

Research Article

The influence of Socio-Economic Factors to Red Guava Farming Income in The Yard (Case Study: in Trirenggo Village, Bantul District, Bantul Regency)

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ABSTRACT

Red guava has many advantages, so it is the right choice as a mainstay commodity in agricultural development with a creative approach to agribusiness innovation. The purpose of this study was to analyze the socio-economic influence of guava farm income and to analyze the income of guava farm in the yard. To analyze the influence of socio-economic factors used multiple linear regression analysis. The results showed that socio-economic factors including family dependents (X1), capital (X2), land area (X3), experience (X4) affect the income of guava farming, while the age factor does not affect the income of guava farming. By using the income formula obtained by the average net income of Mr. June farm amounted to Rp. 4,069,683/month.

Keywords: Income; Red Guava; Social Economy

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1. Introduction

Horticulture agribusiness is a source of income for small, medium and large scale farmers with high selling value, sustainable, diverse, available land resources and technology, as well as the potential absorption of domestic and foreign markets that continue to increase. Domestic horticultural products are currently able to supply the needs of domestic consumers through traditional markets and modern markets as well as abroad. The availability of biological resources in the form of many types of plants and varieties and the availability of land resources, if managed optimally will be a source of useful business activities to overcome poverty and provide employment in rural areas (Ariyani et al., 2017).

There are many varieties of fruits that can be grown in Indonesia, one of which is guava. Guava can be widely adapted to tropical environments, easy to develop, both vegetatively and generatively (Deniardi & Nuswantara, 2020). Guava can flower throughout the year so as to allow the availability of fruit at any time, responsive to maintenance even though it is planted in a limited place, besides that guava is a familiar fruit in the community (Zaroni & Pujiati, 2019).

Red guava has many advantages, so it is the right choice as a mainstay commodity in agricultural development with a creative approach to agribusiness innovation (Sumarjono et al., 2019). Given that agriculture is one of the strategic sectors, especially as a provider of food, shelter, clothing, and energy for the community (Ratnawati, 2016). Creative thinking and acting today become indisputable, even become the leading competence in all aspects of life that are increasingly advanced.

The availability of land often leads to the degradation of natural resources, but over time and increasing knowledge, humans can find alternatives to overcome existing obstacles through sustainable land use systems based on community knowledge (Dwiratna et al., 2017).

Yard land is land that is around the household, usually has a ownership relationship with the owner of the house. The use of yard land is influenced by the area of the yard and the interest of family members in the household to use the yard land (Arifin, 2016). Yard land is a very good agro-ecosystem and has considerable potential in meeting the needs of the community, especially for the owner, even if well developed can be useful further, such as economic income, the welfare of the surrounding community, the fulfillment of market needs and even meet national needs (Khomah & Fajarningsih, 2016). As an agrarian country, Indonesia's agricultural sector contributes to the national economy and meets the needs of the community which is accompanied by an increasing number of residents which has an impact on increasing food needs (Zulkarnain et al., 2022).

Production and income are two inseparable concepts. High production will increase farmers' income, conversely if production is low, the income level will be low (Sumarjono et al., 2019). Therefore, a study is needed related to the socio-economic characteristics of farmers that affect the way they cultivate, starting from planting to harvesting (Rosyidi et al., 2022). Another thing that needs to be considered is of course related to what inputs are used by farmers in cultivating crops. The so-called inputs are costs that will later affect farmers' income. The inputs that farmers use are usually influenced by their socioeconomic conditions (Purba, 2005).

In accordance with Bantul Regent instruction number 02 year 2016 on optimizing the utilization of integrated yard through "Gerakan makaryo bangun deso". Bantul people are expected to be able to optimally utilize the yard land as a support for family economic income. Trirenggo village is one that some of its residents use the yard as land for plant cultivation. Among them are moringa and red guava.

2. Method

The study was conducted in Trirenggo Village, Bantul sub-district, Bantul regency, Special Region of Yogyakarta. The location of the study was chosen deliberately (purposive) in one of its residents named Mr. Juni, with the reason is the use of yard land as a cultivation of red guava fruit with an area of more than 1.5 ha of yard land and has been running a farm since 2009. Guava farming is the main source of income.

The research method used is a case study method (case study) is research conducted by looking directly into the field. Case study is a method that describes the type of research on a particular object during a certain period of time, or a phenomenon that is determined in a place that is not necessarily the same as other research areas (Prihatsanti et al., 2018). To analyze the influence of socio-economic factors used multiple linear regression analysis.

Regression analysis is used to determine the influence of socio-economic factors that affect income. The regression equation Model is as follows:

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Description:

Y: income (score)

a: constant

X1: total family dependents (score)

X2: Cost (score)

X3: Land Area (score)

X4: Experience (score)

X5: Age (score)

e: fault disruptor

$\beta_1, \beta_2, \beta_3, \beta_4$: regression coefficients

The stages of multiple linear regression analysis include; 1) a test for the coefficient of determination (adjusted R²), used to determine how great the ability of independent variables to explain the dependent variable is. R² has a range of 0-1. The greater the R² of the megindicasi, the greater the ability of the independent variable in the dependent variable of the mengelaskan. 2) F-test used to determine whether the independent variables are stimulators or together have a significant effect on the dependent variable. The error rate used is 0.05. 3) T-test to determine the partial effect of each independent variable (X) on the dependent variable (Y).

Analysis of red guava farm income, as follows:

Cost

$$TC = FC + VC$$

Description :

TC = Total cost

FC = fixed costs

VC = variable costs

Reception

$$TR = P \times Q$$

Description :

TR = total receipts

P = Price

Q = Production

Income

$$Pd = TR - TC$$

Description :

Pd = farm income

TR = total receipts

TC = Total cost

3. Results and discussion

3.1 The Influence of Socio-Economic Factors on The Income of Guava Farmers

Farmers ' income is a dependent variable (Y) while the independent variables on socio-economic factors include the number of dependents of the family (X1), capital (X2), land area (X3), Experience (4) and age (5). Social factors were tested using multiple linear regression analysis using spss version 21 with the following results:

Table 1. Results Of Multiple Linear Regression Analysis

Variable	regression coefficient	t _{hitung}	Sig.	Keterangan
Constant	8,114	3,430	0,001	
The number of dependents of the family (X ₁)	0,308	2,919	0,005	Signifikan
Capital (X ₂)	0,564	3,490	0,001	Signifikan
Land area (X ₃)	0,793	2,358	0,021	Signifikan
Experience (X ₄)	0,519	2,153	0,035	Signifikan
Age (X ₅)	0,039	0,208	0,836	Tidak Sig.
Adjusted R ²	0,697			
F _{hitung}	32,792			
Sig F	0,000			
α	0,05			

Source: primary data processed

Based on Table 1.1 can be obtained regression equation:

$$Y = 8,114 + 0,308X_1 + 0,564X_2 + 0,793X_3 + 0,519X_4 + 0,039X_5$$

While the results of multiple linear regression test, can be interpreted as follows:

Coefficient Of Determination (Adjusted R²)

The coefficient of determination is used to see the accuracy of the model about how much the independent variable is capable of explaining the dependent variable. The coefficient of determination can be seen from the value of Adjusted R Square. Based on Table 1.1, it can be seen that the value of Adjusted R Square is 0.697, meaning that the independent variables, namely family dependents (X₁), capital (X₂), land area (X₃), Experience (4) and age (5) are able to explain the dependent variable, namely farmer income (Y) of 69.7%, while the remaining 30.3% is explained by independent variables or other factors that are not included in this study.

The number of dependents owned by Mr. Juni is 3 people, the number of dependents affects the income of guava farming. The more the number of dependents, the more costs incurred by farmers such as: food costs, clothing, education, health and other costs. It is expected that farmers can manage expenses and living costs as efficiently as possible, in order to instill a frugal and healthy lifestyle in the family and the environment.in line with research (Rangkuti et al., 2014)which states that the number of dependents affect corn farmers.

In every type of production business (farming), there is always a relationship between input (input) and output (result). The relationship is often referred to by the name of " functional relationship between input and output " capital functional relationship is the main foundation of the management and budget of farming, especially guava. Based on research conducted in the field, the Capital owned by farmers is the capital obtained from loans. so it affects income. This study is different from the research conducted Rangkuti et al., (2015) where in the study the capital obtained is the capital itself so that no effect on corn farming.

Land is one of the determining factors of high and low production produced.The more land used, Of course, the greater the opportunity to produce larger production. Based on the results of the study, land area has an effect on guava farming income. This is in line with research Rangkuti et al., (2015) where, the average land area of 1.5 Ha in Lau Tawar Village, Tanah Pinem District, Dairi Regency has a significant effect on corn farmers ' income.

The most profound changes for the improvement of farming are the level of experience that has been done during farming. Since the research (Thamrin et al., 2012) which states that experience is responsible to be an important factor to increase farmers' income.

Age in farming is very influential in facilitating the business that will be run starting from the thought process to the process of running the business. With a productive age level, it will make the business run in accordance with a good mindset for the sustainability of the business being run. However, based on the results of the study, age has no real effect on guava farming, it is because Mr. Juni beru age 45 years, the age is included in the category of productive age. According to (Gusti et al., 2022) product age between 31-59 years.

In line with Nasution's research, which states that the size of the age of farmers does not affect the income received.

Test F

F test is used to determine whether the independent variables are stimulant or together significant effect on the dependent variable. Based on Table 5.13 it can be seen that sig F obtained by 0.000 and the value of alpha (α) of 0.05, so that sig F < α (0.05), then H_0 rejected H_a accepted, meaning the dependent variable family (X1), capital (X2), land area (X3), Experience (4) and age (5) significant effect together (simultaneous) to the dependent variable (farmer income).

Test t

T test is used to determine the partial effect of each independent variable (X) to the dependent variable (Y). Based on Table 1.1 can be known:

- a. Family dependents (X1) significantly affect the usahatanai red guava (Y). This is indicated by the value of sig t (0.005) < α (0.05). The regression coefficient of attitude variable (X1) was obtained at 0.308, which means that the size of the number of dependents will affect the size of the amount of income to be received.
- b. Capital (X2) significantly affect the income of red guava farming (Y). This is indicated by the value of sig t (0.001) < α (0.05). The regression coefficient of capital variable (X2) was obtained at 0.564, which means that the size of the capital spent on red guava farming will affect the size of the income received.
- c. Land area (X3) significantly affect the income of red guava farming (Y). This is indicated by the value of sig t (0.021) < α (0.05). The regression coefficient of land area variable (X3) was obtained at 0.793, which means that the more land owned, the greater the income obtained.
- d. Experience (X4) significantly affect the income of red guava farming (Y). This is indicated by the value of sig t (0.035) < α (0.05). The regression coefficient of experience variable (X4) was obtained at 0.519, which means that the experience possessed will affect farmers in the cultivation process both in maintenance and harvest so that it will affect the amount of production that will affect the income to be received.
- e. Age (X5) did not significantly affect the income of guava farming (Y). This is indicated by the sig Value t (0.836) > α (0.05). This means that age does not affect the cultivation of red guava so it will not affect the size of the value of income to be received

3.2 Income Level of Red Guava Farming

Income analysis was used to identify the farm feasible or not implemented. The revenue received by farmers is the multiplication between production and selling prices. Production costs in paddy rice farming consists of fixed costs and variable costs (Jamil & Faisal, 2017).

Revenue can be defined generally as the result of a company. It is usually measured in units of the prevailing exchange price. Revenue is recognized after an important event or after the sales process has essentially been completed. In this practice usually revenue is recognized at the time of sale (Zulkarnain et al., 2022).

3.3 Production

Production and income levels of farmers in the study area is high obtained from the multiplication of farmers ' production with the selling price so as to obtain the acceptance of farmers who then reduced the total cost of production. To calculate the acceptance of guava farming, the following formula is used:

$$TR = P \times Q$$

Where :

TR = acceptance

P = Selling Price

Q = Production (Number Of Crops)

Table 1. Average income

No.	Harga Jual (Rp) (P)	Produksi Rata-rata (kg) (Q)	Penerimaan (Rp) (TR)
1.	10.000	720	7.200.000

Source: primary data processed

Based on the table it can be seen that the production of guava farming with a total production of 720 kg per month with a selling price of Rp. 10,000 / kg to obtain revenue for the production of IDR 7.200.000.

a. Farm costs

Cost is the sum total of the economic sacrifices required and unavoidable, foreseeable, and measurable to produce a product. The Total cost can be calculated using the following formula:

$$TC = FC + VC$$

Description :

TC = Total cost

FC = fixed costs

VC = variable costs

The following table is the cost of production of red guava in the farm owned by Mr. Juni:

Table 2. Cost Production

No.	Cost	Average Cost
Variable Costs		
	Seeds	12.500
	Fertilizer	1.200.000
	Medicinal Plants	420.000
	Family workforce	750.000
	Plastic	550.000
Fixed Costs		
	Shrinkage	195.500
	Taxes	2.317
	Total Cost	3.130.317

Source: primary data processed

Based on the table, it can be seen that the entire production cost is used for the purchase of seeds, fertilizers, medicines, family labor, plastics, depreciation costs and taxes with a total cost of IDR 3.130.317.

b. Income

Net income is the difference of total revenue with total farm costs given with the following results:

No.	Admission (Rp) (TR)	Total production cost (Rp) (TC)	net income (Rp) (Td)
1.	7.200.000	3.130.317	4.069.683

Based on the table, it can be seen that the total revenue obtained is IDR 7,200,000 with a total production cost of IDR 3,130,317 then obtained a net income of IDR 4.069.683.

4. Conclusion

The conclusions obtained are socio-economic factors that include family dependents (X1), capital (X2), land area (X3), experience (X4) affect the income of guava farming, while the age factor does not affect the income of guava farming. Net income earned by the family of Mr. June amounted to IDR 4,069,683/month.

Suggestions that can be given to the community as a farmer is to be able to maintain the quality of products from Red guava and can maintain price stability and keep the amount of production in order to meet market needs. if market needs are met, production can be maintained, which will have an impact on income that is always stable.

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