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The Relationship Of Socio-Economic Characteristics Of Vegetable Farmers In Increasing Income In Taeno Negeri Village Of Rumahtiga, Ambon Teluk District, Ambon City

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Abstract

This study aims to analyze the level of income of farmers in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon, to determine the feasibility of vegetable farming in Taeno Hamlet and to examine the relationship between the socio-economic characteristics of farmers through age, education level, land area, number of dependents, experience, motivation, selling price and production cost. . The analysis used in this research is income analysis, feasibility analysis of B/C ratio (Beneift and Cost ratio) and correlation test (Pearson Product Moment). The results showed that the average income of leaf vegetable farmers in Taeno Negeri Rumahtiga was Rp.220,511,851,- per year. The results of the benefit cost ratio analysis show that the value of the ratio is 2.9 > 1 (more than one). Thus, leaf vegetable farming in Taeno Hamlet is feasible. The Pearson correlation test shows the successive values of age, land area, number of dependents, experience, motivation and selling price (0,89,1,17,0,92,088,1,00,0,85). Education level and production costs have a weak correlation (0.27, 0.31). The level of relationship is weak because the farmers of Taeno Hamlet have a low level of education, besides that the higher the costs incurred by farmers, the smaller the income received.

Keywords :Characteristics of farmers, socio-economic, feasibility of farming, income

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INTRODUCTION

Indonesia is one of the developing countries with the agricultural sector as a source of income and livelihood where the majority of the population are farmers. Agricultural productivity is still far from expectations. One of the factors causing the lack of agricultural productivity is human resources that are still low in cultivating agricultural land and its products.

Agriculture is a sector that still supports human life in the form of the need for food. Therefore, humans can continue their lives if the need for food is also fulfilled. However, efforts to increase food crop production are faced with various obstacles and problems. Drought and floods threaten production in several areas, decreased land productivity in some planting areas, growing plant pests and high levels of yield loss during and after harvest are problems that need to be solved (Suyamto, 2007).

Production of vegetable crops in Maluku Province tends to increase every year. This makes vegetables one of the horticultural commodities that can contribute to the improvement and welfare of society, especially for business actors. One of the horticulture sub-sectors that is still developing today includes leaf vegetable crops such as kale, mustard greens and spinach.

Ambon City has production of seasonal vegetable crops such as fruit and leaf vegetables which can be seen in the following table

Table 1. Production of Seasonal Vegetables by Type of Plant (Tons) in Ambon City Year 2017 – 2021

Commodity Type	2017	2018	2019	2020	2021
Fruits and Vegetables	(1)	(2)	(3)	(4)	(5)
Red onion	632.10	21.80	21.80	64.90	159.00
Garlic	63.50	56.50	100.70	31.50	8.00
Spinach	232.20	356.40	-	247.90	1.508.00
Beans	196.40	289.40	138.60	109.30	352.00
Big Chili	10.70	-	322.60	46.50	260.00
Cayenne pepper	215.30	133.30	433.70	695.00	267.00
Chilli	226.00	741.50	-	-	120.00
Long beans	213.30	-	100.70	286.20	1.071.00
Spinach	1.019.50	1.096.60	-	1.319.00	347.00
Cucumber	385.70	531.60	145.60	805.40	329.00
Cabbage	140.80	138.60	262.50	117.70	40.00

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Chayote	530.60	626.20	241.60	123.00	94.00
Mustard	1.003.80	1.508.10	339.80	746.90	16.00
Eggplant	454.70	522.20	489.50	410.80	248.00
Tomato	336.30	582.30	486.90	546.50	586.00

Note / Note: Temporary Figures

Source: Ambon City BPS, Horticultural Agriculture Statistics, 2020

The table above shows the production level of vegetable crops in Ambon City. In the table above, we can see the average farm production Leaf vegetable crops in 2017 to 2021 in Ambon City have experienced increases and decreases. The increase and decrease in the productivity of vegetable crops is thought to be influenced by the socio-economic characteristics of farmers and production inputs which lead to the feasibility and income of the farming business being run. The relatively low level of income requires household members to work more actively.

The factors that affect farmers' income are part of the socio-economic characteristics of farmers. The socio-economic characteristics of these farmers are age, education level, experience, number of dependents, land area, motivation, production costs and selling prices of vegetables.

These socio-economic characteristics will affect farmers in running farming to get maximum profits so that it will affect farmers' income (Soekartawi, 2009). The socio-economic characteristics of farmers in this study play an important role in increasing farmers' income. This is one way for farmers to carry out plant maintenance by involving the community around the hamlet.Farmers in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon District intensively produce leaf vegetables, both kale, mustard and spinach, although these products are not the main source of income, they have supported farmer household income.

RESEARCH METHODS

This research was carried out in Negeri Rumahtiga, Teluk Ambon District, Ambon City as a research location because besides that the area is a leaf vegetable production center, in terms of cost and distance the research location can be reached.The population in this study were all 37 farmers in Taeno Hamlet.Sthe sample taken is the entire population and used as a sample. This sampling mechanism is carried out if the population is small which is at least less than100, then the number of samples taken is the entire population(Sugiyono 2017). Based on this research, because the number of

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population is notmore than 100 respondents, the authors took 100% of the population or farmers in Taeno Hamlet, namely 37 respondents.

The primary and secondary data that have been collected are then processed and then analyzed using feasibility income analysis with a correlation test. To determine the income, eligibility and correlation used the following formula:

$$\pi = TR - TC$$

Where : TR = Py. Y and TC = FC + VC

Thus, $\pi = (Py.Y) - (FC + VC)$

Description : π = Income or profit

Py = Price of production

Y = Production

TFC = Total Cost

TVC = Total Variable Cost (Total Variable Cost)

TR = Total Revenue (Total Revenue)

TC = Total Cost (Total Cost)

1. Ratio between Revenue and Cost

$$\text{(R/C Ratio)} \frac{TR}{TC}$$

Description: R/C = Return Cost Ratio

TR = Farming Revenue

TC = Total Cost of Farming

Criteria: R/C > 1, Farming is feasible

R/C < 1, farming is not feasible

R/C = 1, Farming is declared break even

2. Ratio between profit and Cost (B/C Ratio)

The mathematical formula for finding the B/C ratio is:

$$\text{B/C Ratio} = \frac{FI}{TC}$$

Description: B/C = Benefit/Cost Ratio

FI = Total Income (Rp)

TC = Total Cost (Rp)

Criteria: B/C > 1, Farming is feasible

B/C < 1, farming is not feasible

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B/C = 1, farming is said to be impacted

$$r = \frac{n\sum XY - \sum X.\ \sum Y}{\sqrt{n\sum X^2 - (\sum X^2)(n\sum Y^2 - (\sum Y)^2}}$$

Information :

r : Pearson r correlation coefficient (0-1)

n : Number of samples

X : Independent variable (variable of socioeconomic characteristics or input)

Y : Dependent variable (farmer income variable)

According to Sugiyono (2007), guidelines for interpreting the correlation coefficient can be described in the following table:

Table 3. Guidelines for Interpreting Correlation Coefficients

Correlation Intervals	Relationship Level
0.00 – 0.20	No correlation
0.021 – 0.40	Weak Correlation
0.41 – 0.60	Moderate Correlation
0.61 – 0.80	Strong Correlation
0.81 – 1.00	Perfect Correlation

The basis for decision making on the correlation coefficient is:

- If sig <0.05 then it is correlated
- If sig > 0.05 then it is not correlated

If the significance value is at 0.05 then:

Compare*Pearson Correlation*with r-table.

- If Pearson Correlation > r-table = there is a relationship
- If Pearson Correlation < r-table = there is no relationship

RESULTS AND DISCUSSION

Income Analysis of Leaf Vegetable Farming in Taeno Hamlet

Farmers' income is obtained from the total production calculated in one year multiplied by the selling price of leaf vegetables. Farming income is net income from farming results minus costs during production, namely variable costs and fixed costs.

Income Analysis of Leaf Vegetable Farming in Taeno Negeri Rumahtiga Hamlet, Ambon Bay District, 2022

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Description	Total Revenue and Production Costs (Rp)	Average (IDR)
Total Admissions	295,150,500	10,406,587
Total Cost of Production	74,638,648	2,017,260
Revenue (= TR-TC)π	220,511,852	8,389,326

Source: Primary data after processing, 2022

Table 4 shows that the total income of the farmers of Taeno Hamlet is obtained from a total revenue of Rp. 295,150,500, - with an average of Rp. 10,406,587, - reduced by a total production cost of Rp. 74,638,648, - with an average of Rp. 2,017,260 ,- so that the income received by leaf vegetable farmers in Taeno Hamlet is Rp.220,511,852,- with an average of Rp.8,389,326,- per year.

Feasibility Analysis of Leaf Vegetable Farming

The purpose of the feasibility analysis is to find out that leaf vegetable farming in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon District is profitable and feasible to cultivate. The feasibility of leaf vegetable farming can be calculated using the benefit cost ratio analysis. The results of the feasibility benefit cost ratio analysis of leaf vegetable farming in Taeno Hamlet can be seen in Table 23.

Feasibility of Leaf Vegetable Farming in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon District, Ambon City, 2022

No	Description	Total Revenue and Production Costs
1	Total income	220,511,852
2	Total Cost of Production	74,638,648
	B/C Ratio	2,9

Source: Primary data after processing, 2022

Table 5 shows the results of the benefit cost ratio showing a ratio value of 2.9. The benefit cost ratio results are obtained from total revenue divided by total production. Based on the results of the feasibility analysis of leaf vegetable farming, the B/C ratio shows a ratio of >1 (more than one). If the ratio is more than one then the farming can be said to be feasible, otherwise if the ratio is <1 (less than one) then the farming is not

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feasible to be cultivated. Therefore, the income earned by vegetable farmers in Taeno Hamlet is greater than the costs incurred. Thus it can be concluded that vegetable farming in Taeno Negeri Rumahtiga Hamlet, Ambon Bay District is feasible to cultivate.

Pearson Product Moment Correlation Test

Correlation test aims to determine the level of closeness of the relationship between variables expressed by the correlation coefficient (r). Pearson product moment correlation uses the SPSS computer program. Farmers' income levels certainly have a relationship with the characteristics of the respondents themselves.

The Relationship between Characteristics of Farmers and Farmers' Income Levels in Taeno Negeri Rumahtiga Hamlet, Ambon Bay District

No	Characteristics of Respondents	r count	r table	Sig(0.05)
	Social			
1	Farmer Age	0.89	0.325	0.00
2	Land area	1.00	0.325	0.00
3	The number of dependents	0.92	0.325	0.00
4	Level of education	0.27	0.325	0.01
5	Experience	0.88	0.325	0.01
6	Motivation	1.00	0.325	0.00
	Economy	r count	r table	Sig.
1	Production	0.56	0.325	0.00
2	Selling price	0.85	0.325	0.00
3	Production cost	0.31	0.325	0.00

Source: Primary data after processing, 2023

The results of the correlation test between the relationship between socio-economic characteristics and farmers' income in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon District can be described as follows:

Age and Farmer's Income of Taeno Negeri Rumahtiga Hamlet shows a correlation coefficient of 0.89 with a significant value of 0.00 <0.05. The correlation interval is at 0.81-1.00 with a perfect correlation level. The average age of the farmers in Taeno Hamlet is

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less than 50 years where the farmers are physically strong and have a high enthusiasm for farming, so that it can be said that the farmers are in the productive age category. Therefore, based on the basis of decision making, the age and income of the farmers of Taeno Hamlet are correlated.

Land Area with Farmers' Income of Taeno Negeri Rumahtiga Hamlet shows the correlation coefficient between education level and farmer's income of 1.17 with a significant value of 0.00 <0.55 meaning that the closeness between land area and farmer's income has a perfect correlation expressed in the correlation interval (0 .81-1.00). Thus the relationship between land area and farmers' income is stated to be correlated. Farmers' land area in Taeno Hamlet is stated to have a relationship, but the average farmer's land in Taeno Hamlet is small.

The number of dependents with the income of the farmers of Dusun Taeno Negeri Rumahtiga shows a correlation coefficient of 0.92. The correlation interval is at (0.81 – 1.00). The significance level is 0.01 <0.05 with a perfect correlation level. This shows that there is a correlation between the number of dependents and farmers' income. Family dependents are one of the social factors that make farmers in Taeno Hamlet more active in continuing their farming business. The higher the household responsibility, the more active the farmer is in developing his farming business and income.

Level of Education and Farmers' Income in Taeno Negeri Rumahtiga Hamlet shows a correlation coefficient of 0.27 with a significant level of 0.01 <0.05. This was stated to be correlated but the level of the relationship was a weak correlation, because the average education level of the lowest farmer in Taeno Hamlet was elementary school, so the results of the correlation test proved the level of the correlation was weak. Thus, the level of education is very important in supporting the creativity of farmers in managing their farming. The higher the level of education, the higher the knowledge and income received by the farmer.

Experience with Farmers' Income of Taeno Negeri Rumahtiga shows that the correlation coefficient is known to be 0.88 with a coefficient interval (0.81 – 1.00), a significant value of 0.01 <0.05 (correlated), with a perfect correlation level. This means that the correlation between farmer experience and farmer income is correlated. The average experience of the farmers in Taeno Hamlet is high because 70% of the farmers have farming experience of more than 5 years, so that the impact on farming is getting better, and resulting in an increase in farmers' income.

Motivation with Farmer Income Taeno Negeri Rumahtiga shows the correlation coefficient between variable X (motivation) and variable Y (farmer income) is 1.00. The

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coefficient interval is at (0.81 – 1.00) with a perfect correlation level. Significant value 0.00 <0.05 which is the basis for decision making, if significant value <0.05 then it is correlated. Thus motivation is very important for the farmers of Taeno Hamlet, because in carrying out farming, motivation can support enthusiasm and can increase the income of farmers in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon District.

Production and income of farmers in Taeno Negeri Rumahtiga shows the correlation coefficient of production and income is 0.56 with a significant value of 0.00 (correlated) but has a moderate level of correlation, expressed in the correlation interval of 0.41-0.60. This shows that the production obtained by farmers in Taeno Hamlet has decreased and increased due to other factors such as weather and pests.

Selling Price with Farmer's Income of Dusun Taeno Negeri Rumahtigathe value of the correlation coefficient between variable X (selling price) and variable Y (income) is 0.85 with a significance level of 0.00 <0.05 (correlated) with a perfect correlation level. This shows that the higher the price of vegetables, the higher the income earned by farmers in Taeno Negeri Rumahtiga Hamlet, Teluk Ambon District.

Production Costs with Farmers' Income of Taeno Negeri Rumahtiga Hamlet

Shows a correlation coefficient value of 0.31 with a significant level of 0.00 <0.05. The relationship between production costs and income is stated to be correlated but the level of the relationship is a weak correlation. The test results prove that there is a weak relationship between production costs and income because the higher the X variable, the lower the Y variable, the higher the production costs incurred by farmers in Taeno Hamlet, the smaller the income that will be received by farmers.

CONCLUSION

The results of the income analysis show that the average income of leaf vegetable farmers in Taeno Hamlet, Negeri Rumahtiga Teluk Ambon District is Rp.220,511,851,- with an average of Rp.8,389,326,-per year. The result of the B/C Ratio is 2.9 where the ratio shows > 1 (more than one). Thus, the income received by the farmers of Taeno Hamlet is greater than the costs incurred. Thus, leaf vegetable farming in Taeno Hamlet, Negeri Rumahtiga, Teluk Ambon District is feasible. The average correlation test results prove that age and income level of farmers have a correlation value of 0.89 (perfect correlation), land area with income of 1.17(perfect correlation), education with income 0.27 (weak correlation), number of dependents with income 0.92 (perfect correlation), experience with income 0.88 (perfect correlation), motivation with farmer income level

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1.00 (perfect correlation), production with income 0.56 (moderate correlation), selling price with income 0.85 (perfect correlation) and production costs with income have a correlation of 0.31 (weak correlation). Thus, even though there is a moderate or weak relationship, this does not affect the enthusiasm of farmers in continuing farming in Taeno Hamlet, Negeri Rumahtiga, Teluk Ambon District, and the average test results are stated to be correlated.

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