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ANALYSIS OF SELLING PRICES AND THE CONTRIBUTION OF MUSTARDFARMING TO FARMERS' HOUSEHOLD EXPENDITURES IN KARANG AMBUN SUBDISTRICT, TANJUNG REDEB DISTRICT, BERAU REGENCY

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Abstract

The objectives of this study are to: (1) determine the income of mustard greens farming based on each type of mustard selling price that is formed;(2) analyzing the amount of decent selling price of mustard greens at the farmer level so that farmers can obtain income equivalent to the MSE (Regency Minimum Wage) standard and per capita consumption expenditure of Berau Regency residents (PKRT);(3) knowing the feasibility level of mustard farming and the break-even point of mustard farming; (4) knowing the amount of the selling price of mustard greens that are feasible at the farmer level in Karang Ambun Village, Tanjung Redeb District; and (5) to find out the amount of contribution of mustard greens to farmers' household expenses based on each type of mustard selling price. This research was conducted from December 2021 to February 2022 which was located in Karang Ambun Village, Tanjung Redeb District. The determination of the location of this research was carried out deliberately (purposive) based on the consideration that this village is one of the agricultural areas that is developing mustard farming in Berau Regency. Data collection for this study was carried out by interviewing all farmers with questionnaire aids. The total population in this study is 30 respondents. The results of the research show that the average total revenue and income of mustard greens farming at the study location is IDR 6,953,126 planting season^{-1} and IDR 5,818,614.80. The average selling price of mustard greens based on the actual selling price, MSE and per capita expenditure of farmer households is respectively IDR 4,466.67 bundle^{-1}, IDR 4,481.39 bundle^{-1} and IDR 8,614.78 bundle^{-1}. Only the selling price of mustard greens based on PKRT can meet the per capita consumption expenditure of farmer households which have an average household member of 3.93. The value of BEP price and BEPproduction is IDR 728,806 bundle^{-1} and 253.99 bundle planting season^{-1}. The average value of R/C and B/C Ratio is 6.12 and 5.21. The contribution of the per capita income of mustard greens farmers to the monthly per capita expenditure of farmer households is 131%.

Keywords

Income Analysis, Feasibility Analysis, Determination of Selling Price of Mustard Seeds, Contribution of Farming.

1. INTRODUCTION

Vegetable plants are an important commodity in supporting national food security, this commodity acts as a source of carbohydrates, vegetable protein, vitamins, and minerals which have high economic value. Safei et al (2014) stated that increasing the production of vegetable crops is an important part of efforts to increase the production of useful agricultural products, both as a source of nutrition to support public health in general and to increase the income and welfare of farming communities in particular. Suhartini, (2002) in Mahendra et al., (2020) stated that along with the increase in population and awareness of the importance of nutrition, the demand for vegetables in general and mustard greens in particular has also increased.

In Berau Regency, mustard greens production from 2015 to 2020 tends to increase, namely from 72 tons to 5,677.1 tons or with a productivity of 0.791 tons ha^{-1} to 36,603 tons ha^{-1}, however, increasing farmer production is not always accompanied by an increase in welfare farmer. Nurasa and Rachmat (2013) stated that an increase in production is not always accompanied by an increase in the Farmer Exchange Rate (FER). FER is an indicator of farmer welfare which describes the level of farmers' purchasing power for the products purchased by farmers, namely consumer goods and production inputs. The higher the FER number, the better the farmer's purchasing power for these consumption products.

One of the medium-term goals of the East Kalimantan Provincial Food Crops Agriculture Service is to increase farmers' income and welfare as well as their resilience to climate change. Therefore, farmers who are also producers are always expected to increase production sustainably and should receive attention from the government (Department of Agriculture, Food Crops and Horticulture, East Kalimantan Province, 2019). Farmers are the ones who always experience losses when they have succeeded in increasing production at the expense of high production costs, but not by the selling price of the harvest that farmers expect to obtain revenue and income from their farming business to meet the consumption expenditure of the farmer's household or their level of welfare.

Initially, the Central Statistics Agency (2005)couted (Sugiharto et al., 2007) used eight indicators to measure the level of population welfare including income, consumption or family expenditure, living conditions, residential facilities, health of family members, and ease of obtaining health services. , ease of entry into education, and ease of obtaining transportation facilities. Now the Central Statistics Agency of Berau Regency (2022) will measure the level of welfare of the population through eight indicators including population, health and nutrition, education, employment, consumption levels and patterns, housing and environment, poverty, others which serve as a reference in efforts to improve the quality of life.

For a worker or laborer, the meaning of income referred to by the Central Bureau of Statistics as one of the indicators of welfare is the compensation received in the form of money or goods, which is paid by a company office, or employer in the form of moderate wages for non-labor workers or those those who are self-employed and freelancers, use the term income (Central Bureau of Statistics, 2022). So in this case mustard farmers are people who carry out farming at their own risk and by utilizing biological resources using traditional equipment so that one of them produces food or crops, namely mustard greens which are then intended for sale so that farmers earn income.

The ability of farmers to earn income from their farming business to meet the basic living needs of farming households, namely food and non-food needs (clothing, health, and education) is an indicator or indicator of farmer welfare. When the farmer's income can meet household consumption expenditure, the farmer and his family members are considered to be prosperous, but on the other hand, if the income received by the farmer is still not able to meet the farmer's household consumption expenditure, then the farmer can be said to be not yet prosperous (Martina and Yuristia, 2021).

The income received by farmers is the difference between total income and total production costs from farming. Whether the amount of income received by farmers is large or small is determined by the farmer's ability to manage his farming business, so that the difference between total income and total costs becomes greater, creating the potential for greater profits. Apart from that, farmers try to minimize their farming costs to get bigger profits, farming income is also something that influences the amount of income. The high or low amount of revenue can be caused by the increasing selling price of an item even though the amount of production does not increase or remains constant (Damanik and Sasongko, 2019).

The challenges faced by farmers in the vegetable agribusiness system generally include: most farmers do not have vegetable storage equipment such as refrigerators to maintain the quality of vegetables, farmers sell their crops to collectors directly when the harvest arrives, and the abundance of vegetables in the market is consequences when farmers plant simultaneously or at the same time. These farmer problems can make it difficult for farmers to market their crops at the selling price they have set so that the selling price has the potential to fall and ultimately have an impact on the amount of revenue and income of farmers.

If we refer to the definition of total revenue, farmers who are producers when selling vegetable commodities as their harvest at a relatively high selling price, then the farmer will get a relatively high amount of revenue as well. However, on the other hand, if farmers sell at a relatively low selling price, the farmer will get a low amount of revenue.

The objectives of this research are: (1) to determine the revenue and income of mustard farming based on the actual selling price and each type of mustard selling price formed; (2) to analyze the appropriate selling price for mustard greens at the farmer level in Karang Ambun Subdistrict, Tanjung Redeb District so that farmers obtain an income equivalent to the 2021 Berau Regency minimum wage standard and the per capita expenditure of the Berau Regency population in 2021; (3) to determine the level of feasibility of mustard farming and the break-even point for mustard farming, and (4) to determine the contribution of mustard farming income to farmers' household expenses based on each type of mustard selling price.

2. RESEARCH METHODS

2.1. Time and Location

This research was carried out in Karang Ambun Village, Tanjung Redeb District, Berau Regency, East Kalimantan Province from December 2021 to February 2022. The location for this research was chosen purposively based on the consideration that in this Village there are farmers who are cultivating mustard greens.

2.2. Population and sample

The total population in this study was 30 respondents, the number of respondents was the entire population of mustard greens farmers in the research location so the researchers used a total sampling technique (census), namely using the entire population as respondents (Sugiyono, 2017).

2.3. Method Of Collecting Data

The data collected in this research consists of primary data obtained from direct interviews with farmers using a list of questions or questionnaires that have been prepared previously including the general identity of farmers, the amount of use of production factors, production results, and farming revenues, as well as farming expenses and secondary data. obtained from books, research journals, the Berau Regency Central Statistics Agency, as well as literature that supports this research.

2.4. Data analysis

2.4.1. Total Income

The total income from farming is the result of multiplying the amount of farmer production by the selling price (Soekartawi, 2011) with the following formula:

$$TR=Q \times P$$

Information: TR = Total Revenue (IDR); Q = Total Production (IDR); and P = Price (IDRbundle^{-1})

2.4.2. Total Costs

The total cost that must be incurred by farmers to produce production is the sum of total variable costs and total fixed costs (Soekartawi, 2017) with the following formula:

$$TC=TVC+TFC$$

Information: TC = Total Cost (IDR); TVC = Total Variable Cost (IDR); TFC = Total Fixed Cost (IDR)

2.4.3. Farming Income

Soekartawi (2017) statethe total farming income is the difference between total receipts and total costs incurred with the following formula:

$$I=TR-TC$$

Information: I = Net Income (IDR);TR = Total Revenue (IDR); TC = Total Costs (IDR)

2.4.4. Break-Even Point Analysis (BEP) of Farming

Profit analysis of a farming business is obtained by calculating the break-even point analysis of the farming business. The break-even point is a condition where the total revenue of a business is equal to the total costs or profit is zero. This research only measures two types of BEP calculations, namely:

2.4.4.1. BEP Price

The break-even price point can be determined using the equation developed by Suratiyah (2015) with the following formula:

$$BEP\_Price=TC/Q$$

Information: TC = Total Costs (IDR); Q = Amount of mustard greens production (Bundle)

2.4.4.2. Production BEP

The break-even point in units (production) is a comparison between total costs and selling price (Manono et al., 2021) with the following formula:

$$BEP\_Q=TC/P$$

Information:TC = Total Costs (IDR); P = Selling Price (IDRbundle^{-1})

2.4.5. Farming Feasibility

Whether or not a farming business is feasible or not can be measured using the R/C ratio approach (Soekartawi, 2017) with the following formula:

$$R/C=TR/TC$$

Information :TR = Total Revenue (IDR); TC = Total Costs (IDR)

According to Ibarahim, (2009) quoted (Edyson et al., 2015) that the B/C ratio is a comparison between total income and total costs, with the following formula:

$$B/C=B/TC$$

Information : B = Total Income (IDR); TC = Total CostS (IDR)

2.4.6 Determining Selling Prices

2.4.6.1. Determining the selling price using the cost-plus pricing approach (Cost-Plus Pricing Method)

The selling price of agricultural commodities can be determined using the cost-plus pricing approach (Cost-Plus Pricing Method), namely a method of determining the selling price of a product by adding the desired or expected amount of profit or markup to the total costs incurred for the production and marketing process. According to Ikawati (2017), determining the selling price is based on the following formula:

$$P=TC+I$$

According to Noviasari and Alamsyah (2020), when determining the selling price using the cost plus pricing method, the desired or expected profit notation (I) can also be denoted as M or profit margin with the following formula:

$$P=TC+M$$

Information:P = Product Selling Price (IDRbundle^{-1}); TC = Total Costs (IDR); M = Expected profit (IDR)

Adding the desired or expected amount of profit (I or M) or markup (%) to the total costs incurred, the notation I can be developed into:

$$I=\%\ Profit\ x\ TC$$

So the equation becomes:

$$P=TC+(\%\ Profit\ x\ TC)$$

Information:P = Product Selling Price (IDR bundle^{-1}); TC = Total Cost (IDR); I=Expected profit (IDR)

Determining the selling price of each product unit using the Cost-Plus Pricing Method is mathematically formulated using the formula (Septiano, 2018) couted(Anggraini et al., 2023):

$$P = \frac{TC + I}{Q}$$

$$P = \frac{TC + (\%\ Profit\ x\ TC)}{Q}$$

Information: Q = Amount of mustard greens production (Bunch)

2.4.6.2. Determining the Selling Price of Mustard Greens Based on the Berau Regency Minimum Wage (UMK).

The Regency minimum wage is the minimum monthly wage that applies to workers or laborers, the amount of which is based on considerations of economic growth, inflation, and certain index variables, the amount of which is determined by the governor based on recommendations from the regent/mayor.

The regional minimum wage (UMK) for Berau Regency in 2021 is IDR 3,412,331 month^{-1}. Determining the selling price of mustard greens based on the UMK aims to find out the selling price of mustard greens which results in the monthly mustard farming income being equivalent to the minimum wage value of Berau Regency. To determine the selling price of mustard greens based on the UMK applicable in Berau Regency, the proposition is:

1. Planting Season (MT) for mustard farming is a maximum of 50 days or 1.66 months.
2. The total cost (TC) of mustard greens farming is 1 planting season.
3. Mustard greens production (Q) during 1 planting season
4. Margin is the income or profit obtained from the product of the minimum wage value for Berau Regency in 2021 with 1 planting season, namely a maximum of 50 days or the equivalent of 1.66 months.

Based on these propositions, determining the selling price of mustard greens based on the Regency minimum wage value can be derived from the initial equation model:

$$P = \frac{(TC+I)}{Q} \text{or} P = \frac{(TC+M)}{Q}$$

Which then substitutes the propositions that have been previously determined into the initial equation model so that a new formula model is obtained as follows:

$$\boldsymbol{P_{UMK} = \frac{(TC + (1,66\ x\ UMK\ 2021)}{Q}}$$

$$\boldsymbol{P_{UMK} = \frac{(TC + (1,66\ x\ 3.412.331)}{Q}}$$

Information: P_{UMK} = The price of mustard greens formed is equivalent to the UMK; UMK = Regency Minimum Wage 2021; TC = Total Cost (IDR ha^{-1} planting $season^{-1}$); 1.66 = Income conversion factor per month; Q = Production Quantity I (bundle planting $season^{-1}$).

2.4.7. Determining the Selling Price of Mustard Greens based on Family Welfare Indicators or Poverty Lines in Berau Regency

The composition of household expenditure is an indicator of family welfare which includes food, clothing, shelter, and health (Central Statistics Agency Berau Regency, 2022). According to Rachman (2001) couted (Adiana & Ni Luh Karmini, 2012) a high portion of food expenditure by a household is a household that is classified as having a low level of prosperity, whereas a household with a low portion of food expenditure is a household that is classified as having a high level of welfare. Apart from that, the concept of poverty according to the Central Statistics Agency is a person's ability to fulfill basic needs. These needs include basic food and non-food needs which are measured in terms of expenditure. The poverty line is an indicator for measuring the inability to meet the basic needs of the population which reflects the IDR value of the minimum expenditure required by a person to fulfill his basic life needs for a month. Therefore, when a population has an average per capita expenditure per month below the poverty line, then the population is categorized as poor. The average monthly per capita expenditure in Berau Regency in 2021 is IDR 1,847,259 consisting of 42.17% food and 57.83% non-food(Central Statistics Agency Berau Regency, 2022).

Determining the selling price of mustard greens using one of the family welfare indicators or the poverty line through the per capita expenditure value of the population in Berau Regency aims to find out that the selling price of mustard greens will be equivalent to the per capita expenditure in Berau Regency in 2021. To determine the selling price of mustard greens based on one indicator of family welfare is the proposition:

1. The maximum planting season for mustard farming is 50 days or 1.66 months.
2. The total cost of mustard farming is 1 planting season.
3. Mustard greens production (Q) during 1 planting season
4. Margin: Income or profit obtained from the product of the number of family members who are dependent on the family (∑AK) with the average value of household expenditure (Per Capita Expenditure) a month and with 1 planting season, namely 1.66 months.

Based on these propositions, determining the selling price of mustard greens based on the average value of monthly household expenses can be derived from the initial equation model:

$$P_{PRT} = \frac{(TC + (\sum AK\ x\ PRT\ x\ 1{,}66)}{Q}$$

$$\boldsymbol{P_{PP} = \frac{(TC + (\sum AK\ x\ 1.847.259\ x\ 1,66)}{Q}}$$

Information : P_{PP}: The price of mustard greens is equivalent to the cost of living; PP: Average monthly per capita expenditure (IDR 1,847,259 people^{-1}month^{-1}); ∑AK: Number of Family Members (soul/head of the family); TC: Total Cost (IDR hectare^{-1} planting season^{-1});Q: Production Quantity I (bundle planting season $^{-1}$).

2.4.8 Comparison of Selling Prices and Income from Mustard Farming

The comparison of the actual selling price of mustard greens and the selling price of mustard greens based on UMK as well as the comparison of the actual selling price of mustard greens and the selling price of mustard greens which is formed based on the average monthly household expenditure per capita can be determined using statistical analysis of the paired t-test. The formula used to test the paired t-test in this research is (Montolalu and Langi, 2018):

$$t_{count} = \frac{\bar{D}}{\frac{SD}{\sqrt{n}}}$$

$$\bar{D} = \frac{\sum_{i=1}^{n}(x_1 - x_2)}{n}$$

$$SD = \sqrt{var}$$

$$var(S^2) = \frac{1}{n-1}\sum_{i=1}^{n}(x_1 - x_2)^2$$

Information:t-count= Calculated t value; D = Average difference between measurement values 1 and 2; n = Number of measurement samples; SD = standard deviation of the difference between measurements 1 and 2; x_1 = Average actual price of mustard greens; and x_2 = Average price of other mustard greens

2.4.9. Mustard Farming Contribution to Household Expenditures from Each Price Formed

The amount of income contribution obtained from mustard greens farming in Karang Ambun Village, Tanjung Redeb District is through the ratio between the total average income of mustard greens farming and the farmer's household expenditure, which is then multiplied by 100%, namely:

$$C = \frac{\overline{TI}}{T_{PKRT}} \; x \; 100\%$$

Information: C = Contribution (%); TI = Average total per capita income of mustard greens farmers (IDR people^{-1} planting season^{-1});T_{PKRT} = Average total per capita expenditure per month for farmer household consumption (IDR month^{-1}).

3. RESULTS AND DISCUSSION

3.1. Family Dependents

The average number of family members of mustard greens farmers in Karang Ambun Village ranges from 1 to 6 people with an average of 3.93 family members.

3.2. Land Area

The total land area managed by 30 mustard greens farmers in Karang Ambun Village is 12.60 hectares with an average land area of 0.24 hectares for each farmer. The land area managed by

farmers in the research location ranges from 0.20 to 0.60 hectares. 18 farmers manage land of <0.50 hectares (60%), while 12 farmers manage land of ≥0.5 hectares (40%).

3.3. Analysis of Farming Costs

The farming costs used in mustard farming in Karang Ambun Village, Tanjung Redeb District are the total costs incurred for one planting season to meet mustard production needs including variable costs and fixed costs. The average production costs of mustard greens farming in Karang Ambun Village, Tanjung Redeb District are presented in Table 1.

Table 1. Average Cost of Mustard Farming Production Costs in Karang Ambun Village, Tanjung Redeb District, Berau Regency

Mustard Farming Costs		**Amount**	%
A	***Variable Cost***		
1	Seed	38.267	3,37
2	Fertilizer	55.500	4,89
3	Pesticide	89.048	7,85
4	Labor	624.070	55,01
Total VariableCost (TVC)		**806.884**	**71,12**
B	***Fixed Cost***		
1	Equipment Depreciation Costs	327.627	28,88
2	Property tax	0	0,00
3	Land lease	0	0,00
Total Fixed Cost (TFC)		**327.627**	**28,88**
Total Costs (TC)		**1.134.511**	**100,00**
Farming Feasibility			
R/C Ratio			6,12
B/C Rasio			5,12
Break Even Point			
BEP_Q (bundle)			253,99
BEPprice (IDR $bundle^{-1}$)			728,806

Source: Primary Data Processed 2022

3.4. Analysis of Farming Revenue and Income

The amount of mustard farming revenue in Karang Ambun Subdistrict, Tanjung Redeb District is obtained by multiplying the amount of mustard farming production in 1 planting season in the form of each bunch of mustard greens multiplied by the actual selling price that has been agreed with the buyer.The income from mustard farming in Karang Ambun Village, Tanjung Redeb District is the difference between the average total revenue and the average total production costs which consist of variable costs such as the costs of seeds, fertilizer, pesticides, and labor and fixed costs such as equipment depreciation costs. The average production, revenue, production costs, and income of mustard greens farming in Karang Ambun sub-district in 2020 for 1 planting season are presented in Table 2.

Table 2. Details of Average Production, Revenue, Production Costs, and Income of Mustard Farming in Karang Ambun Village, Tanjung Redeb District, Berau Regency in 2020 for 1 Planting Season

Description	Average			Difference	
	Actual	UMK	PKRT		
(b)	(c)	(d)	(e)	(d - c)	(e - c)
Production (bundles planting season^{-1})	1.556,67	1.556,67	1.556,67	0,00	0,00
Total Costs	1.134.511,20	1.134.511,20	1.134.511,20	0,00	0,00
Price (bundles planting season^{-1})	4.466,67	4.481,39	8.614,78	14,73	4.133,38
Revenue (IDR planting season^{-1})	6.953.126,00	6.976.050,97	13.410.364,86	22.924,97	6.434.313,90
Income (IDR planting season^{-1})	5.818.614,80	5.841.539,77	12.275.853,66	22.924,97	6.434.313,90

Source: Primary Data Processed 2022

Based on Table 2, shows that the average amount of mustard greens produced by farmers is 1,557 bunches in 1 planting season and with an average actual selling price of IDR 4,467 for every 1 bundle, so the total average revenue is IDR. 6,953,126.00. Meanwhile, the average mustard greens farming income is IDR. 5,818,614.80 or Rp. 2,424.42 for every 1 m^2.

3.5. Feasibility and Break-Even Point (BEP) Analysis of Mustard Farming

3.5.1. Production BEP (BEP_Q)

The results of the BEP analysis for production in mustard greens farming are presented in Table 1 showing that the average BEP for production from mustard greens farming is 253.99 bundles. This means that mustard farming in Karang Ambun Village will have a total amount of income equal to the total expenditure or be in a state of neither profit nor loss if it can produce 253.99 bundles of mustard greens. However, in reality, the actual production volume as shown in Table 2 is that the average actual production of mustard greens farming in the research location is 1,557 bundles for each planting season, this means that mustard greens farming in Karang Ambun Village, Tanjung Redeb District is worth cultivating or has experienced profits.

3.5.2. BEP Price (BEP_Price)

The results of the BEP analysis for production in mustard greens farming are presented in Table 1 showing that the average BEP point for the selling price of mustard greens is IDR 728,806 for each bundle. This means that mustard greens farming in Karang Ambun Subdistrict will have a total income equal to the total expenditure or be in a state of neither profit nor loss if it sells mustard greens amounting to IDR 728,806 for each bundle. However, in reality, the actual selling price of mustard greens, as shown in Table 2, is that the average actual selling price of mustard greens in the research location is IDR 4,467.67 for each bundle, this means that mustard farming in Karang Ambun Village, Tanjung Redeb District is worth cultivating or has experiencedprofits.

3.5.3. Revenue Cost Ratio (R/C Ratio)

The results of the feasibility analysis of farming using the ratio criteria of total revenue and total costs or what is known as the Revenue of Cost Ratio as presented in Table 1 show that the R/C ratio value in mustard greens farming is 6.12 (R/C ratio value > 1) which means that the farming

business is worth pursuing. The R/C ratio value of 6.12 shows that every increase in production costs of IDR 6 will increase revenue by IDR 6.12 with a profit of IDR 0.12.

3.5.4 Benefit Cost Ratio (B/C Ratio)

The results of the analysis of the feasibility of mustard farming using the comparison or ratio method of total income and total costs or what is known as the benefit-cost ratio (B/C Ratio) as shown in Table 1 shows that the B/C ratio value for mustard farming is 5. 12 (B/C ratio value > 1) which means that the farming is worth running.

3.6. Analysis of Determining Mustard Selling Prices Based on UMK

The results of the farming analysis show that the average total production cost of mustard farming at the research location to produce an average mustard production of 1,557 bundles is IDR. 1,134,511.20 planting season^{-1}. Based on data on the selling price of mustard greens that must be determined by farmers so that their monthly mustard farming income is equivalent to the Regency Minimum Wage for 2021, the average selling price of mustard greens formed from this equation is IDR 4,481.39 bundles^{-1}.If the selling price of mustard greens is implemented by farmers, the average income that farmers can obtain is IDR 5,841,539.77 every month or with an average profit margin of 7.24%. When compared with the 2021 Regency Minimum Wage income which is IDR 3,412,331 month^{-1}, then the average monthly income of the farmer has exceeded the Regency minimum wage, which is IDR 2,429,208.77 or 40%. This condition is the same if the average monthly income of the farmer is compared with the average monthly expenditure per capita of the Berau Regency population in 2021, which is IDR 1,847,259 month^{-1}, then the average income of these farmers also exceeds the monthly per capita cost of living, so it can be concluded that the average income of these farmers is adequate to support the cost of living for single workers. This is by the definition of minimum wage, namely the lowest wage earned by single workers or laborers to be able to live physically well every month (Minister of Manpower, 2018). However, when compared with the cost of living for a farming household which has an average of 4 family members, the per capita expenditure of a farming household every month in 2021 is IDR 1,847,259 soul^{-1} month^{-1}, it is clear that the average income of farmers based on the selling price of mustard greens from the UMK will not be sufficient for farmers' household expenses each month because the UMK standards set by the government only take into account the needs of workers or single laborers.

3.7. Analysis of Determining the Selling Price of Mustard Greens Based on Per Capita Expenditure (PP)

The average selling price of mustard greens based on the per capita expenditure of the Berau Regency population in 2021 is IDR 8,614.78 bundles. This means that the selling price of mustard greens is IDR 8,614.78 bundle^{-1} is the selling price level that must be implemented by farmers so that the monthly mustard farming income is equivalent to the monthly per capita expenditure of the population of Berau Regency in 2021. If the selling price of mustard greens is implemented by farmers, the average income that can be obtained from farmers is IDR. 12,275,853.66 every month. or with an average profit margin of 14.70%. However, if the average farmer's income is divided by the average number of family dependents of four people, the average farmer's income becomes IDR 3,123,626.88 soul^{-1}month^{-1}. So, if the average income of farmers is divided by the number of family members of each farmer and then compared with the per capita expenditure of the population of Berau Regency in 2021, which is IDR 1,847,259 month^{-1}, then the average monthly income of these farmers has exceeded the per capita expenditure of Berau Regency in 2021, namely IDR 1,276,367.00 or 40%.

3.8. Differences in the Selling Price of Mustard Greens Based on UMK and the Actual Selling Price Of Mustard Greens

The results of the paired t-test analysis of the actual average selling price of mustard greens and the average selling price of mustard greens based on UMK in 2021 show that the t-count is 0.111, while the t-table value at the significance level $\alpha = 5\%$ and the degree of freedom (db = 29) is 2,045. This shows that the t-count< t-table so that a decision is made to accept H_0 and reject H_1, which means there is no significant difference in the average actual selling price of mustard greens and the average selling price of mustard greens based on UMK in 2021.

Based on the results of data analysis of the actual selling price of mustard greens and the selling price of mustard greens determined based on the cost plus price method, namely using the previous 8th equation, the average selling price of mustard greens in Karang Ambun Subdistrict is as presented in Table 2. Shows that the average price actual sale of mustard greens for IDR 4,466.67 for each bundle. Meanwhile, the average selling price of mustard greens determined based on the cost plus price method, namely based on the 2021 Berau Regency UMK, is IDR 4,481.39 for each bundle. So it can be concluded that the average selling price of mustard greens formed based on the UMK is higher than the average actual selling price of mustard greens with a difference of IDR 14.73. If the average selling price of mustard greens based on the UMK is implemented by farmers, the potential income that farmers can obtain by selling an average amount of production is IDR 1,556.67 bundle^{-1} is IDR 6,976,050.97. In addition to the potential income earned by farmers, the average total fixed farming costs are IDR 5,841,539.77. Mathematically, the greater the difference between total revenue and total costs that must be incurred in mustard greens farming, the greater the potential profit that farmers will obtain. An increase or decrease in the total amount of revenue can be caused by; (1)the amount of production increases even though the selling price does not change or remains the same:(2)the selling price of an item increases even though the amount of production does not increase or remains constant; and(3)both the amount of production sold and the selling price have increased simultaneously (Damanik & Sasongko, 2019).

3.9. Differences in Selling Prices of Mustard Greens Based on Actual Prices and per Capita Expenditures in Berau Regency in 2021

The results of the paired t-test analysis of the average actual selling price of mustard greens and the average selling price of mustard greens based on per capita expenditure in Berau Regency in 2021 show that the t-count is 8.526, while the t-table value is at a significance level of $\alpha = 5\%$ and the degree of freedom (db = 29) is 2.045. This shows that the value of t-count > t-table so that a decision is made to accept H_1 and reject H_0, which means there is a significant difference in the actual average selling price of mustard greens and the average selling price of mustard greens based on the per capita expenditure of Berau Regency in 2021.

Based on the results of the previous analysis of mustard greens farming income in Karang Ambun Village, the actual average selling price of mustard greens in Karang Ambun Village, as presented in Table 2, is IDR 4,466.67 for each bundle. Meanwhile, the average selling price of mustard greens is determined based on the cost plus price method, namely IDR 8,614.78 for each bundle. So it can be concluded that the average selling price of mustard greens based on the per capita expenditure of the population of Berau Regency in 2021 is higher than the actual average selling price of mustard greens with a difference of IDR 4,133.38. If the average selling price of mustard greens is implemented by farmers, the potential income that farmers can obtain by selling an average amount of production is IDR 1,556.67 bundle^{-1} is IDR 13,410,364.86. Apart from income, the potential income obtained by farmers if the average total fixed farming costs is IDR 12,275,853.66.

Table 4. Analysis of Difference Test on Average Selling Prices of Mustard Greens Based on Actual Prices and Per Capita Expenditures for Household Consumption of Berau Regency Population in 2021

No	Description	Average		Difference
		Actual	PKRT	
1	Number of Samples (Farmers)	30	30	-
2	Price of Mustard Greens (IDR bundle^{-1} planting season^{-1})	4.466,67	8.614,78	4.148,11

t-count : 0,111; t-table (0,05; 29) :2,045

3.10. Analysis of the Contribution of Mustard Greens Farming Income to Household Expenditure

Household consumption expenditure (PKRT) can be understood as expenditure on goods and services by households with the aim of consumption for both food and non-food consumption purposes (health, education, clothing, housing) and functioning as end users (final demand). Households are defined as individuals or groups of individuals who live together in a residential building (Central Bureau of StatisticsEast Kalimantan, 2024). Per capita expenditure is expenditure or costs incurred for consumption by all household members during a month divided by the number of household members (Central Bureau of StatisticsBerau Regency, 2022).

Keynes's consumption theory (Puspita and Agustina, 2020) states that household consumption expenditure is the main indicator that can describe the level of household welfare. The description of the level of prosperity according to Keynes can be seen in the condition that the higher the expenditure on consumption of goods and services, the higher the income and welfare of the family (Bakar, 2020). Based on the results of the analysis of mustard greens farming in Karang Ambun Village, the average farming income is IDR 5,818,614.80 planting season^{-1} or IDR 9,658,900.57 month^{-1} and the average dependent of a farmer's household is 3.93 people, so the monthly per capita income of mustard greens farmers in Karang Ambun Village is IDR 2,457,735.52 month^{-1}. The average monthly per capita expenditure in Berau Regency for 2021, which the researchers hereafter refer to as the per capita expenditure of farmer households, is IDR 1,847,259 consisting of 42.17% or IDR 778,989.12 food and 57.83% or IDR 1,068,269.88 is non-food (Central Bureau of StatisticsBerau Regency, 2022). This information shows that the welfare level of farming families in the study location is no longer relatively low. This can be seen from the proportion of household consumption expenditure on food and non-food, where the percentage of consumption expenditure on non-food is greater than the percentage of consumption expenditure on food. This fact is by Engel's law that the higher the level of people's income, the household consumption expenditure for food needs decreases (Fransiska, 2015). Shifts in household consumption patterns will change with an increase in non-food household consumption in line with increasing household income. Shifts in household consumption patterns will change with increasing household income. Shifts in consumption patterns are caused by the elasticity of demand for food in general being low. When the portion of household consumption expenditure for food becomes smaller, the welfare level of farming households improves (Trisnowati and Budiwinarto, 2013) in Nora Susanti et al., 2014)

The average contribution of mustard greens farming income to the monthly per capita expenditure of farming households is 131%. This means that the entire average per capita expenditure of farming households can be met by mustard greens farming. Apart from that, the mustard farming carried out by farmers has fully contributed to the farmer's household expenses.

CONCLUSIONS

Based on the results of the research analysis that has been carried out and the description of the discussion, the following conclusions can be drawn:

1. The average total revenue from mustard farming in Karang Ambun Village, Tanjung Redeb District is IDR 6,953,126.00 planting season^{-1} with an R/C ratio of 6.12.
2. The average income of mustard farming in Karang Ambun Village, Tanjung Redeb District is IDR 5,818,614.80 planting season^{-1} or Rp. 9,658,900.57 month^{-1} with an R/C ratio of 5.12.
3. The appropriate selling price for mustard greens at the farmer level in Karang Ambun Subdistrict, Tanjung Redeb District so that farmers can obtain an income equivalent to the 2021 Berau Regency minimum wage standard is IDR 4,481.39 bundle^{-1}, while the selling price of mustard greens based on the per capita expenditure of the population of Berau Regency in 2021 is IDR 8,614.78 bundle^{-1}.
4. The break-even price (BEP_Price) and production (BEP-Q) value for mustard farming in Karang Ambun Village, Tanjung Redeb District is IDR 728.806 and 253.99 bundle^{-1}. This shows that mustard farming in Karang Ambun Village, Tanjung Redeb District is worth pursuing or has experienced profits.
5. Mustard farming carried out by farmers has fully contributed to the monthly per capita expenditure of farmer households by 131%.

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