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ANALYSIS OF INCOME AND FEASIBILITY OF PALM OIL FARMING IN KAMPAR REGENCY, INDONESIA

Gultom Dormauli B. *, Yunianto B.I. Vitus Dwi, Ekowati Titik

Master's Study Program of Agribusiness, Diponegoro University, Indonesia

*E-mail: gultomdormauli@gmail.com**ABSTRACT**

This study was aimed to analyze: a) the income of palm oil farmers in Kampar Regency; b) factors that affect the income of palm oil farmers; and c) analyze the feasibility of palm oil farmers' businesses in Kampar Regency. This research was conducted using survey method in Kampar Regency that was chosen purposively. The results of the income analysis was IDR 269,006,280 per farmer per year with an average farmer land area of 7.08 ha. The results of multiple linear regression analysis showed that variable selling prices, total fertilizer costs, total pesticide costs, total labor costs, and total productions significantly affect the income of palm oil farming in Kampar Regency simultaneously and partially with level of trust 95%. Palm oil cultivation business in Kampar Regency was feasible to run because: a) had a profitability value of 772.95% which is higher than the deposit rate of Bank BRI in May 2021 of 3%, b) Payback period for 7 years and 24 days which means faster efforts than the economic age of palm oil plants that is between 25-26 years, and c) the value of Return on Investment of 1,518% which is higher than 100%.

KEY WORDS

Feasibility, income, palm oil.

The agricultural sector has an important role in economic activities in Indonesia. This can be seen from the contribution of the agricultural sector to gross domestic product (GDP) which is quite large which is about 13.70% in 2020. This value makes the agricultural sector ranked third after the industrial and trading sector in contribution to GDP. One of the subsectors that has considerable potential to be developed is the plantation subsector. The plantation sub-sector experienced a GDP growth of 1.13 percent from 2019 with the supporting commodity being palm oil (Central Bureau of Statistics, 2020).

Palm oil has an important role in economic activities in Indonesia because of its ability to produce vegetable oil that is much needed by the industrial sector. As the world's largest palm oil producing country, Indonesia has great potential to market palm oil and palm kernel both at home and abroad. The potential market that will absorb the marketing of palm oil (CPO) and palm kernel oil (PKO) is the fractionation industry (especially the cooking oil industry), special fats (cocoa butter substitute), margarine/shortening, oleochemical, and bath soap (Central Bureau of Statistics, 2018).

Several factors that make palm oil as one of the leading commodities of plantations are first, because of its extensive derivative products. Processed products that can be produced from palm oil include cooking oil, detergents, cosmetics, soaps, candles, and others. The large number of products that can be produced from palm oil commodities shows that the market for palm products is still open and has good prospects. The second factor is the increasing need for vegetable oils each year. These factors indicate that the prospects for palm oil business development are quite promising. Palm oil development programs and projects in Indonesia itself are carried out in several regions, especially in seven provinces namely Riau, North Sumatra, South Sumatra, Central Kalimantan, Jambi, West Kalimantan, and West Sumatra because the geographical conditions of the area are very suitable for the development of palm oil (Ramadhannisa, 2013).

Kampar Regency is one of the largest palm oil producing centers in Riau in 2018-2019. Kampar Regency's position as the center of palm oil production in Riau is supported by the availability of large land and land suitable for palm oil cultivation, production potential

and availability of human resources. The area of palm oil in Kampar Regency in 2016 amounted to 222,142 ha and the production of palm oil in Kampar Regency as much as 2,619,061 tons. The increase in the area of palm oil occurred in 2020 amounting to 226,085 ha and the production of Palm Oil in Kampar Regency as much as 2,703,547 tons, with the largest production amount being in Tapung Hulu, Kampar Tapung and Kampar Kiri Hulu Districts. This is the basis of research conducted in Kampar Regency (Kampar Regency Statistics Agency, 2020).

Efforts to increase the income and welfare of farmers often experience some obstacles in the north directly by the extension of farmers in Kampar Regency. These constraints include relatively low farmer knowledge, limited capital, narrow land ownership, lack of farmer skills and natural conditions. This is very important in determining the production and productivity of palm oil which has an effect on the income of palm oil farmers in Kampar Regency.

The problem in the feasibility of palm oil farming is that production and productivity are still low. Palm oil productivity in Riau Province reached 22.73 tons/ha/year in 2018 (Harahap and Lubis, 2018). This productivity was still relatively low because the potential productivity of palm oil could reached 30 tons/ha (Fahri *et al.* 2014). Palm oil plants in Kampar Regency are 15-20 years old. The age of palm oil plants that have reached 15-20 years makes their productivity decrease. Palm oil is an annual crop that can reach a productive age of 23-27 years and harvest this palm oil twice a month, so that in a year there are 24 harvests.

The feasibility of palm oil farming will be successful if farmers as farmers earn a decent income so as not to switch to other crops that are estimated to be more profitable and motivated for the feasibility of their farming. But with the problems faced, it is necessary to know how farmers' income and what factors affect the income of palm oil farmers. Socioeconomic factors that are thought to affect the income of palm oil farmers are selling price, fertilizer costs, pesticide costs, labor costs, and land area. This study will examine the income and factors that affect the income of palm oil farmers, as one of the references to the feasibility of palm oil in Kampar Regency.

The purpose of this study was 1. Analyzing the income of palm oil farmers in Kampar Regency; 2. Analyze the factors that affect the income of palm oil farmers in Kampar Regency; 3. Analyzing the feasibility of palm oil farmers in Kampar Regency.

METHODS OF RESEARCH

The research was conducted in Kampar Regency, as a center for palm oil cultivation and production in Riau Province in September 2020 – October 2020. The selection of this location is based on the consideration that the selected district is the central area of palm oil production in Kampar Regency. This research method was conducted using survey method. According to Sugiyono (2013), the survey method is research used using structured questions as a research tool conducted on a number of samples taken from a population, so that relative events, distribution and relationships between variables, sociology and psychology are found. The location of the research was carried out by cluster random sampling based on the districts in Kampar Regency. The stages of determining the sampling location are as follows:

1. The distribution of groups or population clusters of oil palm farmers in this study is based on the number of districts in Kampar Regency. The districts were then chosen at random and the districts of Tapung Hulu, Kampar Kiri, and Bangkinang were chosen;
2. Each district then selected 2 villages which were also determined randomly, so that the total sample villages in this study were 6 villages;
3. Determination of samples of palm oil farmers. The population in this study is palm oil farmers who are at the research site. The size of the farmer sample is calculated using the Slovin formula (Setiawan, 2007).

$$n = \frac{N}{1 + N(e^2)}$$

Where: n = Number of samples (farmers); N = Number of population (farmers); e = Inaccuracy tolerance (10%).

The population of palm oil farmers in this study was 5,226 farmers, the number of farmers samples based on slovin formula is as follows:

$$n = \frac{5226}{1 + 5226 (0.1^2)} = 98 \text{ farmers}$$

The first goals, analyzing the income of palm oil farmers in Kampar Regency is done using a series of income analysis as follows.

1. Production Costs and Revenue of Palm Oil Farming:

$$TC = TFC + TVC$$

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

Total Revenue is determined by using a formula:

$$TR = P \times Q$$

Where: TR = Total Revenue (IDR); P = Price (IDR/kg); Q = Quantity (kg).

2. Palm Oil Farming Income:

$$I = TR - TC$$

Where: I = Income (IDR); TR = Total Revenue (IDR); TC = Total Cost (IDR).

The second goal, analyzing the factors that affect the income of palm oil farmers in Kampar Regency was done using multiple linear regression analysis with mathematical formulations as follows:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e$$

Where: Y = Income (IDR); α = Constant; $b_1 - b_7$ = Variable coefficient; X_1 = Production Price (IDR/kg); X_2 = Total Fertilizer Cost (IDR/kg/year); X_3 = Total Pesticide Cost (IDR/liter/year); X_4 = Total Labor Cost (IDR/HOK/Year); X_5 = Total Productions (kg/ha/year); e = Variable disruptor.

Statistical tests are used to determine the effect of all independent variables simultaneously on dependent variables using a simultaneous test (F Test). A partial test using a t-test is performed to test whether an independent variable is partially significant to the dependent variable. The significant level was used in F Test and t-test was $\alpha = 5\%$ or with a confidence level of 95%.

The third goals is the feasibility of palm oil farming in Kampar Regency. Palm Oil Feasibility is to conduct an analysis of the feasibility of palm oil plantations. Investment assessment method is done by profitability, PP, and ROI method using Microsoft Excel program. Hypothesis testing is conducted using one sample t-test. The feasibility are formulated as follows.

$$\text{Profitability} = \frac{\text{Income}}{\text{Total Cost}} \times 100\%$$

The proposed criteria are as follows:

- Business is said to be feasible and profitable if the profitability value > bank deposit rate (Bank BRI May 2021 = 3.0%);

- Business is said to be unworthy and unprofitable if the profitability value $\leq$ bank deposit rate (Bank BRI May 2021 = 3.0%).

$$\text{Payback Periode} = n + \frac{a - b}{c - b}$$

Where: n = The last year in which the amount of cash flow is still not biased to close the investment at first; a = Initial investment amount; b = Cumulative amount of cash flow in the n year; c = Cumulative amount of cash flow in the year to n + 1.

The proposed criteria are as follows:

- Business is said to be feasible and profitable if the value of PP < the palm oil economic age;
- Business is said to be unfit and unprofitable if the value of PP $\geq$ the palm oil economic age.

$$\text{ROI (Return On Investment)} = \frac{\text{Earning After Tax}}{\text{Total Assets}} \times 100\% \text{ (Handini, 2020)}$$

The proposed criteria are as follows:

- Business is said to be feasible and profitable if the ROI value > 100%;
- Business is said to be unworthy and unprofitable when the ROI value $\leq$ 100%.

RESULTS AND DISCUSSION

The income analysis was conducted to answer the first objective in this study, which is to analyze the income of palm oil farmers in Kampar Regency. The series of analyses include calculating the total cost of farming, calculating the total revenue earned, and calculating the amount of income of palm oil farmers.

Table 1 – Average Production Cost in Palm Oil Farming Per Farmer Per Year With An Average Land Area of 7.08 ha

Component	Costs Amount - IDR/year/land area -	Costs Percentage ----- % -----	Percentage in Whole
A. Fixed Costs			
1. Depreciation	1,821,038	14.63	5.29
2. Land Lease	10,622,449	85.37	30.89
Total Fixed Cost	12,443,487	100.00	
B. Variable Costs			
1. Fertilizer Costs			
a. Dolomite	670,806	7.34	
b. Urea	2,783,175	30.48	
c. KCl	3,448,136	37.76	
d. TSP	2,052,426	22.48	
e. Borate	176,890	1.94	
Total Fertilizer Cost	9,131,434	100.00	26.56
2. Labor Costs			
a. Fertilization	1,260,969	10.56	
b. Weeding	993,878	8.33	
c. Pruning	3,353,061	28.09	
d. Fertilization	1,260,969	10.56	
e. TBS Harvesting	5,067,071	42.45	
Total Labor Cost	11,935,948	100.00	34.71
3. Pesticides	878,113		2.55
Total Variable Cost	21,945,496		
Total Cost	34,388,982		100.00

The costs incurred during the production process are referred to as production costs. Production costs can be distinguished into two kinds, namely fixed costs and variable costs. Fixed costs are not affected by the amount of production produced. The variable cost, the

amount of which depends on the amount of production produced. The type of fixed cost on palm oil farming that sells in the form of palm fruit is the cost of depreciation and land tax. The variable cost in palm oil farming is the cost of fertilizer and labor costs. While the type of fixed cost on palm oil farming that sells in the form of palm oil seeds is the cost of depreciation and land tax. The variable cost in palm oil farming is the cost of fertilizer, labor costs, and processing costs from palm oil fruit (cherries) to palm oil seeds (greenbean). The Average Cost of Production in Palm Oil Farming is presented in Table 1.

Based on the research, it is known that the structure in palm oil farming consists of fixed costs and variable costs. Fixed costs consist of depreciation costs amounting to IDR 1,821,038 (5.29%) and land lease of IDR 10,622,449 (30.89%). Variable costs consist of fertilizer costs, labor costs, and pesticide costs. The average total cost of fertilizer issued amounted to IDR 9,131,434 (26.56%) with an average land area of 7.08 ha consisting of dolomite, urea, KCl, TSP and borate fertilizer. The average total labor cost incurred amounted to IDR 11,935,948 (34.71%) consisting of the costs of fertilizing, weeding, pruning, fertilizing and harvesting TBS. While the cost of pesticides issued amounted to IDR 878,113 (2.55%).

The cost of fertilization is obtained from the amount of use of each type of fertilizer multiplied by the purchase price of each type of fertilizer. The use of fertilizers that are not excessive can reduce costs expenditures by farmers. Fertilization aims to complement the provision of nutrients in the soil to meet the needs of palm oil crops. According to Fauzi *et al.* (2012), fertilization is a component that can affect palm oil production because it serves as an additional nutrient provider for crops that cannot be filled by soil. Fertilization must also be in accordance with the nutritional needs of palm oil crops. Fertilizers used by farmers at the research site include dolomite, urea, KCl, TSP, and borate fertilizers. According to Natalia *et al.* (2016) the accuracy of the use of fertilizer types in palm oil crops, namely urea, TSP, KCl, dolomite, and borate with appropriate doses recommended can optimize crop growth and FFB production.

The labor costs in this research consist of fertilization costs, weeding costs, trimming costs, fertilization costs and fresh fruit bunch (FFB) harvesting costs. The average total labor cost per farmer with an average land area of 7.08 ha was IDR 11,935,948. Over-use of labor can increase the costs that farmers need to spend. According to Nu'man and Yahya (2009) labor is a production factor that absorbs considerable costs in palm oil cultivation activities, where the needs of palm oil workers are influenced by the area of the garden, type of work, technology, and plant life.

Pesticide costs have the lowest percentage in the component of palm oil farming costs at 3.30% of the total cost. This is because palm oil farmers in Kampar Regency only use herbicide-type pesticides, where herbicides are used to eradicate weeds around palm oil trees. No other type of pesticides such as insecticides, fungicides and bactericide are used because the most disruptive organisms in palm oil plantations are weeds. This is in accordance with Sastrosayono's statement (2003) which states that weeds are the organisms that cause the biggest economic losses in palm oil plantations because they become the main competitors for palm oil plants in absorbing nutrients and water.

Based on the results of the study, it is known that the average production of fresh fruit bunches of palm oil was 159,904 kg/farmer/year, the average land area of respondent farmers was 7.08 ha, so the productivity was 22.58 tons/ha/ year. This result is not much different from the results of Harahap and Lubis (2018) research which mentions that the productivity of fresh fruit bunches in Riau Province reached 22.73 tons/ha/year. Productivity is still relatively low compared to the statement of Fahri *et al.* (2014) that the productivity potential of fresh fruit bunches could reach 30 tons/ha. According to Apkasindo Deputy Secretary General, Rino Afrino, as quoted from the Certification Body – MISB (2018) stated that the low productivity of palm oil in Indonesia is due to the use of seeds not superior (illegitim seeds) by farmers who want to grow palm oil quickly and cheaply, without projecting the results to be obtained. In fact, choosing the wrong seedlings, losses will be borne for a long time.

Revenues are the result of the sale of a number of products or services within a certain period. The receiving component comes from the production multiplied by the selling price per unit. The selling price of palm oil when the study was taken was IDR 1,898 per kg. The average total revenue of palm oil farmers was IDR 303,395,262 per year per ha. Revenues are the result of sales of a number of products or services in a certain period. The receiving component comes from the production multiplied by the selling price per unit. This is in accordance with the opinion of Suratiyah (2006) which states that revenue or gross income is all revenue earned from farming during a period taken into account from the proceeds of sales.

Analysis of farm income aims to determine the amount of profit earned from the business carried out. Farm income is derived from the difference between total revenue and total cost in one year. The total cost in question is the costs incurred in palm oil farming in one year. Total revenue are a multiplication between the number of products produced and the price of the product. The income of respondent farmers is presented in Table 2.

Table 2 – Average Income In Palm Oil Farming Per Farmer Per Year with An Average Land Area of 7.08 ha

No.	Components	Average
		-- IDR/year/land area --
1.	Total Cost	34,388,982
2.	Total Revenue	303,395,262
3.	Income	269,006,280

The average income of palm oil farmers based on the research result with an average land area of 7.08 ha was IDR 269,006,280 per year. Efforts can be made to increase the motivation of farmers, namely the government and related elements to create a pilot palm oil center with an agribusiness approach. In addition, other efforts are to encourage farmers to increase the adoption of effective and efficient palm oil processing technology in accordance with natural resource conditions and farmers' abilities. This is in line with the research results of Sudarko and Ridjal (2016) in Jember Regency. Factors that have a significant influence on the motivation of palm oil farmers in diversifying primary and secondary processing of palm oil consist of internal factors (farmer age, formal education, nonformal education; experience of palm oil farming; number of family dependents; area of arable land, and access to information) and external factors (availability of palm oil processing infrastructure, farmer's capital, intensity of counseling; market opportunities and certainty, and nature of innovation). The same was stated by Hariyati (2014) that the highest driving factor in the development of processed palm oil products in Sidomulyo Village, Silo District, Jember Regency is the motivation of farmers.

Based on the results of the analysis using multiple linear regression tests, obtained results as presented in Table 3. Based on the regression result, it can be known that the regression equations formed are as follows: $Y = -0.00000002946 + 154,289,727 X_1 - 1,093 X_2 - 2,711 X_3 - 1,065 X_4 + 1,850,306 X_5 + e$.

Simultaneous test results showed the significance of the F count of $0.000 \leq 0.05$ so that H_0 was rejected and H_1 was accepted, meaning that simultaneously all the independent variables in the study (production price, total fertilizer cost, total pesticide cost, total labor cost, and total production) significantly influenced the proposed regression model and were significantly variable-bound (income) qualifiers. This result corresponds to Ghazali's (2006) statement which states that if the value of $F_{\text{counts}} > F_{\text{table}}$ or $\text{Sig} \leq 0.05$, then H_0 is rejected and H_1 is accepted, this means there is an independent variable influence on dependent variables.

Partial test results showed the significance value of t calculated for the variable production price of $0.000 \leq 0.05$ then H_0 was rejected and H_1 was accepted. This means that production prices partially affect the income of palm oil farmers. The positive value of the regression coefficient indicates that increasing the selling price of fresh palm fruit bunches per kg will increase the income of palm oil farmers. The condition shows that the more

expensive the selling price, the higher the income that will be received by farmers. This is in accordance with the results of research Amaluis *et al.* (2014) which states that the price of palm oil is a factor that affects farmers' income. The selling price has a positive and significant effect on farmers' income in Pasaman District, West Pasaman Regency, meaning that if the higher the selling price of palm oil FFB, the higher the income that will be received by farmers.

Based on the partial test results showed the significance value of the calculation t for variable total fertilizer costs of $0.000 \leq 0.05$ then H_0 rejected and H_1 accepted. This means that total fertilizer costs partially affect the income of palm oil farmers. Negative regression coefficient values indicate that increasing total fertilizer costs will significantly reduce income. This result is in accordance with the statement of the Hakim (2018) which states that the cost of fertilizer is a variable that significantly affects the income of palm oil farmers. Supported by Masniyanti *et al.* (2021) statement which states that fertilizer costs significantly affect the income of palm oil farmers.

Table 3 – Multiple Linear Regression Analysis Results

Variables	Unstandardized Coefficients (b)	T-test Results	Sig.
(Constant)	-0.00000002946	-34.842	0.000
Production Price	154,289.727	34.699	0.000
Total Fertilizer Costs	-1.093	-14.823	0.000
Total Pesticide Costs	-2.711	-4.453	0.000
Total Labor Costs	-1.065	-15.148	0.000
Total Productions	1,850.306	406.655	0.000
R Square	1.000		
Adjusted R Square	1.000		
F	282,000		
Sig. F	0.000		

The result of the value of the calculation t for variable total pesticide costs shows a value of $0.000 \leq 0.05$ then H_0 is rejected and H_1 is accepted. This means that pesticide costs partially affect the income of palm oil farmers. Negative regression coefficient values indicate that increasing total pesticide costs will significantly reduce income. This is in accordance with the statement of Fajrianti *et al.* (2021) that pesticide costs have a significant impact on the income of palm oil farmers.

The significance value of the t count is based on the partial test result for the total labor cost variable of $0.000 \leq 0.05$ then H_0 is rejected and H_1 is accepted. This means that labor costs partially affect the income of palm oil farmers. Negative regression coefficient values indicate that increased total labor costs will significantly reduce income. These results are in line with the research of Pratama (2020) and Masniyanti *et al.* (2021) which states that partial labor costs have a real effect on the income of palm oil farming.

Based on the partial test results showed the significance value of the calculation t for the variable total productions of $0.000 \leq 0.05$ then H_0 was rejected and H_1 was accepted. This means that partial total productions partially affect the income of palm oil farmers. A positive regression coefficient indicates that increasing the amount of palm oil fresh fruit bunches will increase income significantly. The condition shows that the more the production of fresh fruit bunches of palm oil, the higher the income that can be received by farmers. This is in accordance with the statement of Alitawan and Sutrisna (2017) and Aswan and Tanjung (2021) which states that the amount of production partially has a significant effect on the income of palm oil farmers, meaning that the higher the number of fresh fruit bunches production, the higher the income of palm oil farmers obtained.

The feasibility analysis of palm oil farming in Kampar Regency was done by Profitability, Payback Period, and Return on Investment method. The results of these analysis is presented in Table 4.

Profitability analysis is necessary to know the profit earned in its business and profitability analysis can also be used as a gauge to know the development of the business being run. Profitability can be calculated by comparison between income and production

costs multiplied by 100%. The result of the study known that the profitability value of palm oil farming was 772.95%. This value means that every IDR 1,000 costs incurred in palm oil farming activities will benefit IDR 772,950. These results show that palm oil cultivation activities are very profitable. Good profitability value when the value is higher than the interest rate of a deposit bank. Bank BRI's deposit rate in May 2021 was 3.0%. This result is in accordance with Irfani (2020) opinion that if the profitability calculation results are more than the deposit bank interest rate then the business can be said to be feasible and vice versa if the profitability calculation result is less than the deposit bank interest rate then the business is said to be unfit.

Table 4 – Palm Oil Farming Feasibility Analysis

No.	Feasibility Indicators	Results	Decisions
1.	Profitability (%)	772.95	Feasible to Cultivate
2.	Payback Period (years)	7.066	Feasible to Cultivate
3.	Return on Investment (%)	1,518	Feasible to Cultivate

The feasibility of palm oil farming based on profitability value is tested using one sample t-test. The analysis shows the sig. calculate value of $0.000 \leq 0.05$. This means that H_0 is rejected and H_1 is accepted, so it is concluded that palm oil farming activities in Kampar Regency are feasible to cultivate because it has a higher profitability value compared to the BRI bank deposit rate in May 2021. This result is in accordance with Sugiyono's statement (2013) which states that in different tests one sample t-test if Sig value ≤ 0.05 , then H_0 is rejected and H_1 is accepted. The result means that based on the profitability value of palm oil farming in Kampar Regency, it is feasible to cultivate.

Analysis of payback period is done to find out the length of return on investment can be done in a business activity. Based on the results of the analysis, it is known that the payback period of palm oil farming in Kampar Regency is for 7.066 years or 7 years 24 days, or 3 years 24 days since the first harvest. This means that investments that have been invested in running palm oil farming activities can return after 7 years and 24 days. The value of payback period obtained is calculated quickly because it has not reached the economic age of palm oil plants that is between 25-26 years. According to Pahan (2008) in Harahap and Lubis (2018), the economic life of palm oil plants ranges from 25-26 years.

The payback period calculation is in line with research by Djoni (2018) that the period of return on investment of palm oil farming in West Kotawaringin Regency is for 7.5 years, or 3.5 years since the first harvest was obtained. Supported by Armansyah *et al.* (2019) statement which mentions in the results of his research that the results of the calculation of payback period on palm oil business in Kubu Raya District obtained the calculation of 7.1 or 7 years 1 month which means that the return on investment can take place quite quickly that is within 7 years 1 month so that this business is considered good to be attempted.

These results show that palm oil cultivation activities are very good to run. Business is said to be good to run when the value of payback period is faster than the economic age of palm oil crops. This result is in accordance with Mulia's statement (2014) which states that the business can be said to be good to run if the payback period is faster than the age of the project being attempted. The feasibility of palm oil farming is tested using a one sample t-test. The analysis shows the sig. calculate value of $0.000 \leq 0.05$. This means that H_0 is rejected and H_1 is accepted, so it is concluded that the activities of palm oil farming in Kampar Regency are feasible to cultivate because it has a payback period that is faster than the economic life of the project. This result is in accordance with Sugiyono's statement (2013) which states that in different tests one sample t-test if Sig value ≤ 0.05 , then H_0 is rejected and H_1 is accepted. The result means that based on the payback value of the palm oil farming period in Kampar Regency, it is feasible to cultivate.

The return on investment analysis is conducted by comparing the net profit value against the total investment issued expressed in percentage form. The result of return on investment value of palm oil farming was 1,518%. This means that every IDR 1 invested asset will make a profit of IDR 1,518. These results show that palm oil cultivation is a healthy

farming activity to run. The business is said to be worth running if it has a higher ROI value than 1. This result is in accordance with Syamsuddin's statement (2009) which states that the business can be said to be feasible if it has more than one ROI value.

The feasibility of palm oil farming based on ROI value is then tested using one sample t-test. The analysis shows the sig. calculate value of $0.000 \leq 0.05$. This means that H_0 is rejected and H_1 is accepted, so it is concluded that palm oil farming activities in Kampar Regency are feasible to cultivate because it has a higher ROI value than the standard of roi value eligibility, which is 100%. This result is in accordance with Sugiyono's statement (2013) which states that in different tests one sample t-test if Sig value ≤ 0.05 , then H_0 is rejected and H_1 is accepted. The result means that based on the return on investment value of palm oil farming in Kampar Regency, it is feasible to cultivate.

CONCLUSION

Based on the results and discussions can be concluded that:

1. The average cost of production incurred by palm oil farmers in Kampar Regency was IDR 34,388,982/farmer/year, the average revenue was IDR 303,395,262/farmer/year, and the average income was IDR 269,006,280/farmer/year with an average farmer land area of 7.08 ha;
2. The results of multiple linear regression analysis show that variable selling price, total fertilizer cost, total pesticide cost, total labor cost, and total productions have a significant impact on palm oil farming income in Kampar Regency significantly affect the income of palm oil farming in Kampar Regency simultaneously and partially with level of trust 95%;
3. Palm oil cultivation business in Kampar Regency was feasible to run because: a) has a higher profitability value than bank BRI deposit rate in May 2021 of 3%, b) has a faster payback period than the economic age of palm oil plants that is between 25-26 years, and c) has a return on investment (ROI) value that is higher than the standard feasibility of ROI value, which is 100%.

SUGGESTIONS

The productivity of palm oil farming in Kampar Regency is still lower than its productivity potential, so there needs to be further counseling and mentoring from Field Extension Officer (FEO) or related agencies in Kampar Regency so that farmers can use certified seeds with better productivity potential. This needs to be done because seedlings are an important asset in palm oil farming activities for a very long period of time, which is about 25-26 years.

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