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The influence of the maturity level of coconut fresh fruit bunches palm oil to price sell and income in Saleh Mulya Village, Air Saleh District, Banyuasin Regency

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Abstract

The purpose of this thesis is to find out and describe what factors influence the maturity level of palm oil FFB in Saleh Mulya Village, Air Saleh District, Banyuasin Regency so that the author can also see the level of income of oil palm farmers in Saleh Mulya Village, Air Saleh District, Banyuasin Regency. The respondents taken by the author were oil palm farmers who had a minimum land area of 1 Ha and still lived in Saleh Mulya Village, Air Saleh District, so the number of samples in this study was 30 samples and the samples were drawn deliberately or purposively sampling. The research method used in this thesis is description and income calculation. where researchers describe things that influence the level of maturity of oil palm fruit based on data obtained from interviews with farmers in Saleh Mulya Village are harvesting time, transportation, transport distance, harvesting rotation and the type of seeds used, where each factor has a different level of influence. The author also carried out income calculations and obtained an average income from oil palm farming of IDR 54,429,267/year, average income from non-oil palm farming was IDR 24,066,667/year and average non-farming income was IDR 35,000,000. So the average total household income is IDR 85,495,933/year.

Keywords: Income; Palm Oil; Transportation; Harvest rotation; Maturity factors

1. Introduction

Sector agriculture is Wrong One very sector important its role in economy in part big countries that are developing. This is can seen based on Contribution sector agriculture in the accommodate resident as well as give chance Work to population [12].

One of the agricultural sub-sectors that provides contribution important for economy is the Plantation Sector I Indonesia become country manufacturer oil palm oil the biggest world since 2006 In 2016 Indonesia succeeded surpassing Malaysia where Indonesia's CPO production has reaching 53.4% of the world's total CPO [13].

Income is Wrong One factor the main thing that will be very influential to impact from existence plantation coconut palm oil That own. Income farmer Alone originate from calculation results production Where wide land will very influential for can increase level his income [2].

Income farmer influenced by level maturity of the harvested FFB, which is divided become fruit rest and non- restant . The difference This influence amount The CPO oil produced, so price sell second the type of TBS different [16]. Besides that, kind fruit coconut palm oil Also influence, which consists of from three type: (1) Dura, with shell thick fruit; (2) Pisifera , with shell thin fruit ; and (3) Tenera , which has thickness shell in between Dura And pisifera [20].

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Based on description background back above, thing the make writer want to know How Influencer from level maturity fruit coconut palm oil to price sell TBS and its influence to income farmer coconut palm oil in Air Saleh District and What just factor affecting price sell coconut FFB palm oil the.

2. Material and methods

Methods used in study This is survey methods and method withdrawal Example or sample used in study This is purposive sampling (intentional) of population farmer coconut palm oil in Saleh Mulya Village Air Saleh District. Criteria Respondent research This that is own wide minimum land area of 1 Ha and Still located living in Saleh Mulya Village Air Saleh District As for amount sample in study This namely 30 samples.

Objective study first, namely factor affecting level ripeness of coconut FFB palm oil done so will done explanation with do description in a way Details What just factor affecting level maturity fruit coconut palm oil in Saleh Mulya Village. Data collected later in the form of What just factor affecting level ripeness of coconut FFB palm oil and why factor the influence level ripeness of coconut FFB palm oil.

Objective study second that is income so writer will do calculation income. By Because that, researcher will collect income data with recipient data as well as cost production farmers. Income farmer coconut palm oil can counted with:

- TC (Total cost)

  $$TC = TFC + TVC$$

  Information:
  TC = Total cost
  TFC = Total fixed cost (cost) still)
  TVC = Total variable cost (variable cost)
- TR (Total Revenue)

  $$TR = PQ$$

  Information:
  TR = Total revenue (Total income)
  P = Price (Price) Q = Quantity (Amount)

After got total cost and total acceptance, obtained calculation income with formula:

$$\Pi = TR - TC$$

Information:
Π = Income business farmer
TR = Total revenue;
TC = Total Cost

3. Results and discussion

3.1. Characteristics Farmer Example

Farmer examples used is Coconut Plantation Farmer palm oil which has its own plantation of more than 1 Ha. As for population farmers who own coconut plantations palm oil is as many as 100KK Where in study This writer using a sample of 30 farmer identity samples the farmer who was taken in the form of age, level education, number member family, income And pattern consumption.

Table 1 Characteristics Farmer Example

No	Identification	Amount (People)	Percentage (%)
1	Age Farmer		
	< 15	0	0.00
	15-64	28	93.33
	> 65	2	6.67

2	Level of education		
	SD	15	50.00
	JUNIOR HIGH SCHOOL	7	23.33
	SENIOR HIGH SCHOOL	8	26.67
3	Member Family		
	1-3	17	56.67
	4-6	13	43.33
4	Land area		
	1-4	29	96.67
	5-8	1	3.33

Source: Primary Data Processing (2024)

3.2. Factors Affecting Maturity Level Fruit Coconut Palm oil

Maturity level fruit coconut palm oil is matter main in the process of planting coconut palm oil. Maturity level fruit coconut palm oil can shared become two group that is non restant fruit And fruit restant , non restant fruit is fruit that is classified as in category ripe And Still is at on bunch fruit whereas fruit rest is fruit that is left in the field and not sent to the factory or fruit that is sent to the factory but on a different day from the FFB harvest day so that it can reduce the quality of fresh fruit bunches (FFB) and the quality of crude oil palm oil (CPO) [20].

3.2.1. Restant Palm Oil

restant Oil Palm Fruit is a fruit that is classified as ripe and is still on the fruit bunch. Where this fruit is harvested at the right age, there are no obstacles in the transportation process so that the fruit is not left in the field for too long so that the quality of the fruit and also the quality of the oil are still maintained. based on the results of research conducted by the author, oil palm farmers in Saleh Mulya village harvest according to the recommended estimate, which is 2 times a month or 15 days per harvest.

3.2.2. Palm Oil Restant

Retained fruit is fruit that is left in the field and not sent to the factory or fruit that is sent to the factory but on a different day from the FFB harvest day so that it can reduce the quality of fresh fruit bunches (FFB) and the quality of crude oil. palm-oil (CPO) (Dani, 2022). Harvesting overripe fruit will increase FFA and reduce oil quality, while harvesting unripe fruit will produce low FFA but will produce low palm oil yields, thereby reducing CPO production (Sirait, 2023). The factors that cause palm oil to become restant .

Table 2 Factors Causing Restant

No	Maturity Level Fruit	Price (Rp/kg)
1.	Age Harvester	>15 Days
2.	Storage Period	>1 Night
3.	Tool Harvesting	Manual Without help
4.	Rotation Harvesting	>1 Day
5.	Transportation	Small car
6.	Piece	7-10%

Based on results study there is difference fair price big between fruit palm oil rest and also non restant palm oil. Where difference price sell can reach Rp. 400/ kg Where price sell fruit can seen on Table 3.

Table 3 Income price fruit coconut palm oil

No	Maturity Level Fruit	Price (Rp/kg)
1.	Rest	2,000
2.	Non- Restant	2,400

Source: Primary Data Analysis (2024)

Maturity level fruit Also is factor main influencing factors price sell from bunch fruit fresh (FFB) coconut palm oil due to the level of maturity fruit naturally will influence the amount CPO production from coconut palm oil the [17]. Results the harvest that is not quick transported can increase Sour Fat Free (ALB) and classify fruit as fruit restant. By Because that, is needed preparation tool good transportation, as well management related harvest close with determination time harvest [15].

Harvest is part from production on plantations coconut palm oil that connects garden with factory, including cutting bunch mature, collection loose leaf, and transportation results to TPH and PKS. This process play a role important in reach optimal production [19]. Loss of yield at the harvesting process stage is quite large. Causes of yield loss include ripe fruit not being harvested, loose fruit left on the disc, and poor transportation [18]. At harvest time, it is very possible for fruit damage to occur. Damage to oil palm fruit occurs due to poor harvesting, transportation, and unloading processes [1].

Time harvesting time transportation Also will influence fruit will become rest or no. Factors that influence quality harvest that can be made reference for harvesting done at the right time with a good level of maturity that is among them Long Stalk Fruit, Fruit Raw, Fruit Rotten, Stem Sengkleh and Amount Leaf stalk [11].

Rotation harvesting referring to on duration time between harvest fruit coconut palm oil. This process related close with transportation, because delay can cause fruit rot and become restant, which lowers price sell. Transportation need managed with Good For guard quality And yield oil, because the fruit that is left more from 24 hours after harvest will classified as rest And own high ALB levels [3]. Transportation results production fruit coconut palm oil need attention more for guard quality and soaking oil If fruit coconut palm oil left alone in term time more from 24 hours after fruit the harvested, then can called as fruit restan, and fruit leftover contains high levels of ALB [8].

Type seeds used in Saleh Mulya Village based on results interview divided into 3 namely Dumpy, Simalungun and Let's see Where type seed No influential to the level of maturity fruit However type seed This more influential to the amount oil produced by TBS coconut palm oil. Type seeds used farmer coconut palm oil in the village pious Mulya can seen on Table 4.

Table 4 Results Harvest Coconut Palm oil

No	Maturity Level Fruit	Production (Ton/ yr)	Percentage (%)
1	Rest	349,200	42.6
2	Non- Restant	470,400	57.4
	Total	819,600	100.00

Source: Primary Data Analysis (2024)

On Table 3. shows that results fruit coconut non restat palm moretall compared to fruit rest with results non restant fruit by 57.4%.

3.3. Income Farmer Coconut Palm oil in Saleh Mulya Village

Income Farmer Coconut Palm oil counted with add income farming and non- farm income following is cost data until income farmers in Saleh Mulya Village.

3.3.1. Cost Still Farming Coconut Palm oil

Cost still is cost incurred for tool And Also items that are not finished in one time planting period and tend can used in term quite a long time [9]. The average cost still for farming Coconut palm oil in Saleh Mulya Village can seen on Table 5.

Table 5 Average Cost Still Farming Palm oil Saleh Mulya Village

No.	Description	Average Cost Fixed (Rp/CA /Year)
1.	Dodo	7,000
2.	Cart Push	201,600
3.	*Hand sprayer*	106,667
4.	Orchid	126,000
5.	Machete / Sickle	20,800
	Total	462,067

Source: Primary Data Analysis (2024)

Based on Table 4. Average total cost still farming palm oil is Rp. 462,067 per area cultivated per year. Cost the most consuming tool cost is Cart thrust used for transporting coconut FFB palm oil and the smallest for dodos only amounting to Rp. 7,000.

3.3.2. Cost Variables Farming Coconut Palm oil

Cost Variables is costs incurred during the production process coconut palm oil in progress cost This consists of start from cost seeds, medicine medicine, fertilizer until power used for planting until harvest during One years in Coconut Plantation palm oil [14]. The average cost variable can seen on Table 6.

Table 6 Average Cost Variables Farming Saleh Mulya Village

No	Description	Cost (Rp/CA/Year)
1.	Seed	501,667
2.	Herbicide	589,339
3.	Urea Fertilizer	1,213,333
4.	NPK Fertilizer	1,733,333
5.	Labor Exercise Land	412,000
6.	Labor Planting	736,000
7.	Cost Work Harvesting	835,000
	Total Average	6,020,667

Source: Primary Data Analysis (2024)

Cost the most variable used is cost variable for index NPK fertilizer with sum up cost as big as Rp. 1,733,333/Ha/Year. Quite a cost tall issued Also for Urea fertilizer which has utility for to improve development plant coconut palm oil with expenditure Rp 1,213,333/Ha/Year.

3.3.3. Total Production Cost Farming Coconut Palm oil

Total Production Cost is summation from cost still and also cost the variables that are issued farmer during One year farming Coconut Palm oil. Coconut Palm oil [7]. The average cost production farming paddy before and during pandemic can seen on Table 7.

Table 7 Average Cost Production Palm oil Saleh Mulya Village

No. Description	Cost
1. Cost Fixed (Rp/CA/Year)	462,067
2. Cost Variable (Rp/CA/Year)	6,020,667
Total cost Production (Rp/CA/Year)	6,482,733

Source: Primary Data Analysis (2024)

Based on Table 4.12 average cost production coconut palm oil is Rp 6,482,733 per area cultivated per year. Total cost production This covering cost variable and cost still production for 1 year.

3.3.4. Reception Farming Coconut Palm oil

Reception in farming is the total of income dirty farmers who get from amount production or many coconut palm oil produced for 1 year at times with price from coconut palm oil those that are adjusted Also with quality from coconut palm oil Good That rest or non- restant [10]. The average income. Farmers coconut palm oil in Saleh Mulya Village can seen on Table 8.

Table 8 Average Acceptance Farming Palm oil Saleh Mulya Village

No. Description	Results
1. Results Harvest (Kg/CA/ Year)	27,320
2. Price Sell (Rp/Kg)	2.227
Total Income (Rp/CA/Year)	60,912,000

Source: Primary Data Analysis (2024)

Based on Table 7. Average results harvest farmer is 27,320 Kg/ yr on average price sell coconut palm oil that is as big as Rp 2,227/Kg So the average reception farming coconut palm oil sample farmers are is Rp 60,912,000/ Lg / year.

3.3.5. Income Farming Coconut Palm oil

Income the farming business that is obtained is income clean farmer results from total cost reduction production minus with income the dirty stuff that is obtained farmer sample coconut mustard greens [5]. As for the average income farming paddy before and during pandemic can seen on Table 9.

Table 9 Average Income Farming Palm oil

No. Description	Input
1. Receipts (Rp/CA/Year)	60,912,000
2. Cost Production (Rp/CA/Year)	6,482,733
Total Income (Rp/CA/Year)	54,429,267

Source: Primary Data Analysis (2024)

Based on Table 9. Average income farming coconut palm oil farmer sample in Saleh Mulya Village is as big as Rp 54,429,267 per area cultivated per year.

3.3.6. Income House Ladder Farmer

Income House ladder is amount all over income farmer and member his family Good from farming Coconut Palm oil, non- coconut farming Palm oil and non- farm work [4]. The average income side farmer sample before and during pandemic can seen on Table 10.

Table 10 Income side farmer Saleh Mulya Village

NO	Description	Frequency Respondents	Average Income (Rp/Year)
1	Income Non- Coconut Farming palm oil	16	24,066,667
2	Non- Farm Income	6	7,000,000

Source: Primary Data Analysis (2024)

Based on Table 10. There are 16 respondents who have farming side besides coconut Palm oil plantations other than coconut palm oil that is ricefield and also Coconut plantation on average income Rp. 24,066,667/ year And Also There is as many as 6 respondents who have business besides business farmer that is trade and also have crossing on average income Rp. 7,000,000/ year.

Table 11 Total Revenue House Ladder Saleh Mulya Village

No	Income	Rp
1	Average Farming Income Coconut Palm oil (Rp/year)	54,429,267
2	Average Income Non-KS farming (Rp/year)	24,066,667
3	Average Non- Farm Income	7,000,000
	Average Total Income (Rp/year)	85,495,933

Source: Primary Data Analysis (2024)

Income House ladder is the total of income farming and non- farm can seen on table 10. that the total income received reach number Rp 85,495,933/ year. Where income farmer coconut palm oil in the village This including in sufficient income tall.

4. Conclusion

Maturity level fruit coconut palm oil influenced by some factor that is Age Harvesting, Equipment Harvesting, Time harvesting, Rotation Harvesting as well as Type The seeds used. [6] The most influential thing in Maturity Level fruit is rotation harvester, age harvesting and transport pores results because of fruit that has been harvested No may left alone too long and must immediately processed so that the fruit No become restant. Income business farmer coconut palm oil per year be in numbers Rp 54,669,267, non- coconut income palm oil Rp. 24,066,667 while non- farm businesses Rp 7,000,000 per year. Where income the including sufficient income tall for farmer coconut palm oil.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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