

ANALYSIS OF FACTORS AFFECTING LABOR EFFICIENCY IN OIL PALM HARVESTING AT PT ASN KEBUN UJONG LAMIE, NAGAN RAYA DISTRICT

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Abstract

Labor efficiency is all the efforts made by each member in balancing the amount of labor with the production produced. The purpose of this study was to determine the labor efficiency of oil palm harvesters at PT ASN Kebun Ujong Lamie, Nagan Raya Regency. This study uses a quantitative research method with multiple linear regression analysis method. The sampling technique used was purposive sampling. The sample in this study amounted to 19 respondents. The results showed that partially with a 95% confidence level the premium variable had an effect on the labor efficiency of oil palm harvesters, and age and education level had no effect on the efficiency of the palm oil harvesters. Meanwhile, the age, education level, and premium variables simultaneously affect the labor efficiency of oil palm harvesters.

Keywords: *labor efficiency, palm oil*

1. INTRODUCTION

Aceh Province has several superior commodities in the agricultural and plantation sectors. Where, the plantation area in Aceh reaches 1,073,220 ha with a production of 1,006,543 tons and has a productivity of 1,457 kg/ha consisting of 840,068 ha of smallholder plantations and 233,152 ha of large plantations (Azanuddin Kurnia, 2018). One of the largest plantation commodities in Aceh Province is oil palm. Oil palm plantation is a long term business. So this makes management and handling require serious effort in order to obtain optimal benefits. oil palm will become a yielding crop about 2-3 years after planting in the field (Sinaga & Rollis Fernando, 2018). Oil palm is one of the plantation crops that has an important role for the national economy, especially as a provider of employment and as a source of state revenue (Muhammad Nasir Ismail, 2018).

PT ASN is one of the subsidiaries of the PTPN I and PTPN IV companies located in Ujung Lamie Gardens, Nagan Raya Regency which has a plantation area of almost 4000 hectares. PT ASN is a joint venture of PT Perkebunan Nusantara I and PT Perkebunan Nusantara IV which collaborated in 2010. PTPN I and PTPN IV have collaborated to maintain sustainability in producing palm oil as the main commodity produced and to maintain continuity and responsibility for employees plantation. In carrying out collaborative activities carried out by both parties, of course, it is necessary to have quality human resources and have high skills so that later they can be placed in appropriate positions in the organizational structure.

In an effort to increase the productivity of oil palm, there are various problems that must be faced, especially in the use of various input sources and factors whose mastery is always limited. One of them is the labor factor. Where is the efficiency of labor commonly known as labor productivity which can be measured by taking into account the acceptance of land area and business area. The workforce has a function in the activities of opening new land, nursery, planting, maintenance and harvesting of oil palm fruit. According to (Muhammad Nasir Ismail, 2018) Labor is the most important production factor in the production process. Good and organized workforce management can reduce the error rate in the process of harvesting oil palm fruit and can increase

work productivity. Thus, the quality of the resulting palm oil is better and facilitates the achievement of company goals.

Labor efficiency is a unit of work to measure the amount of productive work that has been successfully completed by a person in order to achieve goals by using the minimum possible resources. Where, the unit that is often used in calculating the need for labor is the working day (HKO).(Wahyuningsih, 2020). The purpose of this study was to analyze the efficiency of labor in the oil palm harvesters of PT ASN Ujong Lamie, Nagan Raya Regency.

2. LITERATURE REVIEW

2.1 Labor Efficiency

Labor efficiency is all the efforts made by each member in balancing the amount of labor with the production produced(Indraswari, 2016).

2.2 Age

The age factor greatly influences the physical and mental condition of a worker. Productive age is the age at which a person can be productive until the age of 58 years. The older a person is, the more his participation will increase, but his physical strength will decrease(Muhammad Nasir Ismail, 2018).

2.3 Level of education

The level of education is a person's activity in developing abilities, attitudes, and forms of behavior, both for present life as well as preparation for preparation for future life through certain organizations.(D, 2017).

2.4 Premium

Premiums are income earned by workers when they exceed the limits set by the employer/company. Premiums can be in the form of benefits, overtime premiums, and incentives.(Muhammad Nasir Ismail, 2018).

3. RESEARCH METHODS

This research was conducted at PT ASN Kebun Ujong Lamie, Nagan Raya Regency. The object of research in this study was the palm oil harvesters working at PT ASN Keubun Ujong Lamie. The scope of this research includes age, education level, and premium. The research method used in this study is a quantitative research method. The sampling technique uses a purposive sampling technique, namely by determining the criteria for respondents to be sampled. The population of this study are palm oil harvesters who work from September to October 2021. The sample obtained was 19 respondents. The data analysis method used is multiple linear regression using SPSS 28 software.

4. RESULTS AND DISCUSSION

4.1 Results

To find out the magnitude of the parameters of each variable analyzed, a multiple linear regression analysis model was used (multiple regression linear analysis). The effect of each variable can be expressed in the form of the following equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

$$Y = 33596.329 - 324.782X_1 - 958.556X_2 + 0.008X_3 + 26.4 \%$$

The regression equation above can explain that the regression coefficient of the constant (a) is 33596.329, which means that if age (X1), education level (X2), and premium (X3) are 0, then the efficiency of the palm harvester workforce in producing production (Y) is 33596.329 kg.

The regression coefficient for the age variable (X1) has a negative value of -324,782, meaning that every additional 1 year of age will reduce labor production by 324,782 kg. assuming that the education level factor (X2) and premium (X3) are considered constant. The regression coefficient for the variable level of education is negative, which is equal to -958,556, which means that the higher a person's level of education will reduce the output of labor production by 958,556 kg. assuming that the age factor (X1) and premium (X3) are considered fixed.

The regression coefficient for the premium variable (X3) is positive, which is equal to 0.008, which means that each additional premium or rupiah will increase the harvester labor production by 1 kg. assuming that the age factor (X1) and education level (X2) are considered constant.

1. T Test (Partial)

The calculated t value for the age variable (X1) is -1,401 and the t table at a significance level of α 0.05 is 1,729. means $t_{count} < t_{table}$ (-1,401 < 1,729), then H_0 is accepted and H_a is rejected, meaning that partially the age variable (X1) does not affect the efficiency of palm oil harvesters in producing production (Y). The calculated t value for the education level variable (X2) is -0.459 and the t table at a significance level of α 0.05 is 1.729. means $t_{count} < t_{table}$ (-0.459 < 1.729), then with this H_0 is accepted and H_a is rejected. This means that partially the education level variable (X2) has no effect on the efficiency of the palm oil harvesters in producing production (Y). The tcount value for the premium variable (X3) is 6,462 and the t table at a significance α of 0.05 is 1,729. means that in this case $t_{count} > t_{table}$ (6.426 > 1.729), then H_0 is hereby rejected and H_a is accepted. that is, the premium variable (X3) has an influence on the labor efficiency of oil palm harvesters in producing production (Y).

2. Simultaneous Test (Test F)

The results of simultaneous tests carried out using the F test obtained an Fcount of 13,996 with a significance level of $\alpha = 0.05$ at a 95% confidence level of 3,287. means that in this case $F_{count} > F_{table}$ (13,996 > 3,287) means that H_0 is rejected and H_a is accepted. That is, age (X1), education level (X2), and premium (X3) simultaneously affect the efficiency of the palm oil harvesters.

3. Determination Coefficient Test (R2)

The coefficient of determination is used to see the closeness of the relationship that occurs between the independent variables (X1, X2, X3) to the dependent variable (Y). based on the results of calculations using SPSS 28 software, the results obtained are $R^2 = 0.763$. That is, together the independent variables are able to explain the variation of the dependent variable (labor efficiency) of 76.3%. meanwhile, 23.7% is explained by other variables outside the analyzed model.

4. Multiple Correlation Test (R)

To find out the closeness of the relationship between the independent variables (X1, X2, X3) and the dependent variable (Y), then simultaneously used multiple correlation analysis (R test). where, the value of the correlation coefficient obtained is 0.858. This shows that there is a very

close relationship between age, education level, and the premium on the labor efficiency of oil palm harvesters. This is because the value generated from the calculation of the correlation coefficient is close to 1.

4.2 Discussion

Age, education level, and premium are variables that affect the labor efficiency of oil palm harvesters. Labor efficiency at the research location is influenced by various factors, the efficiency of the harvesting labor used such as age, education level, and premiums as well as other factors outside the model. The purpose of the analysis of the variables that affect the efficiency of harvesting labor is to see how big the parameters of each independent variable are, and see whether or not the relationship is closely related to the dependent variable simultaneously to determine the partial and simultaneous effect of the variables that influence labor efficiency. the work of the oil palm harvester.

5. CONCLUSION

The average premium earned per month is IDR 2,056,213.00 with an average age of harvesters ranging from 30 to 40 years. Labor efficiency is jointly influenced by age, education level, and premiums which can be proven by Fcount of 13,996. However, partially the factors that significantly affect the efficiency of the palm oil harvester workforce are premiums with a 95% confidence level and a regression coefficient of 0.008 which states that every time there is an addition of 1 value of the premium variable, this will increase the efficiency scale of the palm oil harvesters workforce. . Meanwhile, the factors of age and education level did not have a significant effect on the efficiency of the palm oil harvesters at PT ASN Ujong Lamie, Nagan Raya Regency.

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