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Use of Minimum Land in Tobacco Farming

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ABSTRACT

The high demand for tobacco exports, is an attraction for farmers to cultivate this one estate crop. However, this demand is very limited by the use of land that is currently increasingly difficult. The purpose of this study was to determine the extent of influence of land area on tobacco production, and the minimum size of land area suitable for use in tobacco farming.

The method used in this research is a case study, with samples taken from all farmers who carry out tobacco farming as many as 19 people. The data analysis design used to determine the effect of land area on tobacco production used simple regression analysis, and to find out the area of drinking land was carried out through a break-even concept approach.

The results showed that: 1) the area of land used greatly affected the production of tobacco produced, and 2) The area of drinking land used for an average land area of 2.43 hectares of land used by farmers was 0.18 hectares with the assumption of the use of factors ceteris paribus production.

Keywords: Land area, Tobacco production, Tobacco farming, Break-even concept, Drinking land,

INTRODUCTION

Tobacco is an export commodity of Indonesia with export destinations including Sri Lanka, the United States, the Dominican Republic, the Netherlands, France, Germany, Belgium, Denmark, Spain, Russia, Japan, Malaysia and many others. The number of destination countries for tobacco exports shows that tobacco exports contribute to state revenues through taxes generated from these export activities. The contribution of total domestic revenue to excise for tobacco products in the amount of Rp103.6 trillion in 2013 based on the Financial Note and the 2015 State Budget and Draft Budget indicates that tobacco has an important role in state revenue (BPS, Tobacco exports by destination country 2013-2017) .

The high demand for tobacco is an attraction for farmers to be able to develop it. However, the limitations of farmers in developing tobacco farming have several obstacles. Especially in the use of land and the extent of land owned. Because land is one of the basic elements in farming. FadholiHernanto (1991),

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states that the basic elements of farming consist of: 1) land, 2) labor, 3) capital and 4) management.

Land production factors have the most important position compared to other factors of production in farming (Mubyarto, 1995). The economic potential of land is influenced by factors that play a role in changes in land economic costs and income. Each land has varying economic potential, because the land has different land characteristics that are adapted to the conditions of the land. The high economic potential of land, which is followed by faster population growth, has an impact on decreasing agricultural land. This is the problem in the development of commercial farming that requires a fairly extensive use of land.

The more difficult land tenure in carrying out tobacco farming, does not reduce the interest of farmers to carry out farming. However, this is the dynamics that occur, on the other hand farmers hope to carry out tobacco farming on a wider field, but will require high funding, but if tobacco farming is carried out in a makeshift field, then the production results obtained are less than what was expected.

Based on this, this study aims to determine the effect of land area on tobacco production, and the minimum size of land area suitable for use in tobacco farming

RESEARCH METHODS

This research was conducted in Margajaya Village, Pamarican District, Ciamis Regency, from November 2018 to February 2019, with the research method used in the case study. Moehar Daniel (2003) states that case studies are research that is more directed or focused on certain characteristics that are not generally accepted, usually limited by cases, locations, certain places and certain times. While the taking of respondents is done by census, by taking all respondents who carry out tobacco farming, as many as 19 people. According to Sugiyono (2015) a census or sampling saturation is a sampling technique if all members of the population are used in a sample.

Operationalization of variables

The variables used in this study can be seen in Table 1.

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Table 1. Operational Research Variables

No	Variabel	Indikator	Unit	Scale
1.	Devenden (Y)	Tobaccoproduction	Kg	Ratio
2.	Indevenden (X)	Land area	Hektar	Ratio
3.	Total FixedCost (TFC)	1. PBB	Rp	Ratio
		2. Depreciation	Rp	
		3. Capital investmen	Rp	
4.	Total Variable \cost (TFC)	1. Seed	Rp/batang	Ratio
		2. Organicfertilizer	Rp/Kg	
		3. In organicfertilizer	Rp/Kg	
		4. Pesticides	Rp/liter	
		5. labor	Rp/HKSP	
5.	Total Cost (TC)	Total cost	Rp	Ratio
5.	Total revenue	Tobaccosales	Rp	Ratio
6	Profit	1. Total cost	Rp	Ratio
		2. Total revenue	Rp	

Data analysis design

The data analysis design used to determine the effect of land area on tobacco production produced by farmers, used a simple regression according to Sugiyono (2011) as follows:

$$Y = a + bX$$

..... (1)

Information:
Y = Devendent variable
a = constant
b = Regression coefficient
X = Independent variable

$$\text{price b} = r\frac{s_y}{s_x}$$

$$\text{price a} = Y - bX$$

Information:
r = productmomentcorrelationcoefficientbetweenvariable X and Y variable
Sy = standarddeviation Y
SX = standarddeviationofvariable X

$$\alpha = \frac{(\sum Y)(\sum X^2) - (\sum X)(\sum XY)}{n\sum X^2 - (\sum X)^2}$$

$$b = \frac{n\sum XY - (\sum X)(\sum Y)}{n\sum X^2 - (\sum X)^2}$$

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To findout whether thel and area variable (X) significantly influences the tobacco production variable (Y), the amount of t is calculated using a mathematical equation (Soegiyono, 2011) as follows

$$t\,hitung = \frac{b}{s_b} \quad atau \quad thitung = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Hypothesis decision:
H0 is accepted if t arithmetic ≥ t table
H0 is rejected if t arithmetic <t table
H0 is accepted if -t arithmetic ≤ t table
H0 is rejected if -t count> t table

To solve the first problem, use SPSS 16 software. Minimum land area measurement used break even point approach or break even pont. Break even point according to Garrison (2006) is the level of sales where profit equals zero, or total sales are the same, this is similar to Simamora (2012) which states that the break-even point is the sales volume where the amount of revenue and total expenses are the same, there are no profits or net loss. Based on this, we can calculate the area of drinking land that is suitable for use in tobacco farming by calculating the break evenpoint of the production volume of tobacco produced and dividing it by the productive land that produces tobacco production with a mathematical equation according to Bambang Rianto (2006) and the results of Zulfikar Noormansyah, Early research Rocdianiand Lies Sulistiowati (2017) as follows:

$$BEP\,np = \frac{TFC}{1 - \frac{TVC}{NP}}$$

$$BEP\,vp = \frac{BEPnp}{Hy}$$

$$BEP\,ll = \frac{BEPvp}{Lands\,produktivity}$$

$$Whereislandproductivity = \frac{Production\ (Kg)}{Land\ area}$$

Informations:
BEPnp = Break evenpoint sales value (Rp)
TFC = Total fixedcost (Rp)
TVC = Total variablecost (Rp)

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BEPvp = Breakevenpointproduktion volume (Kg)
Hy = Priceproduct/kg (Rp/Kg)
BEPll = Breakevenpointland area (Hektar)

RESULTS AND DISCUSSION

From the interview results it is known that the total area of land used for tobacco farming in the study site is 46.25 hectares (2.43 hectares on average), with a production of 48,235 kilograms (2,538 kilograms average) of wet tobacco leaves from 4 harvesting times or last harvest. The smallest area of land used is 0.45 hectares, with the production of wet tobacco leaves produced at 700 kilograms. While the largest land in tobacco farming is 4 hectares with a production of 5,100 kilograms of wet tobacco leaves. It can be stated descriptively that the wider the land used, the higher the production produced.

Statistically tested the effect of land area on production in tobacco farming. For more details the simple regression test results related to the influence of land area on tobacco production as follows:

Tabel 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. ErroroftheEstimate
1	.768[a]	.590	.566	.15108

a. Predictors: (Constant), Luaslahan
b. DependentVariable: Produksi

Table 2 shows the magnitude of the correlation value (R) is 0.768. This means that the independent variable, namely land area (X) has a very close relationship with the dependent variable, namely tobacco production (Y). It also can be seen the coefficient of determination (R2) of 0.590, it shows that the influence of land area (X) on tobacco production (Y) is 59%, while the rest or 41% is influenced by other factors. The significance of the results of the analysis can be seen in Teble 3 as follows:

Table 3. Anova

Model		Sum ofSquares	df	MeanSquare	F	Sig.
1	Regression	.559	1	.559	24.505	.000[a]
	Residual	.388	17	.023		
	Total	.947	18			

a. Predictors: (Constant), Luaslahan
b. DependentVariable: Produksi

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Table 3 shows the level of significance of the influence of land area on tobacco production, which can be seen from the calculated F figures produced at 24.505 with a significance level or probability of 0,000 <0.05.

Tabel 4. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.669	.066		40.426	.000
	Luaslahan	.803	.162	.768	4.950	.000

a. DependentVariable: Produksi

Table 4 explains that the constituent value is 2.669, the coefficient of land area variable (X) is 0.803. So we get the equation Y = 2.669 + 0.803 X. This means that, every addition of one unit of land area (X), will increase the tobacco production by 0.803. From the above results it is also known that the calculated T value = 4.950 with a significance of 0,000 <0.05, then H¬¬0 is rejected and H1 is accepted. This means that there is a significant (significant) influence between the variable land area and tobacco production (Y). The average tobacco production produced is 2,538 kilograms of wet tobacco leaves. From the average area of land used 2.43 hectares. Based on the results of interviews and analysis it is known that the average cost incurred in one tobacco growing season at the study siteis Rp. 27,689,532.85. For a more detailed breakdown of costs used in the tobacco farming season at the study site can be seen in Table 5.

Tabel 5. Rata-rata Biaya dalam Usahatani Tembakau

No	Jenis Biaya	Jumlah (Rp)	Persentasi (%)
1.	Fixedcost	136.046,05	0,49
2.	Variablecost	27.553.486,84	99.51
3.	Total cost	27.689.532,89	100,00

Table 5 shows that the fixed costs incurred were Rp. 136,046.05, with variable costs of Rp. 27,553,486.84 in one planting season. With the known selling price of wet tobacco leaves Rp.10,000 / kg, it is known that the average income in one growing season is Rp. 1,968,361.84. Based on this, we can find out the break-evenpoint of sales value (BEPNP), break-evenpoint of production volume (BEPVP) and break-evenpoint of land area (BEPLL) as indicators to find

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out the minimum area of land suitable for tobacco farming. Following are the results of the calculation of minimum land area with a break-even approach.

Table 6 shows that the break-even point of sales value generated from tobacco farming in one planting season is Rp. 1,917,327.68. The break-even point of production is 191.73 kilograms of wet tobacco leaves. This means that tobacco farmers will experience a disadvantage and no loss when farmers receive sales of Rp. 1,917,327.68, with a production of 191.73 kilograms. Likewise with the break-even point of land area of 0.18 hectares, it means that farmers will be in a condition that is not profitable and not disadvantage when carrying out tobacco farming with an area of 0.18 hectares. If they do not expect to receive a loss, then the farmer must strive to have sales value, production volume and land area above the breakeven value of the sales value, breakeven production and breakeven land area.

CONCLUSIONS

The results showed that,

1. The area of land used greatly influences the production of tobacco produced.
2. The area of suitable drinking land used for tobacco farming is 0.18 hectares, assuming the use of ceteris paribus production factors.

PREFERNCY

[1] BPS. 2018. Ekspor Tembakau Berdasarkan Negara Tujuan 2013-2017. Badan Pusat Statistik. Jakarta.
[2] Bambang Rianto. 2006. Dasar-dasar Pembelajaan Perusahaan. BPFE. Yogyakarta
[3] Fadholi Hernanto. 1991. Ilmu Usahatani. Penebar Swadaya. Jakarta
[4] Henry Simamora. 2012. Akuntansi Manajemen. Star Gate Publisher. Jakarta
[5] Garrison H Ray, Eric W, Noreen dan Peter C Brewer. 2006. Managerial Accounting (terjemahan A. Totok Budisantoso). Buku I Edisi Kesebelas. Salemba Empat. Jakarta
[6] Mubyarto. 1995. Pengantar Ekonomi Pertanian. Ghalia Indonesia. Jakarta.
[7] Moehar Daniel. 2003. Metode Penelitian Sosial Ekonomi. Bumi Aksara. Jakarta.
[8] Sugiyono. 2011. Metode Penelitian Kuantitatif dan Kualitatif. Alfabeta. Bandung
[9] Sugiyono. 2015. Metode Peneiltian Kombinasi (MixMethods). Alfabeta. Bandung
[10] Zulfikar Noormansyah, Dini Rocdiani dan Lies Sulistiowati. 2017. Penetapan Luas Lahan Minimum Usahatani Kedelai Pada Lahan Sawah dan Darat Di Kabupaten Ciamis. Prosiding Seminar Nasional Hasil Penelitian Agribisnis I Peningkatan Produktivitas & Daya Saing Komoditas Pertanian, Fakultas Pertanian Universitas Galuh, 2017. ISBN 978-602-61748-0-2