



ANALYSIS OF THE COST OF HARVEST PREMIUM FOR PALM OIL PLANTATIONS PT. SURYA PANEN SUBUR. 2 IN AFDELING BRAVO

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ABSTRACT

PT Surya Panen Subur 2. Is one of the oil palm companies that cultivates fresh fruit bunches of FFB which are processed into CPO (Crude Palm Oil) which has a land area of 5,080.00 Ha. Which consists of several Afdeling one of which is Afdeling Bravo. The purpose of the harvest premium cost analysis is to explain harvesting activities, explaining harvest planning, as well as calculating and analyzing the cost of oil palm harvester premiums in Afdeling Bravo. The analytical method used is quantitative analysis and qualitative analysis based on results and discussion. Harvesting activities consist of daily harvest plans for cutting fresh fruit bunches, harvesting process, harvest premium system, harvest cost analysis, premium cost analysis, total premium cost and harvest income. The planned production target in August is 1,531,960 kg and the total production after planning is 1,531,960 kg and the costs incurred by the company are Rp. 151,427,158,-, with the total income of harvesters in the Bravo section is Rp. 154,655.65,-

Keywords: *Cost Analysis, Oil Palm, Harvest, Harvest Premium*

1. INTRODUCTION

PT. Surya Panen Subur 2. Is one of the palm oil companies that operates Fresh Fruit Signs of FFB which are processed into CPO (crude palm oil) and is one of the large companies located in District, Nagan Raya. in the field of oil palm production. PT. Surya Panen Subur 2. Has a land area of 5,080.00 Ha which consists of several afdelings, one of which is the Bravo afdeling (Afd OB) which generates the highest productivity of palm oil within the scope of the company. PT. Surya Panen Subur.2 is one of the companies engaged in the commodity of palm oil and CPO which is considered to have managed to survive among the increasingly strong market competition. Afdeling Bravo Plantation or often referred to as Afdeling Bravo is one of the Afdeling plantations of PT. Surya Panen Subur 2 which has a land area of 800. Harvesting is one of the final activities of cultivating oil palm plants, harvesting activities consist of planning, cutting the fronds, cutting the FFB fresh fruit bunches, collecting the loose fruit, transporting it to the TPH harvest collection point, and transporting it to the factory. Harvesting is also one of the important activities in the processing of productive oil palm plants and is also an important factor in achieving productivity. In achieving high oil palm productivity, the criteria for harvesting are set, namely the bunches that are harvested must be ripe, the fronds supporting the bunches are lowered, the loose fruit is collected, and the achievement standards that must be achieved by the harvesters. The form of harvest control so that the yields meet the criteria is by giving a premium to harvesters who obtain results that exceed the base and meet the criteria

Harvest success will support increased productivity of palm oil, because high production potential cannot be achieved if the harvesting process is not carried out optimally (Akbar, 2008). Harvest success in Afdeling OB can be achieved if the harvest is properly planned and the harvest is carried out according to the criteria set by the company. Giving premiums to harvesters who achieve work performance or those who obtain more basic results. High yields of oil palm that meet the criteria lead to better quality of bunches and production quantity, but costs incurred for

premiums increase. Yields that do not meet the criteria will cause the quality of the bunches and the quantity of production to decrease, but the costs incurred for harvesting activities will also decrease.

1.1. Identification of problems

Based on the description of the background, the problem that will be analyzed in the research that can be identified is what is the initial cost of harvesting each harvester in the Bravo section and analyzing the resulting production?

1.2. Research purposes

The purpose of this study is to explain oil palm harvesting activities, explain harvest planning, and calculate and analyze the premium cost of oil palm harvesters in Afdeling Bravo

2. METHODOLOGY

Based on the background and problems above and the methodology in the field, this is done by collecting and managing data. The types of data obtained include:

1. Primary data obtained through:
 - a. Observation and participating or being directly involved (observation) in field activities
 - b. Interviews and direct discussions with the company, both field supervisors, namely the Assistant Afdeling Bravo. Foremen, field clerks, and field workers.
2. Secondary data was obtained from records and activity reports in the OB Afdeling. The data obtained is in the form of target data, production results data, and harvest premium data.

3. LITERATURE REVIEW

3.1. Palm Oil Harvesting

Harvesting activities in oil palm plantations include harvesting fresh fruit bunches because fresh fruit bunches are a source of income for the company through the sale of palm oil and palm kernel. Palm oil can be produced optimally by paying attention to the right way and time of harvest. The right way will affect the quantity of production (extraction) of palm oil, while the right time will affect the quality of free fatty acid production (Pahan, 2012).

1. Harvest preparation

Oil palm plants can be harvested at the age of 30 months, under normal circumstances 90-100% of all trees are ripe for harvest. Harvesting is done when the fruit starts to ripen, the oil content in the fruit flesh increases rapidly. After the oil content in the fruit reaches its maximum, the fruit will separate from the bunch. The characteristic of ripe fruit bunches is determined by the maturity number, namely the number of fruit that sticks out from the bunch (Sastrosayono, 2003).

2. Harvest criteria

Oil palm plants begin to harvest when 60% or more of the fruit is ripe for harvest. The criteria for harvest maturity used as a benchmark in oil palm plantations are if there are already 2 bunches/kg bunches weighing less than 10 kg or 1 bunch/kg bunches weighing more than 10 kg that fall on the main disk. Criteria for harvest maturity with fruit quality according to company standards will be able to increase the yield of palm oil and the quality of the oil processed (Tammara 2012).

3. Harvest rotation

In harvesting, it is necessary to hold harvest rotation, namely the time required between the last harvest and the next harvest in the same place. In the initial harvest, harvest rotation is 15 days, then 10 days, and finally 7 days. Harvest rotation uses the symbol 6/7, which is 6 days of harvesting with a 7-day rotation. Harvest rotation is closely related to harvest density, harvester capacity, weather, and factory conditions (Tammara 2012).



4. How to harvest and collect fruit

The recommended method of harvesting and collecting oil palm fruit is as follows:

- a. All bunches that are ripe for harvest must be harvested, don't let any be left unharvested
- b. Plants that are still low, bunches are cut with a dodos and plants that are already high using long-stemmed egrek.
- c. Berondolan is collected and placed separately from the bunches

5. Harvest system

The number of harvesters for each foreman ranges from 20-25 people, while the working area for each foreman ranges from 266.72 ha, depending on company regulations. The foreman determines the hanca or plot system to facilitate harvesting and ensure high crop productivity. One hanca consists of 2-4 adjacent rows of plants depending on the density of ripe fruit. The distribution of harvesting waste must be arranged so that it is easy to supervise harvesting work and transporting results. An area uses 6 working days a week so the harvest area is divided into 6 parts and vice versa

3.2.Premium

Premium definition

Harvest premium is an award given to harvesters who succeed in achieving production on a task basis. The calculation of the harvest premium will be carried out per harvest day to determine the premium in one month. Employees who receive premiums are harvesters, harvest foremen, clerks and weighing workers. The system for determining harvest premium rates is carried out in stages by considering the assignment base, constants and percentages according to topography, achievement premium rates for productive plants are divided into two, namely at TM 1-3 years and TM > 3 years (Fackorrozi, 2017).

The preparation and establishment of a harvest premium system must be based on the cost of harvesting fruit per Kg of FFB in accordance with the current year's budget and the previous premium system. In several plantation companies in Indonesia, there are two types of fruit harvest premiums that are generally carried out, the basis for giving the fruit harvest premium is the number of fruit bunches obtained in total weight (kg) of fruit obtained after being weighed at the factory. PKS (Munajad, 2013).

3.3.Types of Harvest Premium

In several plantation companies in Indonesia, there are two types of harvest premiums that are commonly implemented, namely as follows.

1. Harvest premiums are based on the "number of bunches/FFB" obtained
2. The harvest premium is based on the "total weight (kg) of fruit/FFB" which is obtained after being weighed at the mill/PKS.

The long system harvest premium and the weight system harvest premium are given separately with different premium values per kg. The provision of harvest premiums with the long system aims to increase employee income and further motivate harvesters/officers related to the harvest so that all ripe fruit in the field is harvested. Meanwhile, the weight system harvest premium is given with the aim of further motivating loose fruit picking and minimizing loose fruit losses in the field.

The long system premium is given individually based on the capacity of the year of planting related to productivity and topography. The lower the productivity, the lower the wholesale base and the steeper the topography, the more expensive the premium for the harvest. Loose fruit/weight system premiums are given a separate premium 2.5 times the FFB premium according to the weight of loose fruit collected by each harvester. Loose fruit must be clean from all kinds of dirt (garbage, bunch stalks, stones, etc.). And the weight of loose fruit is not included in the FFB weight. A comparison of the two premium systems is presented in the table below.

3.4. Data analysis method

Qualitative methods are used to explain harvesting activities and oil palm harvest planning in Afdeling Bravo. Quantitative methods are used to calculate and analyze the cost of harvesting oil palm in Afdeling Bravo. The calculated costs are:

1. Labor costs

a. Labor costs

The cost of labor provided is based on the Aceh Regional Wages (UMR). 2022, which is IDR 126,601 per working day.

b. harvest premium

The formula for calculating the harvest premium that is commonly used in oil palm plantations, especially the Bravo section or what is often called the Extra Rupiah Base (RPLB) is as follows:

Formula	:	
kgs	=	J x BJR
J(%)	=	JJ / J(perblock)
B. HK	=	KG / B(Kg)
HK (%)	=	Number of B.HK / B.HK (block)
KG B	=	HK (%) x B(Kg)
IDR (LB)	=	KG – (kg) B
P	=	KG (LB) x Rp (LB)

Information	:	
kgs	=	kgLong
J	=	Long
BJR	=	Average Long Weight
J(%)	=	Length (%)
JJ	=	Total Length
J(Per Block)	=	Length Per Block
B.Hk	=	BaseHK
B(Kg)	=	Kg base
Total B.Hk	=	Total Base Hk
B.Hk (Block)	=	BaseHK Per Block
Kg B	=	Kg Base
IDR (lb)	=	RupiahMore Base
(Kg) B	=	Kg Base
P	=	Premium
Kg (Lb)	=	kgMore Base

4. RESULTS AND DISCUSSION

4.1. Harvest Activities

1. Preparation of daily harvest plans

The preparation of a daily harvest plan is carried out by the harvest foreman by calculating daily production estimates or what is often referred to as harvest density (AKP). Or what is commonly called the ripe fruit census.

An example of calculating the PPA census:

$$AKP = \frac{\text{Jumlah janjang}}{\text{jumlah pokok sampel}} \times 100\%$$

$$AKP = \frac{10 \text{ buah masak}}{100 \text{ jumlah pokok}} \times 100\%$$



AKP = 10%

the AKPcalculated is used to estimate the number of bunches to be harvested the next day. An example of estimated bunches obtained can be seen in table, 1

table. 1 bunch production estimate

AF D	E- PLANT BLOCK	OLD BLOC K	HA	PKK TM	TAXATION					
					JJG	kgs	BJR	HA	PKK PNN	AKP
OB	27	2	800.1 5	99,32 3	125,33 6	1,531,96 0	12,2 2	3.105,3 2	411,206	30%
OB	S2B0020 9	OB002	11.00	1,304	1,500	21,850	14.5 7	44.00	5.216	29%
OB	S2B0031 2	OB003	30.75	3,776	4,190	35,150	8.39	123.00	15.104	28%
OB	S2B0040 9	OB004	24.77	2,888	3.119	46,990	15.0 7	99.08	11,552	27%
OB	S2B0051 0	OB005	23.79	3,357	3,902	52,820	13.5 4	97,16	13,710	28%
OB	S2B0061 0	OB006	31,33	4,475	5,787	71,270	12,3 2	143.15	20,475	28%
OB	S2B0071 3	OB007	29,92	4,279	5,777	47,580	8,24	119.68	17.116	34%
OB	S2B0081 1	OB008	30,31	4,139	6,316	68,380	10.8 3	133,64	18,355	34%
OB	S2B0090 9	OB009	30.50	3,755	4,527	58,760	12.9 8	134.00	16,496	27%
OB	S2B0101 1	OB010	21.03	2,786	2.102	28,050	13,3 4	56.06	7,428	28%
OB	S2B0111 0	OB011	17.55	2,271	2,999	36,410	12,1 4	55,15	7.136	42%
OB	S2B0121 0	OB012	29.94	4,272	5.148	61,330	11.9 1	122.76	17,417	30%
OB	S2B0131 1	OB013	27.35	3,673	6.162	68,180	11.0 6	126.75	17019	36%
OB	S2B0140 9	OB014	28,34	3,902	6,408	76,940	12.0 1	137.70	18,959	34%
OB	S2B0150 9	OB015	30,12	4,293	6.137	80,180	13.0 7	160.60	22,895	27%
OB	S2B0161 0	OB016	9.70	1,386	1,234	15,210	12.3 3	29,10	4.158	30%
OB	S2B0171 3	OB017	37.97	5,374	4,419	43,550	9.86	114.30	13,444	33%
OB	S2B0180 8	OB018	30,57	4,272	6,931	92,130	13,2 9	177.92	24,843	28%
OB	S2B0190 9	OB019	32.01	4.168	7.206	89,200	12.3 8	169.05	22011	33%
OB	S2B0201 1	OB020	28.30	3,507	6,474	75,430	11.6 5	151.50	18,774	34%
OB	S2B0210 8	OB021	29,18	3,796	4,549	64,630	14,2 1	125.90	16,418	28%
OB	S2B0221 3	OB022	34.75	4,192	2,944	26,650	9.05	69.00	9,396	31%
OB	S2B0231 0	OB023	30,83	3,344	3,096	42,710	13.8 0	106.80	11,580	27%
OB	S2B0240	OB024	30.58	3,911	6.136	93,270	15,2	139,10	17,792	34%

	9									
OB	S2B0251	OB025	83.95	4,281	6,459	73,040	11.3	150.00	20,610	31%
	1						1			
OB	S2B0260	OB026	31.58	4,491	4,806	69,260	14,4	133,82	18,514	26%
	9						1			
OB	S2B0271	OB027	24.65	3,455	4,206	63,060	14.9	106,10	14,868	28%
	0						9			
OB	S2B0291	OB029	29,37	3,976	2,802	29,930	10.6	80.00	9,920	28%
	3						8			

Production forecast :

Resultsproduction = number of heads x BJR (Average Body Weight)

=125,336long x 12.22 bjr

=1,531,960kg

SoThe estimated harvest production for that month from blocks 2-29 Afdeling Bravo is 125,336 kg and the estimated production from the 29 blocks covering blocks 2-29 is 1,531,960 kg.

2. Harvest process

The harvesting process is carried out by cutting the supporting fronds and cutting the stalks of the bunches as well as picking the loose buds that fall on the disc area and between the fronds which must be picked cleanly. Furthermore, the bunches are collected at the Harvest Collection Site (TPH) and are given a harvester/ancak number, the stalks of which have been cut using the frog graft method.

3. Harvest premium system

Harvest basis and harvest premium rates. In determining the harvest premium as the current reference, it is shown in table.2 below

Table.2. Table Basis (kg/hk) and premium rates (Rp/kg)

Range BJR (Kg)	PT SPS.2 (Data)	
	Base (Kg/Rp)	Tariff (Kg/Rp)
<= 5.00	550	215
5.01-6.00	570	177
6.01-7.00	780	152
7.01-8.00	875	136
8.01-9.00	975	122
9.01-10.00	1,175	111
10.01-11.00	1,150	103
11.01-12.00	1,200	99
12.01-13.00	1225	97
13.01-14.00	1,250	95
14.01-15.00	1275	93
15.01-6.00	1,300	91
16.01-17.00	1,300	91
17.01-18.00	1,300	91
18.01-19.00	1,300	91
19.01-20.00	1,300	91
>=20.01	1,300	91



- a. The basis is the standard output or harvester productivity (in kg) and is based on Average Long Weight (BJR).
- b. Premium rates are incentives given to harvesters whose output or productivity exceeds a predetermined standard basis.

Provisions for granting harvest premiums:

1. Harvest premium is calculated based on harvester output or productivity
2. Harvest premiums are given to harvesters whose output is above the base (as in the table above).
3. The harvest premium value is calculated based on the premium rate (Rp/kg) set as in the table above.
4. The amount of the premium given is based on accumulated calculations
5. On every Friday the basis is 80% of the usual day basis.

4.2. HARVEST COST ANALYSIS

Harvesting costs are costs incurred to carry out harvesting activities. Costs incurred for oil palm harvesting activities consist of labor costs for harvesting. The harvest costs analyzed were the Harvest Premium System and the High Staple Premium through observations in Afdeling Bravo consisting of.

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Block	Long	BJR	kg	Percent Length	Kg base	HK base	Percent Hk	Kg Base	KgMore Base	ID	
										More Base	harvest primi
OBO02	1,500	14.57	21,850	1%	1275	17,14	1.35%	17,240	21,833	95	2,074,112
OBO03	4,190	8.39	35,150	3%	975	36.05	2.84%	27,734	35,122	122	4,284,916
OBO04	3,119	15.07	46,990	2%	1,300	36,15	2.85%	37,076	46,953	91	4,272,716
OBO05	3,902	13.54	52,820	3%	1,250	42,26	3.33%	41,675	52,778	95	5,013,941
OBO06	5,787	12.32	71,270	5%	1225	58,18	4.59%	56,233	71,214	99	7,050,163
OBO07	5,777	8.24	47,580	5%	975	48.80	3.85%	37,541	47,542	122	5,800,180
OBO08	6,316	10.83	68,380	5%	1,150	59,46	4.69%	53,952	68,326	103	7,037,583
OBO09	4,527	12.98	58,760	4%	1225	47.97	3.78%	46,362	58,714	97	5,695,223
OBO10	2,102	13.34	28,050	2%	1,250	22,44	1.77%	22,132	28028	95	2,662,647
OBO11	2,999	12.14	36,410	2%	1225	29,72	2.35%	28,728	36,381	99	3,601,746
OBO12	5,148	11.91	61,330	4%	1,200	51,11	4.03%	48,390	61,282	99	6,066,879
OBO13	6,162	11.06	68,180	5%	1,200	56,82	4.48%	53,795	68,126	103	7,016,999
OBO14	6,408	12.01	76,940	5%	1225	62,81	4.96%	60,706	76,879	99	7,611,050
OBO15	6,137	13.07	80,180	5%	1,250	64,14	5.06%	63,263	80117	99	7,931,557
OBO16	1,234	12.33	15,210	1%	1225	12,42	0.98%	12,001	15,198	97	1,474,206
OBO17	4,419	9.86	43,550	4%	1075	40,51	3.20%	34,361	43,516	103	4,482,111
OBO18	6,931	13.29	92,130	6%	1,250	73,70	5.82%	72,691	92057	97	8,929,559
OBO19	7,206	12.38	89,200	6%	1225	72,82	5.75%	70,380	89,130	99	8,823,832
OBO20	6,474	11.65	75,430	5%	1,200	62,86	4.96%	59,515	75,370	99	7,461,678
OBO21	4,549	14.21	64,630	4%	1275	50,69	4.00%	50,994	64,579	95	6,135,006
OBO22	2,944	9.05	26,650	2%	1075	24,79	1.96%	21,027	26,629	111	2,955,816
OBO23	3,096	13.80	42,710	2%	1,250	34,17	2.70%	33,699	42,676	91	3,883,543
OBO24	6,136	15.20	93,270	5%	1,300	71,75	5.66%	73,591	93,196	93	8,667,266
OBO	6,459	11.	73,040	5%	1,20	60,87	4.80	57,62	72,982	99	7,225,25



25		31			0	%	9			5		
OB0	4,806	14,	69,260	4%	1275	54,32	4.29	54,64	69,205	95	6,574,50	
26		41					%	7			9	
OB0	4,206	14.	63,060	3%	1275	49,46	3.90	49,75	63010	91	5,733,93	
27		99					%	5			2	
OB0	2,802	10.	29,930	2%	1,15	26.03	2.05	23,61	29,906	99	2,960,73	
29		68			0		%	5			2	
	125,3		1,531,	100	32,5	1267.		1	1,209	1,530,	2,6	151,427,
	36		960	%	00	41				751	87	158

- harvest premium
table.3 harvest premium costs (40 harvesters)

How to calculate the harvest premium:

$$P = \text{kg (Lb)} \times \text{Rp (Lb)}$$

$$\text{Premium} = 151,427,158$$

$$\text{Kg (Lb)} = 1,530,751$$

$$\text{Rp (Lb)} = 2,687$$

Fixed harvesting costs consist of salaries and premiums (FFB). The FFB premium fee is calculated based on the excess base earned (kg) and the premium rate (Rp). It can be seen in table.3 above that the total productivity of the harvest is 125,336 per month, but every month the productivity of the harvest can change depending on the number of ripe fruit at the time the harvest is carried out and the yield exceeds the August 2022 basis, which is 2,687 kg with an extra Kg basis. 1,530.751 kg and more rupiah base Rp. 2,687/kg, the costs incurred for fixed harvester premiums are Rp. 151,429.158 in August, but the monthly premium costs can vary depending on the level of harvest productivity produced

- total cost of premiums and harvest income

table.4 total harvest premium fee income

No	Harvest Cost Components	Harvest Cost / Month	Total Harvest Cost
1	The main salary of the farmer	IDR 3,226,488	
2	Harvest Premium Costs	IDR 151,429.158	IDR 154,655.65

the costs incurred for harvesting premiums in the bravo afdeling in one month are Rp. 151,429.158, - With a total harvest income of Rp. 154,655.65,-

5. CONCLUSION

Based on the results and discussion. The yield that exceeds the basis for August 2022 is 2,687 kg with more Kg basis. 1,530.741 kg and more rupiah base Rp. 2,687/kg, the costs incurred for fixed harvester premiums are Rp. 151,427.158 in August, but the monthly premium costs can vary depending on the level of harvest productivity produced the costs incurred for the harvest premium for one harvester in one month are IDR 151,427,158, -. Meanwhile, the monthly harvest wage is Rp. 3,226,488, - with a fixed UMR that applies at PT. Surya Harvest Fertile 2. As big as IDR 126,601 per working day. Then the total cost obtained by harvesters per month is Rp. 151,427,158,-

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