



Analysis Of Factors Affecting Corn Farmers 'Revenue In Gorontalo District

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Abstract. *This study aims to determine what factors influence the income of corn farmers in Gorontalo district (case study of Poor Corn Farmers in Gorontalo District). The data in this study are primary data by distributing questionnaires to poor corn farmers in Gorontalo Regency. The data analysis technique in this research is multiple regression. The results of this study indicate that the factors that influence the income of poor corn farmers in Gorontalo District (1) simultaneously the area of farmer Education, number of dependents in the family, land ownership status and the use of technology in corn farming significantly influence the income of poor corn farmers) in Gorontalo Regency. (2) partially only land area and land ownership status have a significant effect on the income of poor corn farmers in Gorontalo Regency.*

Keywords: *Income, Corn Farming, Poor Farmers*

The role of the agricultural sector in Indonesia is very important in making a major contribution to the development of economic growth and welfare of farmers. The role of the agricultural sector is as a source of producing basic needs, clothing and housing, providing employment, contributing to high national income, and providing foreign exchange for the country. Economic growth and welfare of farmers depends on the level of income of farmers and the benefits derived from the agricultural sector itself. The agricultural

sector is a mainstay to improve the welfare of some Indonesian people because most Indonesians live in rural areas and work in the agricultural sector. The contribution of the agricultural sector in economic development lies in five terms, namely: providing an increasingly large food surplus to an increasing population, increasing demand for industrial products so as to encourage the need for secondary and tertiary sectors, providing additional foreign exchange earnings for the import of capital goods for development through the

continuous export of agricultural products, increasing village income, and improving the welfare of rural people (jhingan, 2007., Saragih, 2010). Even in Gorontalo, the agricultural sector has greatly contributed in forming the Provincial GRDP. Seeing the large contribution of the agricultural sector in the economic growth of Gorontalo Province, it is proper for the government to pay more attention to the development of the agricultural sector.

One of the food crop commodities that can take a role in the development of the agricultural sector is the commodity of corn. In Indonesia, corn is the second food commodity after rice. In Gorontalo, corn is familiar because corn is a food substitute for rice, especially for rural farmers who have consumed corn if there is less rice.

Gorontalo Province has an area of 12,215.45 km² (1,221,544 ha). Of this area, 36% is dry land which has the potential and is developed or cultivated for various crops, especially corn. Corn production in 2014 amounted to (719,780 tons) dry shelled, an increase of 50,686 tons (7.58%) compared to 2013 production. The increase was due to an increase in harvested area of (5.98%) or 8,393 ha and also increased productivity by (1.59%) or 0.72 quintal / ha (Gorontalo provincial BPS, 2014). Besides being part of the agricultural culture, corn commodity has also become a potential export commodity in the future. In addition, the commodity of maize has also become a brand image for the Province as a producer of quality corn (Khairunnisa, *et.al.*, 2014., Subroto, 2017., Ujami, 2016., Pali, 2016).

Table 1 Harvested Area and Production of Corn Food Plants by Regency / City, 2017

No	region of the province (district / city)	Production (ton)	harvested area (hectare)
1	Boalemo	339.400	82.493
2	Gorontalo District	449.301	94.764
3	Pohuwato	482.645	104.676
4	Bone Bolango	56.925	12.698
5	Northern Gorontalo	223.459	41.312

6	Gorontalo City	271	58
7	Gorontalo Province	1.552.001	336.001

Source: *Badan Pusat Statistik 2017*

Table 1 shows that Gorontalo District is the second highest corn producer after Pohuwato Regency which is 449,301 tons. From the harvest area it has, it can potentially have the production of corn. Even though Gorontalo district is the second largest corn production center in Gorontalo province, Gorontalo district is the district that has the highest poverty rate among other districts in Gorontalo province, which amounted to 40.7 percent in 2017. Given that corn is a staple food as a substitute for rice for the people of Gorontalo. The importance of corn farmers to the people of Gorontalo does not promise farmers to be prosperous. Because, the existence of poverty problems still occur in farm families in some regions. Especially in rural communities. The External factors that make the income of corn farmers in Gorontalo have decreased due to several problems, including the price of corn that has not been stable because every harvest

Demographics Based on farmer's income

The lowest income from poor corn farmers is LN (natural log) 13.12 or IDR 500,000 and the highest is LN (natural log) 15.07 or IDR 3,500,000. The average value

season arrives the price of corn becomes down from the time before harvest. Pests are also one of the reasons why farmers fail to harvest, which is becoming worse because of crop farming. There are many more problems experienced by farmers. So that the problem of poverty can be experienced by corn farmers in Gorontalo.

METHODS

The analytical method used in this study uses multiple regression methods so that the analysis used refers to the formulation of research objectives. The purpose of this study was to analyze the factors affecting the income of poor corn farmers in Gorontalo district. The variables in this study are land area (X1), education (X2), number of family members (X3), land ownership status (X4), technology (X5), and income of corn farmers (Y).

RESULTS AND DISCUSSION

of LN (natural log) is 14.05 with a standard deviation of LN (natural log) of 0.49. The average value which is greater than the standard deviation shows that the average

value can describe the income of poor corn farmers in Gorontalo Regency.

Table 2 General Description of Respondents Based on farmers' income

	N	Minimum	Maximum	Mean	Std. Deviation
Income	50	13.12	15.07	14.0015	.49608
Valid N (listwise)	50				

Source: Data Processed 2019

Demographics Based on Education

There are 3 categories of education from farmers, where 39 people have elementary / equivalent education or 78.0%. There are 7 farmers / junior high school graduates or 14.0%. And farmers with a high school / secondary education as many as 4 people or at 8.00%,

Table 3 Overview of Respondents by Education

	Frequency	Percent	Valid Percent	Cumulative Percent
SD/Sederajat	39	78.0	78.0	78.0
SMP/Sederajat	7	14.0	14.0	92.0
Valid SMA/Sederajat	4	8.0	8.0	100.0
Total	50	100.0	100.0	

Source: Data Processed 2019

Demographics Based on Number of dependents

All respondent farmers in Gorontalo Regency are dominated by farmers with a total of 4 dependents

namely 15 farmers or 30.00% then the smallest frequency is farmers with a number of dependents 1 person, 2 people and 7 people namely as much as 1 person each farmers by 2.0%.

Table 4 General Description of Respondents by Number of dependents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1 Orang	1	2.0	2.0	2.0
2 Orang	1	2.0	2.0	4.0
3 Orang	13	26.0	26.0	30.0
4 Orang	15	30.0	30.0	60.0
5 Orang	14	28.0	28.0	88.0
6 Orang	3	6.0	6.0	94.0
7 Orang	1	2.0	2.0	96.0
8 Orang	2	4.0	4.0	100.0
Total	50	100.0	100.0	

Source: Data Processed 2019

Demographics Based on Land Status

All farmers who became respondents in Gorontalo District were dominated by farmers with the status of the sharing of land as many as 28 people or

56.0% and the smallest frequency was that the status of the land owned by as many as 22 people or 44.0% of the total study sample.

Table 5 General Description of Respondents by Land Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Bagi Hasil	28	56.0	56.0	56.0
Milik Sendiri	22	44.0	44.0	100.0
Total	50	100.0	100.0	

Source: Data Processed 2019

Demographics Based on Technology Usage

There are 2 categories of technology use from farmers, where the

number of farmers who do not use technology is 43 farmers or 86.0%. And those who use technology are 7 respondents or with a percentage of 14.0%.

Table 6 General Description of Respondents Based on Technology Usage

	Frequency	Percent	Valid Percent	Cumulative Percent
Tidak Menggunakan	43	86.0	86.0	86.0
Valid Menggunakan	7	14.0	14.0	100.0
Total	50	100.0	100.0	

Source: Data Processed 2019

Multiple Regression Equations

Table 7 Results of Multiple Regression Analysis

Dependent Variable: Pendapatan
 Method: Least Squares
 Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.95965	0.281484		46.04048
0.0000	0.491333		3.443721	0.0013
Luas_Lahan	0.047009	0.142675	0.492093	0.6251
Pendidikan	0.050963	0.095528	1.143314	0.2591
JTK	0.489978	0.044575	4.183068	0.0001
Status_Lahan Teknologi	0.054129	0.117134	0.317306	0.7525
		0.170589		
R-squared	Mean	0.438423	dependent var	14.00150
Adjusted R-squared	S.D.	0.374608	dependent var	0.496078
S.E. of regression		0.392307	Akaike info criterion	1.078624
Sum squared resid		6.771819	Schwarz criterion	1.308067
likelihood	F-statistic	6.870163	Durbin-Watson stat	1.818263
Hannan-1.165997	Prob(F-statistic)	0.000082		Log -20.96559 Quinn criter.

Source: Eviews, 2019

Based on the numbers in the Unstandardized Coefficients column, the multiple regression equation is as follows:

$$\hat{Y} = 12,959 + 0,491X_1 + 0,047X_2 + 0,050X_3 + 0,489D1 + 0,054D2 + e$$

Based on the analysis obtained tcount for the variable land area of 3.443. When compared with the ttable value of 2.015. Then the t count obtained is far greater than the value of t table. The

significance value of land area is smaller than the probability value of 0.05 ($0.0013 < 0.05$), then H_{a1} which states that the area of land affects the income of poor corn farmers in Gorontalo Regency is accepted. So it can be concluded that at the 95% confidence level (alpha 0.05) the area of land has a positive and significant effect on the income of poor corn farmers in Gorontalo Regency.

Based on the analysis obtained tcount for the farmer Education variable of 0.492. When compared with the ttable value of 2.015. Then the tcount obtained is smaller than the ttable value. The significance value of farmer education is greater than the probability value of 0.05 ($0.6251 > 0.05$), so H_{a2} which states that farmer education influences the income of poor corn farmers in Gorontalo Regency is rejected. So it can be concluded that at the 95% confidence level (alpha 0.05) the education of farmers has a positive but not significant effect on the income of poor corn farmers in Gorontalo Regency.

Based on the analysis, the value of tcount for the variable number of dependents in the family is 1,143. When compared with the ttable value of 2.015. Then the tcount obtained is far smaller than the value of ttable. The significance value of land area is greater than the probability

value of 0.05 ($0.2591 > 0.05$), then H_{a3} which states that the number of dependents in the family has an effect on the income of poor corn farmers in Gorontalo Regency is rejected. So it can be concluded that at the 95% confidence level (alpha 0.05) the number of dependents in the family has a positive but not significant effect on the income of poor corn farmers in Gorontalo District.

Based on the analysis obtained tcount for the variable land ownership status of 4.183. When compared with the ttable value of 2.015. Then the tcount obtained is greater than the ttable value. The significance value of land ownership status is smaller than the probability value of 0.05 ($0.0013 < 0.05$), then H_{a4} which states that the status of land ownership affects the income of poor corn farmers in Gorontalo Regency is accepted. So it can be concluded that at the 95% confidence level (alpha 0.05) the status of land ownership has a positive and significant effect on the income of poor corn farmers in Gorontalo Regency.

Based on the analysis obtained tcount for the variable use of technology in corn farming by 0.317. When compared with the ttable value of 2.015. Then the tcount obtained is far smaller than the value of ttable. Significance value The use of

technology in corn farming is greater than the probability value of 0.05, or the value ($0.7525 > 0.05$), then H_{a5} which states that the use of technology in corn farming affects the income of poor corn farmers in Gorontalo Regency is rejected. So it can be concluded that at a 95% confidence level (alpha 0.05) the use of technology in corn farming has a positive but not significant effect on the income of poor corn farmers in Gorontalo Regency.

CONCLUSION

Simultaneously farmer education area, number of dependents in the family, land ownership status and the use of technology in corn farming together have a significant effect on the income of poor corn farmers) in Gorontalo Regency.

Then the results partially found factors that influence the income of poor corn farmers in Gorontalo Regency that (1) land area has a positive and significant effect on the income of poor corn farmers in Gorontalo Regency, (2) farmer education has a positive but not significant effect on farmer's income poor corn in Gorontalo Regency, (3) the number of dependents in the family has a positive but not significant effect on the income of poor corn farmers in Gorontalo Regency, (4) land ownership status has a positive and significant effect

on the income of poor corn farmers in Gorontalo Regency, (5) the use of technology in corn farming has a positive but not significant effect on the income of poor corn farmers in Gorontalo Regency.

SUGGESTION

1. Corn farmers are expected to be more open in finding and absorbing appropriate technology so that the resulting production is getting better and the need for the role of related agencies to conduct training in the use of technology to farmers. Then for farmers it is also necessary to take action in the form of intensification of agricultural land in increasing corn production because it is difficult to increase production inputs for land by increasing the availability of land due to relatively expensive land prices.
2. In an effort to increase production, the government should be more intense in conducting counseling related to efforts to maximize production with better input production efficiency. Then besides that there is a need to mitigate the risk of corn farming for the prevention of crop failure. Then further maximize the technical implementation of the Special Efforts PAJALE Program Specific Hybrid Corn Commodities in

Gorontalo District, especially those relating to assistance and reviewing the benefits of the bargaining position of corn farming with the existence of this program.

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