







Socioeconomic Factors and Challenges Affecting the Income and Sustainability of Vegetable Farmers: A Qualitative Study in Balunijuk Village

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Abstract. This study examines the socioeconomic factors and challenges impacting the income and sustainability of vegetable farmers in Balunijuk Village, Indonesia. Through in-depth interviews with 15 participants, the research identifies key influences such as capital, land area, vegetable prices, number of dependents, education level, and working hours, which contribute to income variability. Despite challenges like fluctuating market prices, pest infestations, and limited access to government assistance (such as machinery support and health insurance/BPJS), many farmers still earn sufficient income to support their families, particularly in funding their children's education. Notably, several farmers have successfully provided higher education opportunities for their children, both domestically and abroad, which reflects a long-term improvement in household welfare and optimism for future human capital development. Using a Descriptive Qualitative approach, primary data were collected from three hamlets in the village. The findings reveal that education levels and the number of dependents significantly affect farmers' ability to invest in their businesses and manage risks. However, vegetable farming, particularly spinach, kale, and mustard greens, remains a sustainable source of livelihood for many. The study suggests that targeted government support and better access to information on assistance programs could further enhance farmers' welfare. Promoting easily maintainable crops with shorter harvest periods is recommended to help farmers maximize income, securing a more optimistic future for their households and human resource development.

Keywords: Vegetable Farmers, Income, Capital, Human Capital Development, Agricultural Sustainability.

1 Introduction

Balunijuk Village has quite a large potential for horticultural agriculture, especially in vegetable production to meet local needs. Vegetables are commodities that provide important added value for national development because they contribute to people's income, especially vegetable farmers. Currently, vegetable farming activities are growing

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in the area because of their significant role in fulfilling nutrition and high development potential [3]. The agricultural sector plays an important role in the lives of the majority of Indonesian citizens. Therefore, it is important for Indonesia to continue to develop the agricultural sector in line with population growth and technological advances in order to increase agricultural production. Agricultural production has a key role in development, which focuses not only on increasing production but also on increasing farmers' income. An integrated farming approach aims to increase farmers' income so that they can meet their family's needs as a whole. The main goal of farmers in farming is to achieve high production with minimal costs [1].

Farmers' income is currently a serious problem because the majority of the rural population depends on the agricultural sector. Farmers process agricultural products to earn income. In the development of the food crop sub-sector, the focus is on several types of plants such as rice, secondary crops, vegetables, and fruits. Vegetable plants have an important role in supporting the national economy because they have significant economic value and can be a source of income for various levels of society, from the lower to the upper classes. From an economic perspective, vegetable plants are worth developing or cultivating because they can meet consumer demand and there are good market opportunities [6].

The main purpose of running a business is to obtain income that will later be used to meet daily needs and maintain business continuity. Income is also a measure to assess a person's economic condition. Income includes all money or profits obtained from the use of wealth or services during a certain period in economic activity. Net income from agricultural businesses indicates the rewards received by farming families from the use of various production factors. The success of an agricultural business can be seen from how much income farmers get from the business. Income from agricultural businesses is determined by the yield of vegetables. Production is basically the result of multiplying the harvested area by the productivity per hectare of land. Therefore, how much production in an area depends on the harvested area in that year and its productivity level [8].

Income is one of the important indicators in realizing or improving people's economic welfare. Economically, income is a reward for the use of production factors owned by households or companies, which can be in the form of salaries, rent, interest, and profits [4]. Vegetable farming businesses that are generally run by farmers still tend to be small-scale, while the demand for vegetables continues to increase. Therefore, efforts are needed to increase vegetable production. Challenges often faced in vegetable farming include limited land, limited capital, and weather conditions and pest attacks that can cause a decrease in vegetable production [7]. Vegetables are a familiar food ingredient for the community because of their existence in every season. The rich nutritional content, especially vitamins and minerals, makes vegetables very important to be consumed regularly in the daily diet to meet the body's needs for the necessary nutrients [5].

2 Research Method

2.1 Research Approach

The method used in this study is the Qualitative Descriptive research method. The qualitative description method is a research approach that aims to gain a deep understanding of a phenomenon or event by describing it in detail. In this approach, data is collected through interviews, observations, or written documents, then analyzed systematically to identify the meaning, patterns, or relationships that emerge. This approach does not focus on measuring or quantifying data, but rather on understanding the context and human experience in complex situations.

This method is often used in research related to social interactions, culture, or human behavior, where a deep understanding of the context is preferred over generalization of results. Qualitative research is an approach that involves the process of analyzing, presenting, and summarizing various conditions obtained from a collection of information collected through interviews or direct observations in the field related to the research topic [2]. This study uses the Qualitative Descriptive method to determine the effect of Capital, Land Area, Vegetable Prices, Education Level and Number of Dependents in Balunijuk Village [9].

2.2 Place and Time of Research

This research was conducted in Balunijuk Village, Bangka Regency, Bangka Belitung Islands Province which consists of 3 Hamlets. This research began since the research proposal was approved and the research permit was issued in the period July to October 2024.

2.3 Research Object

In this study, the object is Balunijuk Village which includes 3 hamlets, namely Hamlet 1, Hamlet 2, Hamlet 3.

2.4 Data Collection Methods

This study uses primary data. The method for collecting data used is direct interviews. In 2024 in the Village Balunijuk, Bangka Regency, Bangka Belitung Islands Province, which consists of 3 hamlets.

2.5 Operational variables

The variables in this study are dependent variables and independent variables. The dependent variable is Vegetable Farmer Income. While the independent variables are Capital, Land Area, Vegetable Price, Education Level and Number of Dependents.

3 Results and Discussion

3.1 Capital

Capital has a significant impact on the income of vegetable traders, with initial capital ranging from IDR 200,000 to IDR 5,000,000. Every day, traders need capital between IDR 200,000 and IDR 2,000,000, depending on the type of vegetables to be purchased. Capital is the main factor in running a business. The success and development of a business is highly dependent on capital management. With additional capital, vegetable traders can develop their business, so that their income has the potential to increase. The grouping of initial capital costs for vegetable farmers can be classified into two groups. First, capital below five hundred thousand rupiah, which is generally used by micro farmers with very limited vegetable businesses, usually covering basic vegetable commodities or in small quantities. Of the 15 vegetable farmer respondents in Balunijuk, there were 12 people who used capital below Rp. 500,000.00.

Table 1. Table 2. Capital Groups

Capital Group	Frequency
<500	12
>500	3
Total	15

3.2 Land area

The size of land owned by vegetable farmers has a significant impact on the scale of production and potential yields. The larger the land available, the higher the capacity to grow a variety of vegetables, which can increase production volume and potentially generate higher incomes. In addition, farmers with larger land areas have more flexibility in adopting modern farming techniques, such as crop rotation and the use of mechanical equipment, which can improve work efficiency. Meanwhile, farmers with limited land must maximize land use by selecting appropriate crop types and implementing intensive planting strategies to optimize yields.

Table 2. Table 3. Land Area Groups

Land area	Frequency
<1,000	6
>1,000	9
Total	15

3.3 Vegetable Prices

The price of vegetables received by farmers has a major impact on their income and the sustainability of their farming businesses. Various factors, such as market supply and demand, product quality, and harvest season, can affect vegetable prices. When vegetable prices are high, farmers usually earn higher profits, allowing them to reinvest in

their farming businesses, such as purchasing new seeds, fertilizers, or equipment. On the other hand, low prices can result in lower incomes for farmers, prompting them to look for ways to reduce production costs or even reduce the area of land they plant. Therefore, understanding the dynamics of vegetable prices is essential for farmers to plan and manage their businesses effectively.

Table 3. Vegetable Price Groups

Vegetable Prices	Frequency
< Rp. 20,000.00	7
> Rp. 20,000.00	8
Total	15

3.4 Level of education

Education level plays a significant role in the success of vegetable farmers, especially in the application of more efficient agricultural technologies and practices. Farmers with higher education tend to be better able to access information on modern cultivation techniques, proper use of fertilizers and pesticides, and strategies to optimize crop yields. They also find it easier to understand agricultural literature, participate in training programs, and utilize digital resources such as agricultural applications. However, farmers with low formal education often rely on traditional knowledge, but informal education such as training and extension can still improve their ability to farm well. The education level of vegetable farmers in Balunijuk is as follows:

Table 4. Education Level Groups

Level of education	Frequency
Elementary School (SD)	6
Junior High School (SMP)	6
Senior High School (SMA)	3
Total	15

3.5 Number of Dependents

The number of dependents in a vegetable farmer's family can affect the welfare and distribution of household resources. The more dependents, such as children or other unemployed family members, the greater the economic burden that farmers must bear. This condition can affect their ability to invest capital in agricultural businesses, such as buying seeds, fertilizers, or equipment. In addition, farmers with more dependents may feel pressure to earn a stable income, which can affect how they manage their farms and make decisions regarding production and sales of their crops. The number of dependents of vegetable farmers in Balunijuk is as follows:

Table 5. Number of Dependents Group

Number of Dependents	Frequency
1	3

Number of Dependents	Frequency
2	3
3	5
4	2
5	2
Total	15

4 Conclusion

Based on research and interviews with 15 participants who work as vegetable farmers in Balunijuk Village. It can be seen that on average vegetable farmers in Balunijuk Village have a fairly large income that can support their children's education. There are even some children of vegetable farmers in Balunijuk Village who are studying in Yemen with the money from farming vegetables. And there are children of vegetable farmers who become entrepreneurs and lecturers who also take undergraduate education outside the city. Factors that influence income are not only capital, land area, vegetable prices, number of dependents, level of education, working hours, length of business, and business location but there are also other factors such as vegetable quality and binding prices also affect income and fluctuating prices. In general, the amount of business profit obtained globally is around 5,000,000 - 10,000,000 when vegetable prices are high, when vegetable prices are low the profit obtained is around 3,000,000. The farmers in Balunijuk plant many types of spinach, kale, pak choy mustard greens, and green mustard greens. Regarding their working hours in the garden, it is also the same, which is approximately 6 hours. Some of these vegetable farmers also have side jobs such as selling their vegetables, palm oil businesses, and selling fish or helping their wives sell. And regarding assistance from the government related to machinery for farmers' needs, some of the farmers did not receive information and BPJS also some of them did not receive information.

Based on the research results, it is suggested to farmers to continue farming especially spinach, kale, pak choy mustard greens and green mustard greens. In addition to easy maintenance and fast harvest time, so that farmers can get a decent income in every harvest season.

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