their members, with the aim of increasing the productivity and welfare of local farmers. Farmer groups have an important role in strengthening the capacity of farmers through access to better agricultural resources, training opportunities, and fostering farming business management. However, the challenge faced is the need for a membership termination system, so that the program can provide more equitable benefits to other smallholders in the region. Through effective and inclusive farmer groups, agricultural support and assistance are expected to contribute to increasing the economic resilience of farming communities and reducing inequality of access in the agricultural sector. A 50-year-old farmer expressed his hope that the membership of the farmer group would not only be dominated by the same people. He argued that after a certain farmer group member achieves success, there should be a change of members so that other smallholder farmers also have the opportunity to get help and feel the benefits of the farmer group program. Thus, the available assistance can be spread evenly and support other smallholders to thrive.

When this research was carried out, it was in August 2024. In Hamlet 2, Margaluyu Village does not have a farmer cooperative. In fact, cooperatives have a significant role in improving the welfare of their members and supporting the increase of farmers' income through the provision of production facilities, such as seeds, fertilizers, medicines, and other production needs. In addition, cooperatives also function to expand market access for the sale of crops, so that farmers can get greater profits. In addition to facilitating the collection and sale of agricultural products, cooperatives also act as a medium for the delivery of information related to agriculture.

Currently, there are a number of farmers in Margaluyu Village who are considered successful or successful by local farmers. These farmers who are considered successful often provide assistance to other farmers, both in operational aspects and in the information that is urgently needed. In addition, many villagers work as cultivators on the land owned by these farmers. Therefore, it is hoped that the existence of farmer cooperative facilities can be realized to coordinate various forms of support, both operational and informational, in a more structured and official manner. Thus, the resources owned by the authorities can be managed more effectively and not rely solely on individual initiatives.

CONCLUSION

Based on the results of the research that has been described above, we can see that Margaluyu Village is a village with the majority of the people are vegetable farmers. However, in their daily lives, farmers in Margaluyu Village are often faced with existing problems such as poor crop yields, lack of capital and uncertain selling prices of agricultural commodities. At the time the research was carried out, the selling price of agricultural commodities was declining or the selling price was low, which caused anxiety for farmers in Margaluyu Village. With the emergence of existing problems, farmers

need to find ways to overcome existing problems. In this case, farmers have strategies such as predicting the weather when planting seedlings, because each plant has a way of planting it, such as there are plants that need a lot of water at the time of growth.

Then the second way is to sell the agricultural product savings they have so that they can buy new seeds for the crops they will plant next. The farmers will continue to plant even though the selling price at that time is declining and it is uncertain whether the selling price will increase in the future. The strategy used by farmers in dealing with price uncertainty when they no longer have capital is by borrowing from existing bookmakers. This loan system can be in the form of money or agricultural materials and tools. This bookie lending system is often used by small farmers in Margaluyu. From this loan, they will use it as initial capital for the next crop.

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