

The Effect Of Occupational Safety And Health (K3) On The Productivity Of Rubber Tapping Workers At PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie Bulukumba Regency

Aslinda Anwar¹⁾, Dg. Maklassa²⁾, Nurinaya³⁾

Management Study Program, Faculty of Economics and Business, Universitas Muhammadiyah Makassar, Indonesia

*Corresponding Author

Email : anwaraslinda@gmail.com¹⁾, dg.maklassa@unismuh.ac.id²⁾, nurinaya@unismuh.ac.id³⁾

Abstract

The aim of this research is to find out whether the implementation of the occupational safety and health (K3) program has an effect on increasing the productivity of rubber tapping workers at PT. Lonsum Indonesia Tbk. Balombessie, Bulukumba Regency. The type of research used is quantitative, namely a research method that uses numerical data with a sample size of 52 respondents and uses data analysis techniques: validity and reliability tests, classical assumption tests, simple regression analysis. Based on the results of research conducted at the data collection, data management and data analysis stages regarding the influence of occupational safety and health (K3) on the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency, it can be concluded that the implementation of the occupational safety and health program has a positive and significant effect on the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency.

Keywords: Occupational Safety and Health (K3), Productivity

INTRODUCTION

Humans as the main resource are a life asset that needs to be developed because human resources are an important component in every organization or business. Therefore, employees need to receive special attention from the company. This is done to ensure that the company's human resources can be used optimally to achieve organizational or company goals.

The success of human resources in an organization or company can be influenced by several factors, one of the most significant factors is productivity. Productivity is a comparison between the results achieved and the participation of labor per unit of time, the role of labor here is the effective and efficient use of resources (Kusrianto, 2017). Furthermore, Riyanto, 2019 stated that productivity is a comparison between the results achieved (*output*) with all the necessary resources (*input*)

One aspect of employee productivity in human resource management that needs to be considered in every business or company is the employee safety and health program management system in order to protect and prosper employees. Viewed from a scientific perspective, occupational safety and health is science and its application in efforts to prevent accidents and work-related diseases in the workplace (Purwanti & Musadieq, 2017).

PT. London Sumatra Indonesia or better known as PT. Lonsum, is an Indonesian company founded in 1962 which operates in the plantation industry. This company is a company that has the largest plantations in Indonesia, namely in the provinces of North Sumatra, South Sumatra, Java, South Sulawesi and Kalimantan. One of the companies located in South Sulawesi is PT. Lonsum Balombessie is based in Bulukumba Regency, Bulukumpa District.

PT. Lonsum Balombessie is a company operating in the rubber industry. Rubber tapping is the most important agricultural aspect in the rubber production process, therefore the level of rubber production is greatly influenced by the daily labor productivity of rubber tapping

workers. Employees who are involved in the rubber tapping labor process usually carry out their work processes outdoors using various tools used in the process of filtering rubber latex.

Based on initial observations made by researchers, it is known that in 2022 the productivity of rubber tapping workers will still not be optimal when viewed from the amount of production output and the production targets expected by the company. Production results from January to December 2022 PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency is experiencing fluctuations in meeting production targets. Starting from January, the company's expected target was 124,935.00 while the total obtained by tapping workers was 70,340.00 and in February the company's expected target was 129,505.00, while the total obtained was 74,908.00 and in March the expected target was 184,907.00 while the total obtained by tapping workers was 92,550.00, then in April the company's expected target was 142,431.00, while the results achieved by tapping workers were 80,304.00, then in May the expected target was 103,972.00, while the total obtained by tapping workers was 46,217.00, then in June the expected target was 125,475.00 while the achieved target was 54,375.00 and in July the expected target was 154,636.00 while the total achieved was 59,255.00, then in August the company's expected target was 133,274,00 while the total achieved was 60,052.00 then in September the expected target was 154,774.00 while the total generated was 66,734.00 then in October the expected target was 107,738.00 while the results achieved were 46,959.00 then in November the target The expected target was 100,632.00 while the total achieved was 43,106.00 and in December the company's expected target was 136,079.00 while the total generated was 67,697.00.

And based on observations made by researchers, it is known that almost every day there are employees who experience work accidents, such as being cut by rubber tapping knives used by rubber tapping workers in carrying out their work. And many people experience accidents when tapping rubber using ladders because the rubber trees are too tall and old, requiring rubber tapping workers to use ladders. The following is a table of occupational accidents and illnesses at PT. London Sumatra Indonesia (Lonsum) Tbk. Balombessie, Bulukumba Regency during 2022.

Table 1 Occupational Disease Cases

Disease Name	Number of Cases											
	Year 2022											
	Jan	Feb	Mar	April	May	June	July	Agu	Sept	Oct	Nov	Of the
Ispa	70	70	77	78	97	160	105	109	116	100	85	87
Gastritis	38	40	44	38	41	105	144	106	101	106	90	93
Muscle and Skeleton	52	62	75	26	31	63	73	101	45	77	64	72
Flu	43	32	39	73	72	109	114	96	80	98	82	85
Diarrhea	28	27	30	39	39	66	69	69	63	60	67	67
Leather	63	51	63	61	60	109	109	119	60	61	86	62
Women	16	13	15	9	18	17	17	20	15	15	17	11
Hypertension	20	17	19	24	28	48	49	49	12	14	20	20
Tooth	15	15	15	17	19	32	32	28	18	27	23	25

Source: PT. London Sumatra Indonesia Tbk. Balombessie

Based on table 1.1, it can be seen that there are several types of diseases experienced by rubber tapping workers at PT. London Sumatra Indonesia Tbk. Balombessie, Bulukumba Regency in 2022, namely ISPA (Acute Respiratory Infection), gastritis (stomach ulcer), muscle and skeleton, influenza, diarrhea, skin, eyes, hypertension and teeth. It can be concluded from the

data above that the increase in illnesses experienced by rubber tapping workers occurred in July and decreased in February.

Based on the above phenomenon, it is necessary to implement an K3 program to prevent occupational diseases and accidents arising from the work environment. The physical condition of workers can be affected by illness, stress and injury. Most companies that do not implement an K3 program cannot provide prevention of occupational diseases or accidents that arise from the workplace environment and the health of workers has reached a critical level, causing high absenteeism, causing productivity to decrease or become low.

Occupational safety and health (K3), has an important role in ensuring the safety of the production process by the workforce so that productivity can be achieved or increased. Therefore, this research is very important to carry out regarding the implementation of K3 at PT. Lonsum Balombessie, especially the rubber tapping workers section, with the title *The Effect of Implementing the Occupational Safety and Health (K3) Program on the Productivity of Rubber Tapping Workers at PT. Lonsum Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency.*

RESEARCH METHODS

This type of research is quantitative research using primary data sources and secondary data. The population in this study were rubber tapping workers at PT. Lonsum Indonesia Tbk. Balombessie, Bulukumba Regency with a total of 106 employees. Based on the results of the Slovin formula calculation, it is known that the number of samples that will be used in this research is 52 respondents. The technique in this research uses observation, questionnaires and documentation.

RESULTS AND DISCUSSION

A. Results

1. Simple Regression Analysis

Table 1

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Occupational Safety and Health (K3) ^b	.	Enter

a. Dependent Variable: Productivity

b. All requested variables entered.

Source: SPSS appendix, 23

Based on table 4.12, the first part output (*Variabel Entered/removed*): the table above explains the variables entered and the methods used. In this case, the variables entered are the occupational safety and health (K3) variable as the independent variable and productivity as the dependent variable and the method used is the enter method.

Table 2

Model		Coefficients ^a									
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations				Collinearity Statistics
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	8.797	3.449		2.551	.014					
	Occupational Safety and Health (K3)	.956	.093	.824	10.302	.000	.824	.824	.824	1.000	1.000

a. Dependent Variable: Productivity

Source: SPSS appendix, 23

Based on table 4.13, the output of the second part (*Coefficients*): known value constant (a) is 8,797 while the Occupational Safety and Health (K3) value (b/ regression coefficient) is 0.956 so the regression equation can be written:

$$Y = a + bX$$

$$Y = 8.797 + 0,956X$$

This equation can be translated:

- The constant a is 8,797, meaning that if the value of variable X, occupational safety and health (K3) is considered constant or equal to zero then the consistent productivity variable is 8,797.
- The regression coefficient X 0.956 is positive, so it can be said that the direction of the influence of occupational safety and health on productivity is positive. The higher the level of employee safety and health, the higher or increased work productivity will be.

Decision making in simple regression tests:

- Based on the significance value from the table *Coefficients* The significance value obtained was 0.014 < 0.05, so it can be concluded that the Occupational Safety and Health (K3) variable (X) has a significant effect on the productivity variable (Y).
- Based on the t value: it is known that the calculated t is 10,302 > from the t-table 2.009, so it can be concluded that the Occupational Safety and Health (K3) variable (X) has a positive effect on the Productivity variable (Y).

How to find t table:

$$\begin{aligned}
 t \text{ table} &= (a/2; n - k - 1) \\
 &= (0,05 / 2 ; 52 - 1 - 1) \\
 &= (0.025 ; 50) \text{ [seen from the distribution of t table values]} = 2.009
 \end{aligned}$$

2. Hypothesis testing

a. Partial t Test (t test)

The partial t test basically shows how much influence one occupational safety and health (K3) variable (independent) individually has in explaining the productivity variable (dependent) (Ghozali, 2018). The t test results for each variable are as follows:

Table 3 t test results

Model	Coefficients ^a									
	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	8.797	3.449		2.551	.014					
Occupational Safety and Health (K3)	.956	.093	.824	10.302	.000	.824	.824	.824	1.000	1.000

a. Dependent Variable: Productivity

Source: SPSS appendix, 2

According to Ghozali, 2018 partial test criteria (t test) are:

1. If the sig value < 0.05 or the calculated value > t-table, then there is an influence of variable X on variable Y.
2. If the sig value is > 0.05 or the calculated t value is < from the t-table, then there is no influence of variable X on variable Y.

How to calculate t-table:

Rumus ; $t = [a ; (df = n-k)]$

Where a = level of significance
n = number of samples
k = number of variables

So: Known:

$$n = 52$$

$$k = 2$$

$$a = 5\% (0,05)$$

Maka : $t = [5\% (df = 52-2)]_{ss}$

$$t = (0.05 ; 50)$$

So the t-table value is 1.676

Based on table 4.14, it can be concluded that the sig value is $0.000 < 0.05$, the calculated t-value is $10,302 >$ the t-table value is 1,676, meaning that the occupational safety and health (K3) variable has a positive and significant effect on the productivity variable. So the results of hypothesis testing show that H1: Occupational Safety and Health (K3) has a positive and

significant effect on the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie Bulukumba Regency was accepted.

b. Analysis of the Coefficient of Determination (R^2)

Sugiyono, 2018 states that the correlation coefficient of determination is used to find out how much influence the independent variable can explain the dependent variable. The correlation coefficient value for the occupational safety and health (K3) variable can be shown in the following table, namely:

Table 4 Results of Determination Coefficient Analysis

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.824 ^a	.680	.673	4.01123	.680	106.125	1	50	.000
a. Predictors: (Constant), Occupational Safety and Health (K3)									
b. Dependent Variable: Productivity									

Source: SPSS appendix, 23

According to Hair, Black, Babin, Anderson, and Tatham (2019) value *R square* categorized as:

- 1) Strong if more than 0.67
- 2) Moderate if it is more than 0.33 but lower than 0.67
- 3) Weak if more than 0.19, but not lower than 0.33

Based on table 4.15, the value obtained is *R Square* amounting to 0.680, which means the influence of Occupational Safety and Health (K3) (X) on Productivity (Y) at PT. London Sumatra (Lonsum) Tbk. Balombessie Bulukumba Regency 0.680 is in the strong category because it is more than 0.67. The figure 0.680 shows that occupational safety and health (K3) is able to explain 68.0% of productivity and the remainder (100% - 68.0% = 32%) is influenced by other causes outside the model.

Based on the *R square* value which explains that the influence of occupational safety and health has a strong influence on productivity, this proves why the rubber latex yield obtained by rubber tapping workers will fluctuate in 2022 as can be seen from the following table.

Table 5 Rubber Latex Production Results in 2022

Year 2022	Dry Latex	Dry Lump	Total Dry	Target Dry Rubber
January	49,238	21,102	70,340	124,935
February	52,436	22,472	74,908	129,505
March	64,785	27,765	92,550	184,907
April	56,213	24,091	80,304	142,431
May	32,352	13,865	46,217	103,972
June	38,063	16,313	54,375	125,475
July	34,933	24,322	59,255	154,636
August	42,036	18,016	60,052	133,274
September	46,714	20,020	66,734	154,774
October	32,871	14,088	46,959	107,738

November	30,174	12,932	43,106	100,632
December	47,388	20,309	67,679	136,079

Source: PT. London Sumatra Indonesia Tbk. Balombessie.

$$\begin{aligned} \text{Productivity} &= \text{Total Income/ Number of Workers} \\ &= 762,479,00/ 106 \text{ people} \\ &= 7,212.03 \text{ per person} \end{aligned}$$

This means that on average each rubber tapper produces 7,212.03 per year, while the income target that the company expects for each rubber tapping worker is:

$$\begin{aligned} \text{Productivity} &= \text{total income/number of workers} \\ &= 1.598.358,00/ 106 \\ &= 15,078,849 \text{ per person.} \end{aligned}$$

B. Discussion

Based on the results of statistical tests, it can be seen that the independent variable, namely occupational safety and health (K3), has an effect on the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency. An explanation of these variables is as follows:

The implementation of the Occupational Safety and Health (K3) Program has a positive and significant effect on increasing the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency

Hypothesis testing tests whether the implementation of an occupational safety and health (K3) program has a positive and significant effect on increasing the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie Bulukumba Regency test results show that the t-test results, occupational safety and health (K3) show a sig value smaller than the significance level ($0.000 < 0.05$), or the calculated t-value is greater than the t-table ($10,302 > 1,676$) so the hypothesis is accepted. This shows that occupational safety and health (K3) has a positive and significant effect on increasing productivity. Based on the research results, it can be seen that if the level of occupational safety and health in the company is taken into account, it will have an impact on increasing work productivity in the company, and vice versa if rubber tapping workers have low productivity due to the implementation of an occupational safety and health (K3) program that is not implemented. noticed. However, occupational safety and occupational health are not solely borne by the company, but the implementation of occupational safety and health is borne by rubber tapping workers because tapping workers are the ones who will come into direct contact with work carried out directly in the field which carries the risk of work accidents. If the level of safety and health of rubber tapping workers is high or good, the company or organization will have a positive impact, because the existence of an occupational safety and health (K3) program will minimize the occurrence of accidents and will reduce the occurrence of occupational diseases and will facilitate the process of completing work so that optimal results or increased productivity.

The results of this research are strengthened by previous research by Anjas Siawan & Ratmono (2022), entitled The Effect of Occupational Safety and Health Programs on Employee Work Productivity at PT. Lautan Teduh, Bandar Lampung City, said that occupational safety and health (K3) has a positive and significant effect on work productivity.

CONCLUSION

Based on the results of research conducted at the data collection, data management and data analysis stages regarding the influence of occupational safety and health (K3) on the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency, it can be concluded that the implementation of the occupational safety and health program has a positive and significant effect on the productivity of rubber tapping workers at PT. London Sumatra (Lonsum) Indonesia Tbk. Balombessie, Bulukumba Regency.

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