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Analysis of the Source of the Corn Farmer Household Income in the Province of Gorontalo

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Abstract:- Peasant household's economic model of corn can be revealed through the study of: household income by source of income and the factors that affected it. The purpose of this research was: 1) analyzing corn farmer household income; and 2) draw up an economic model of household incomes are based on corn. This research was carried out in the province of Gorontalo. The object examined was the household income of corn farmers. The methods used in this research is a survey method is now based on the empirical data collection and interviews. This activity consists of a survey of secondary data primary data and surveys. To purposive sampling using multistage random sampling, starting from the sample Regency, subdistrict village farmers to the respondent. Determination of the respondents being sampled is conducted in a random sample with a total of 245 corn farmers. The data obtained were analyzed using analysis of income and an analysis of the multiple regression model with the help of Statistical data processing program Product and Service Solution (SPSS). The model is structured on the basis of source of income farmers of corn, namely (1) corn farmer household income sourced from corn or model household income 1; (2) the corn farmer household income derived from farming corn plus the income from farming outside corn or model household income 2; and (3) the corn farmer household income derived from farming maize, plus income from farming maize and outside income from outside the agricultural sector or the model household income. The results showed: 1) corn farmer household income in province of Gorontalo are sourced from income earned from farming corn 88.34%, revenue farming outside the corn 1.90% and revenue from outside the agricultural sector amounted to 9.76%; 2) entire model corn farmer household income according to the source, explaining that there were significant effects simultaneously land area (X_1), age (X_2) corn farmer, experience farming (X_3), education (X_4), the number of family dependants (X_5), the allocation of labor in the family (X_6) and labor allocation outside the family (X_7) against the corn farmer household income. Whereas in partial on Model 1, variable age and the number of family dependants no effect significant, on the Model 2, variables age and labor allocation outside the family is not significant and on the Model of 3 variabel age, load a dependent family and labor allocation beyond the family has no effect.

Keyword: *Model, Income dan corn farmer*

I. INTRODUCTION

Since the Gorontalo provincial government 2002-2012 setting the three flagship programs in development, i.e. development spurred human resources, agropolitan entry point with corn, and a showcase of fisheries. According to the regional Government of the province of Gorontalo, agropolitan program with entry point corn is one of the drivers of the occurrence of the macroeconomic improvement year lapse of such 2002-2008, much as per capita income increased from 2.5 million to 4.9 million, economic growth up from 6.45% to 7.51%, poverty went down from 32.13% to 24.88%, while the production of corn, up from 7,000 tons be 752,727 tons.

Conditions in the year 2015 shows production reached 643,512 tons of corn while 6.43% economic growth, open unemployment and poverty 18.16 4.65%. This indicator shows the close comparison of decline in terms of economic growth (1.08%), and the production of maize (-109,216 tonnes). The existence of a decrease in indicators related to corn raises the question how to source corn farmer household income when a program does not become agropolitan prime mover of economic development province of Gorontalo.

Farmer household income sources can come from farming the staple run, farming other than farming, as well as from outside the agricultural sector. This source of income phenomenon applies also on the existing corn farmers in the province of Gorontalo. Government policies in support of development programs of maize directly affects the income of the farmers received from both the farming of maize as well as from other sources. This greatly determine the economics of corn farmer households.

Household economy is the smallest but most important economy is because of all the economic activities of households. Production, distribution, and consumption is sure to involve one or more family members. Households in economic activities is the owner of production factors. These include factors of production labor, capital, expertise, land, and others. Production activities carried out by households is providing the required factors of production other economic principals with earn income. Corn farmers received income is influenced by a factor of production. These studies examine this then conducted a study of the analysis of the sources of household income farmers corn. This research aims at: 1) analyzing corn farmer household income; and 2) compose models corn farmer household income by source of income.

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II. REVIEW OF THE LITERATURE

Household economic theory was first put forth by Chayanov (1966) theory belongs to the micro-economic theory which is a refinement of the neo-classical economic model. Neo-classical economic thought divides economic activities into two units of activity, namely activity units of consumption and production. The consumer attempting to maximize utility, while the producers sought to maximize profits. In household economic theory advanced by Chayanov mentioned that a household must allocate time so obtained maximum usability so-called "subjective balance" as prescribed by the special preferences households.

People's attention towards the household economic studies according to the Halide (1979:4) started to develop since Becker (1965) posited a theory of the allocation of time. In countries that have already advanced the theory has grown rapidly since the 1960 's. The assumption Staples theory underlying Becker are: (1) household in addition to as consumers as well as producers; (2) goods are produced and consumed in the household is not the real goods and the goods are referred to as Z or consumables or basic commodities such as satisfaction or well-being of families/households; (3) household as a small refinery (small factories) in goods produces Z, combining capital goods, raw materials, labor and time.

Nerlove (1974:3-6) suggests there are four basic elements to be used in analyzing the economic theories especially household labor analysis and utilization of leisure time, namely:

- existence of a utility function that is not physical goods but a number of household-generated satisfaction.
- presence of a household production technology, is described as a function of the production of a variety of inputs, especially input leisure and goods that can be purchased i market (market purcable commodities). This input is used to produce the satisfaction of households.
- the presence of a labour market (labor market) that ensures possible household resources (especially time) redirected into marketable goods.
- existence of constraints of time and material available in households, which is used in the production process of household or business that can be marketed.

Halide (1979:14) posited in applying the theory applies in countries which are already advanced for use in Indonesia, necessary prudence and should be tailored to the phenomenon of life. In countries that have already advanced the husband and wife can be said to have almost the same position, in the end, take the word affect household utility function. On the contrary in countries that are developing, generally the husband the most dominant in the decision-making of households.

In the village generally materialistic values (all activities are measured and assessed with money) are often unable to cope with the quantity of non-materialistic values, as a result of the familiarity and warmth that is still strong. This will cause a difference in the attitude of maximum utility function.

For rural households, particularly goods produced himself at home, though it's likely to buy it in the market persists. Family members (especially the wife) if work is not to find a reward, but simply help the husband in accelerating the completion of its work in the rice fields (planting, harvesting) therefore the household rarely hired labour, due to the nature of the mutual still preserved.

Micro-facet approach about the phenomenon of structural changes as a two-sector model of Lewis can be performed to investigate the labor surplus in the economy of a household. This analysis is done for the purpose of allocation of working time on the farming of coconut farmers with economic theory approach model home through the utilization of free time. Leisure utilization model expressed by Becker (1965), which completes the household economic theory by integrating production and consumption decisions into household decisions and enter a time value, i.e. the utilization of free time be working time in an attempt to increase revenue (money income).

To provide an understanding of the economics of the household other than through the various theories as well as the theory of leisure, then the explanation using the approach of empirically via research required for an understanding of the economics of the household can be understood comprehensively. Simatupang (1988) argued that based on the line of business, farmers ' household income consists of income of farming and income outside of farming. Baruwadi (2006) analyzing the sources of household income of farmers by taking cases coconut farming. In a study obtained the results that the coconut farmer household income aside from farming, farming income also comes from outside of the coconut and the income that comes from business outside the farm. The magnitude of the income of farmers from each of these activities relate to the characteristics of the farmer and the allocation of working time poured for each of those activities.

III. RESEARCH METHODOLOGY

This research was carried out in the province of Gorontalo. The object examined was the economics of the household petanijagung consisting of: the source of household income and household economic model, according to the source. The object of this research to study the used method of survey which is now based on the empirical data collection and interviews. This activity consists of a survey of secondary data primary data and surveys. To purposive sampling using multistage random sampling, starting from the sample County, district village farmers to the respondent. The sample consisted of Gorontalo Regency and the Regency of Marisa, whereas a sample sub is Blue Lake Subdistrict, district and Sub-district Tabongo Toba. From each selected village that Subdistrict potensil as producers of corn. Next to sample farmers selected by random sample with a total of 245 corn farmers.

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Data analysis is an analysis of income and an analysis of the multiple regression model with the following formula:

$Y = \beta_0 + \beta_1 X_1 + X_3 + \beta_2 X_2 + \beta_3 ..... \beta_7 X_7 + \varepsilon i$ where:
Y = farmer household income (USD)
X_1 = the corn cultivated land area (ha)
X_2 = Age (years)
X_3 = Corn farming Experience (years)
X_4 = Education (years)
X_5 = number of family dependants (persons)
X_6 = labor Allocation in families (HOK)
X_7 = external labor Allocation for family (HOK)
β_0 = constant
β_1..... the regression Coefficient β_7
ε_i = standard deviation

IV. RESULTS OF THE RESEARCH AND THE DISCUSSION

A. Characteristic of Corn Farmers

Farmers have varied characteristics, the characteristics can be a character, the character of social and demographic character of the economic condition of farmers themselves. The characters that distinguish the type of behavior of farmers in certain situations. In examining the economic income of farmer household maize, characteristics which made the focus of observation is the age, level of education, land area.

➢ *Age*

The average age of the corn farmers in the province of Gorontalo presented in table 3.1. The table is based on the average age of corn farmers in the province of Gorontalo was 40.67 with standard deviation (Sd) 10.68. Comparison between Corn Growers showed that Subdistrict in district of Toba have the lowest average age of the entire sub sample that is an average of 36.38 years. Sub Blue Lake has an average age of maize farmers are low after Sub Limboto i.e. 39.57 years, followed by Sub Randangan Sub Tabongo 42.42 year and 45.08 years. Based on the data of each sub district looks that range age of corn farmers in the province of Gorontalo is 36.38 – 45.08 years.

No	Region		Respondent (Person)	Age (Years)	
	Sub	Village		Average	Sd
1	Telaga Biru	Tonala	63	39.57	9.92
2	Limboto	Tilihuwa	41	36.17	6.18
		Tenilo	28	36.68	6.61
Average Limboto			69	36.38	6.31
3	Randangan	Imbodu	22	38.77	12.64
		Siduwonge	16	44.25	13.96
		Huyula	12	46.67	11.59
Average Randangan			50	42.42	13.03
4	Tabongo	Tabongo Barat	16	42.88	10.04
		Tabongo Timur	47	45.83	11.75
Average Tabongo			63	45.08	11.34
Provincial average			245	40.67	10.68

Table 1:- characteristics of the Aged Farmer of corn in the provinces of Gorontalo
Source: primary Data Processed, 2018

Based on the range of age per districts and close to the provinces indicate that farmers in the province of Gorontalo farmers productive and potentially to develop farming corn in Gorontalo Province. As defined in the Labor Law No. 13 year 2003 that the productive age workforce is at a distance of between 15 to 64 years. Farmers with productive age have a more physical strong that potential to develop farmer corn and corn farmer's income increase.

➢ *Land Area*

of arable land area owned by the farmers of maize in the province of Gorontalo on average reached 1.22 ha with a standard deviation (Sd) of 0.54. The status of the land was classified into its own land, land lease and land for the results. Based on the area the average arable land area in the Blue Lake of 1.45 ha, followed by 1 Limboto Subdistrict. ha, Randangan Subdistrict of 1.06 ha, and Sub-district Tabongo of 1.08 Ha. This data shows that corn farmers in Telaga Biru has a land area larger than the three other subdistricts.

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No	Region		Respondent (Person)	Land Area (Ha)	
	Sub	Village		Average	Sd
1	Telaga Biru	Tonala	63	1.45	0.65
2	Limboto	Tilihuwa	41	1.44	0.65
		Tenilo	28	0.96	0.53
Average Limboto			69	1.25	0.65
3	Randangan	Imbodu	22	1.00	0.00
		Siduwonge	16	1.07	0.25
		Huyula	12	1.17	0.39
Average Randangan			50	1.06	0.24
4	Tabongo	Tabongo Barat	16	0.97	0.30
		Tabongo Timur	47	1.12	0.35
Average Tabongo			63	1.08	0.34
Provincial average			245	1.22	0.54

Table 2:- the corn Farmers of arable land area in the province of Gorontalo
Source: primary Data Processed, 2018

In General, land area is very closely related to farmers ' crops. The more land area owned by the farmers getting larger protensi the farmers to increase yields jagungnya in every production. Thus sub Limboto have bigger opportunities among other subdistrict, nonetheless did not close the possibility that Subdistrict others have potential for increased production of crops that are larger than the Sub limboto, considering that many other influential fakfor in addition to the land area.

➢ *Experience Of Farming*

Experience is the time spent by a person engaged in a particular line of work. Corn farmers experience is the time that has been traversed by corn farmers when you start farming of corn up to the time the survey was conducted. Corn farmers have a lot of experience will have attachment emotionally with the activity of farming corn, so time will shed more in the managing of maize compared to farmers who lack experience. Farmers who have long been farming would be easier to apply technologies from beginners on farmers. This is due to more experience can make comparisons in taking decisions.because that experience is one of the determining variables in a corn farmer household income. The experience of farmers in farming corn presented in table 3.

No	Region		Respondent (Person)	Experience (Years)	
	Sub	Village		Average	Sd
1	Telaga Biru	Tonala	63	7.92	6.90
2	Limboto	Tilihuwa	41	5.95	4.29
		Tenilo	28	8.36	4.44
Average Limboto			69	6.93	4.48
3	Randangan	Imbodu	22	22.50	13.34
		Siduwonge	16	26.25	11.77
		Huyula	12	28.17	12.19
Average Randangan			50	25.06	12.56
4	Tabongo	Tabongo Barat	16	17.94	3.38
		Tabongo Timur	47	22.62	9.67
Average Tabongo			63	21.43	8.73
Provincial average			245	14.61	11.46

Table 3:- Experience Farming Corn Farmers in the province of Gorontalo Source: Primary Data Processed, 2018

Corn farmers in the province of Gorontalo on average have experience 14.61 years, with a standard deviation (Sd) 11.46 years. By region, the highest experience shown by farmers residing in Randangan, namely 25.06 years, followed by the Tabongo Subdistrict, district Toba year 21.43 6.93 years and Blue Lake Subdistrict 7.92 years.

➢ *Educational Level Of Farmers*

Corn farmer education in General in the province of Gorontalo is a basic school education, i.e. 79.6% as much. Farmers who are educated first-level secondary schools amounted to 15.10%, an educated peasant top level secondary schools amounted to 4.90% and the college level as much as 0.41%. Its dominating maize farmer an educated basis shows that corn farmers generally have low education, and as a result of the low level of education of the

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respondent caused the farmers it is difficult to accept and receive the innovation in the management of corn. Lack of education is one of the respondents also causes poor quality of life that cause must be in the condition of the poor family category.

No	Region		Respondent (Person)	Experience (Years)	
	Sub	Village		Average	Sd
1	Telaga Biru	Tonala	63	7.92	6.90
2	Limboto	Tilihuwa	41	5.95	4.29
		Tenilo	28	8.36	4.44
Average Limboto			69	6.93	4.48
3	Randangan	Imbodu	22	22.50	13.34
		Siduwonge	16	26.25	11.77
		Huyula	12	28.17	12.19
Average Randangan			50	25.06	12.56
4	Tabongo	Tabongo Barat	16	17.94	3.38
		Tabongo Timur	47	22.62	9.67
Average Tabongo			63	21.43	8.73
Provincial average			245	14.61	11.46

Table 4:- educational level of respondents in Gorontalo Province Corn Growers in Percents
Source: primary Data Processed, 2018

Corn farmers in the province of Gorontalo on average have experience 14.61 years, with a standard deviation (Sd) 11.46 years. By region, the experience of most dtinggi shown by the farmers who are in Randangan Subdistrict, namely 25.06 years, followed by the Tabongo Subdistrict, district Toba year 21.43 6.93 years and Blue Lake Subdistrict 7.92 years.

➢ *Load Dependent Farmers*

Table 3.6 explains that, average load of corn farmers dependent on the respondent the province of Gorontalo, i.e. as much as 3.74 people with a standard deviation (Sd) 1.11. Respondent farmers in Telaga Biru has a dependent load average raa as much as 1.16 persons, followed by as much as 4.48 Limboto Sub-district, sub-district of Randangan people as much as 1.05, and Sub Tabongo as much as 1.25 people. Of the four sub districts, which have an average percentage load of dependents is subdistrict of Blue Lake. This shows that Sub Telaga Biru has a family member with the largest number of family members which is highly influential on the income distribution results of farming.

No	Region		Respondent (Person)	Education Level (Person)	
	Sub	Village		Average	Sd
1	Telaga Biru	Tonala	63	4.03	1.16
2	Limboto	Tilihuwa	41	5.95	4.29
		Tenilo	28	3.79	0.79
Average Limboto			69	6.93	4.48
3	Randangan	Imbodu	22	3.68	1.29
		Siduwonge	16	3.44	0.89
		Huyula	12	3.50	0.80
Average Randangan			50	3.56	1.05
4	Tabongo	Tabongo Barat	16	3.31	1.14
		Tabongo Timur	47	3.43	1.30
Average Tabongo			63	3.40	1.25
Provincial average			245	3.74	1.11

Table 5:- burden of Corn Farmers Dependent on the province of Gorontalo
Source: primary Data Processed, 2018

➢ *Source Of Income*

Corn farmers income source in the province of Gorontalo, generally grouped into revenue from results of farming corn and other income. As for the other sources of income income from farming with commodities in addition to corn and farmer income outside the farming of corn. Corn farmer household income presented in table 6

Based on the source's average household income of corn farmers Gorontalo Province which came from the farming of maize amounting to Rp. 15,051,166 per year, from farming other than maize amounting to Rp. 323,886 and from outside the agricultural sector amounted to Rp. 1,662,196. Thus the total household income of Gorontalo Province corn farmers amounted to Rp. 17,037,248. These

results indicate that maize is still a major contributor on a corn farmer household income.

No	Region		Respondent (Person)	Household Income (Rupiah/Year)			
	Sub	Village		Corn Farming	Farming beyond Corn	Outside The Agricultural Sector	The total number of
1	Telaga Biru	Tonala	63	14.183.286	223.492	599.730	15.006.508
2	Limboto	Tilihuwa	41	12.023.432	153.659	556.098	12.733.188
		Tenilo	28	7.286.142	532.857	360.000	8.178.000
Average Limboto			69	10.101.054	307.536	476.522	10.885.112
3	Randangan	Imbodu	22	14.670.272	0	0	14.670.272
		Siduwonge	16	16.174.626	0	0	16.174.626
		Huyula	12	15.691.084	0	0	15.691.084
Average Randangan			50	15.396.660	0	0	15.396.660
4	Tabongo	Tabongo Barat	16	20.923.500	1.910.000	2.162.500	24.996.000
		Tabongo Timur	47	21.115.044	287.064	6.425.000	27.802.785
Average Tabongo			63	21.066.398	699.238	5.342.460	27.108.096
Provincial average			245	15.051.166	323.886	1.662.196	17.037.248

Table 6:- Corn Farmer household income in province of GorontaloSource: primary Data Processed, 2018
Source: primary Data Processed, 2018.

Based on the sample area sub total household income the highest achieved by farmers of maize in district of Tabongo, that is Rp. 27,108,096, each is sourced from farming corn is Rp. 21,066,398, from farming to other outside corn is Rp. 669,238 and outside the agricultural sector amounted to Rp. 5,342,460. For a region that has the lowest household income of the town being sampled is subdistrict of Limboto with total household income of Rp. 10,885,112, where each donated by corn farming income amounted RP. 10,101,054, farming corn outside of Rp. 307,536 and outside the agricultural sector is Rp. 476,522. To get an overview of more modest about the corn farmer household income then conducted an analysis of the percentage of revenues according to its source based on districts. The results of the analysis presented in table 3.8.

Based on the calculation of a percentage of the income of the average household income of farmers of maize donated by farming corn. For provincial farming corn provide donation of 88.34% of all income of the farming of corn, the rest is 1.90% contributed by other outside farming corn and 9.76% outside the agricultural sector. Similarly, based on sample areas shows that Subdistrict entirely farming corn is the biggest contributor on corn farmer household income.

No	Region		Respondent (Person)	Household Income (Rupiah/Year)			
	Sub	Village		Corn Farming	Farming beyond Corn	Outside The Agricultural Sector	The total number of
1	Telaga Biru	Tonala	63	94.51	1.49	4.00	100.00
2	Limboto	Tilihuwa	41	94.43	1.21	4.37	100.00
		Tenilo	28	89.09	0.01	0.00	100,00
Average Limboto			69	92.80	2.83	4.38	100.00
3	Randangan	Imbodu	22	100.00	0.00	0.00	100.00
		Siduwonge	16	100.00	0.00	0.00	100.00
		Huyula	12	100.00	0.00	0.00	100.00
Average Randangan			50	100.00	0.00	0.00	100.00
4	Tabongo	Tabongo Barat	16	83.71	7.64	8.65	100.00
		Tabongo Timur	47	75.95	1.03	23.11	100.00
Average Tabongo			63	77.71	2.58	19.71	100.00
Provincial average			245	88.34	1.90	9.76	100.00

Table 7:- percentage of Corn Farmer household income in province of Gorontalo
Source: primary Data Processed, 2018

The average of the town be observations corn farmer household income in province of Gorontalo, pendaptan the most average high is a subdistrict of Randangan. Where is the randangan of the 50 respondents who became the object of observation just do farming maize, without doing the work. Blue Lake to the percentage contribution of farming the corn farmer household economies was 94.51% and the rest of 5.49% sourced from income from farming maize and other income from outside the agricultural sector. To corn farming on donation Limboto farmer income in this Subdistrict is of 92.80% 7.20%, the rest is contributed by income derived from farming and corn outside the agricultural sector. Sub Randangan entirely donated by income from outside the farming of corn. To Corn Farming Tabonga provide donation of 77.71% and the remaining 22.19 percent contributed by the revenue that comes from outside of farming and income from outside the agricultural sector. For donations from outside the agricultural sector showed the highest percentage of Tabongo Subdistrict, namely 19.71%. This means there is a tendency in the corn farmers to diversify business to meet the needs of the economy of his household.

B. Model Corn Farmer Household Income

Model household income farmers corn describes the influence of the independent variable (X) against corn farmer household income (Y) of the partial and simultaneous. The independent variables of the study consists of: land area (X_1), age (X_2) corn farmer, experience farming (X_3), education (X_4), the number of Family Dependants (X_5), the allocation of labor in the family (X_6), the allocation of labor outside the family (X_7). Analysis of the influence of partially free variables against corn farmer household income using a data processing program assistance Statistical Product and Service Solution (SPSS). The model is structured on the three conditions of the corn farmer household income, namely (1) corn farmer household income sourced from corn or Model Household Income 1; (2) the corn farmer household income derived from farming corn plus the income from farming outside corn or Model Household Income 2; and (3) the household income comes from farming maize, plus income from farming maize and outside income from outside the agricultural sector or Model Household Income 3.

➢ *Model Household Income 1*

Model Household Income 1 is a model of a corn farmer household income when revenues are only sourced from farming corn only. Based on independent variable research as expressed above, the results of its analysis presented in table 8.

Based on the results of household economy models of corn farmers of the province of Gorontalo in household income are only sourced from corn farming is only retrieved as follows:

$$Y = -1609.83 + 39.46\ X_1 - 10.054\ X_2 + 8{,}952X_3 - 299.629X_5 + 60{,}982\ X_6 - 15.361X_7 + e_i$$

Where the variable land area (X_1), experience in farming (X_3), education (X_4), and the allocation of labour in the family (X_6) marked a positive in the model, while the age (X_2), the number of family dependants (X_5) and labor allocation outside the family (X_7), marked as negative.

Variable	The coefficient	$t_{\text{-Statistics}}$	$t_{\text{-Probability}}$	The decision of the
(Constant)	-1609.83	-1.035	0.302	
Land Area	39.46	10.238	0.000	Significant
Age	-10.054	-0.425	0.671	Not Significant
Experience	8.952	5.03	0.000	Significant
Education	382.43	3.351	0.001	Significant
Dependents	-299.629	-1.702	0.090	Not Significant
Allocation Of DK	60.982	4.817	0.000	Significant
Allocation Of LK	-15.361	-2.051	0.041	Significant
R squared (R^2) (0,460) $F_{\text{-Statistik}}$ (28,876) Probabilitas $F_{\text{statistic}}$ (0.000)				

Table 8:- Model Corn Farmer household income from farming Corn Only
Source: source: primary Data Processed, 2018

The table above shows the influences are silmutan and partial. Simultaneous influence intended to demonstrate statistically influence jointly from the free variables in this model against a corn farmer household income. The influence of simultaneously analyzed using analysis of variance using the statistical test f. results obtained demonstrate the value Fhitung 28.876 obtained with P_{Value} = 0.000 meaning $F_{calculat} > F_{0.05}$. Thus based on the criteria then simultaneously land area variables (X_1), age (X_2) corn farmer, experience farming (X_3), education (X_4), the number of family dependants (X_5), the allocation of labor in the family (X_6) and labor allocation outside the family (X_7) . significant effect simultaneously or together against the household incomes of maize farmers in household incomes

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are only derived from maize alone. The coefficient of determination R^2 = 0.460 obtained, indicating that the joint influence of the free variables in the model of corn farmer household income was 46.0 per cent while 54.0 per cent due to other factors that are not included in the model.

Influence of partial intended to demonstrate statistically individually influence of free variables in the model against the corn farmer household income. Influence independently analyzed using analysis of average difference test with test statistic t. The results obtained show that the partially land area (X_1), experience farming (X_3), education (X 4), the allocation of labor in the family (X_6) and labor allocation outside the family (X_7) effect significantly to household income of farmers of corn when its revenues are only sourced from farming corn only, whereas corn farmers age (X_2) and the number of dependents families (X_5), has no effect.

➢ *Model Household Income 2*

Corn farmer household income on the Model 2 is a corn farmer household income earned from farming corn plus other income from farming outside the corn. Other outside farming corn, among others, horticulture and farming estates. Analysis of the results obtained are served on the table presented at 9.

Variable	The coefficient	t-*Statistics*	t-Probability	The decision of the
(Constant)	-1097.648	-.637	.525	
Land Area	36.847	8.627	.000	Significant
Age	1.155	.044	.965	Not Significant
Experience	8.292	4.205	.000	Significant
Education	354.806	2.806	.005	Significant
Dependents	-387.437	-1.986	.048	Significant
Allocation Of DK	64.158	4.573	.000	Significant
Allocation Of LK	-11.781	-1.419	.157	Not Significant
R squared (R^2) (0,398) F-Statistik (22,388) Probabilitas F statistic (0.000)				

Table 9:- the results of the analysis of the factors affecting household income sourced from Corn Farming Corn and Corn Farming Source: source: primary Data Processed, 2018

Based on Table 3.10 model corn farmer household income where its revenues sourced from farming corn and another outside the farming of maize obtained as follows:

$$Y = -1097.648 + 36.84X_1 + 155\ X_2 + 8{,}292\ X_3 + 354{,}806X_4 - 387.437X_5 + 64.158\ X_6 - 11.781X_7 + ei$$

This model describes the variable land area (X_1), farmers (X_2) age, experience in farming (X_3), education (X_4), and the allocation of labour in the family (X_6) marked a positive in the model, while the number of family dependants (X_5) and power allocation work outside the family (X_7), marked with a negative. This shows that the addition of income derived from farming corn on the outside can affect model corn farmer household income, which had been marked with a negative age variable when only household income comes from farming corn only, change the sign of being positive when the corn farmer household income plus income from a source outside of farming corn.

The simultaneous influence of model 2 Fhitung shows the value retrieved 22.38 with P_{Value} = 0.000 meaning $F_{calculat} > F_{0.05}$. Thus according to criteria then simultaneously land area variables (X_1), age (X_2) corn farmer, experience farming (X_3), education (X_4), the number of family dependants (X_5), the allocation of labor in the family (X_6) and labor allocation outside the family (X_7). significant effect simultaneously or together against the household incomes of maize farmers in household incomes is derived from farming corn and corn outside of farming. The coefficient R^2 = 0.398 obtained determinasinya, which indicates that the influence of the free variables in the model of corn farmer household income was 39.8 percent while 59.2 per cent due to other factors that are not included in the model.

Partial influence on the model 2 shows in its own free variable influence on corn farmer household income when its revenues sourced from farming corn and corn outside of farming. The results of the statistical analysis of the test results obtained t land area (X_1), experience farming (X_3), education (X_4), the number of family dependants (X_5), and the allocation of labour in the family (X_6) effect significantly to household income of farmers corn in its revenues sourced from farming maize and farming other than corn, while corn farmers age (X_2) and labor allocation outside the family (X_7) has no effect.

➢ *Model Household Income 3*

Corn farmer household income on the Model 3 is a corn farmer household income earned from farming corn plus other income from farming maize and outside income from outside the agricultural sector. Analysis of the results obtained are served on the table presented on 3.11,

Variable	The coefficient	t-Statistics	t-Probability	The decision of th
(Constant)	-636.397	-.255	.799	
Land Area	35.571	5.764	.000	Significant
Age	-8.940	-.236	.814	Not Significant
Experience	9.984	3.504	.001	Significant
Education	369.074	2.020	.045	Significant
Dependents	-110.111	-.391	.696	Not Significant
Allocation Of DK	58.148	2.868	.004	Significant
Allocation Of LK	-14.406	-1.201	.231	Not Significant
R squared (R^2) (0,433) $F_{-Statistik}$ (10.259) Probabilitas $F_{statistic}$ (0.000)				

Table 10:- the results of the analysis of the factors affecting household income from Farming the corn Bersumbers corn, Outside of farming corn and Outside the agricultural sector Source: source: primary Data Processed, 2018

Based on the results obtained in the table 10 model corn farmer household income where its revenues sourced from farming corn and other farming outside the agricultural sector beyond corn and retrieved as follows:

$$Y = - 636.397 + 35.57\ X_1 - 8.940\ X_2 + 9.984\ X_3 + 369.074X_4 - 110.111\ X_5 + 58.148X_6 - 14.406\ X_7 + ei$$

The model above illustrates the variable land area (X_1), experience in farming (X_3), education (X_4), and the allocation of labour in the family (X_6) marked a positive model, while aged peasants (X_2), the number of family dependants (X_5) and power allocation work outside the family (X_7), marked with a negative. This shows that the addition of revenue coming from outside the agricultural sector might affect household income model farmers of corn, and restore its position as in Model 1, where age (X_2), the number of family dependants (X_5) and labor allocation outside the family (X_7), marked with a negative.

The simultaneous influence of Model 3 demonstrates the value of the Fhitung retrieved with 10.26 PValue = 0.000 meaning $F_{calculat} > F_{0.05}$. Thus according to criteria then simultaneously land area variables (X_1), age (X_2) corn farmer, experience farming (X_3), education (X_4), the number of family dependants (X_5), the allocation of labor in the family (X_6) and labor allocation outside the family (X_7). significant effect simultaneously or together against the corn farmer household income in his income comes from farming corn plus farming corn and outside income from outside the agricultural sector. The coefficient of determination R^2 = 0.433 obtained, indicating that the joint influence of the free variables in the model of corn farmer household income was 43.3 percent while the 56.7 percent due to other factors that are not included in the model.

Partial influence on the model 3 shows the influence of its own in the free variables in the corn farmer household income when its revenues sourced from farming corn plus outside of farming and agricultural sector corn. The results of the statistical analysis of the test results obtained t land area (X_1), experience farming (X_3), education (X_4), and the allocation of labour in the family (X_6) effect significantly to household income of corn farmers when revenues sourced from farming maize and farming other than corn, while corn farmers age (X_2), the number of family dependants (X_5) and labor allocation outside the family (X_7) has no effect.

Based on the analysis of the influence of the partial, the addition of a source of income from outside the agricultural sector on the household income of corn farmers deliver changes to the variable load of family dependants, where on the model 1 and model the effect is significant, but on the Model 3 be not significant.

V. CONCLUSION

Based on the results of the study it was concluded the following:

- Corn farmer household income in province of Gorontalo are sourced from income earned from farming corn 88.34%, revenue farming outside the corn 1.90% and revenue from outside the agricultural sector amounted to 9.76%.
- Entire model corn farmer household income according to the source, explaining that there were significant effects simultaneously land area (X_1), age (X_2) corn farmer, experience farming (X_3), education (X_4), the number of family dependants (X_5), the allocation of labor in the family (X_6) and labor allocation outside the family (X_7) against the corn farmer household income. Whereas in partial on Model 1 variable age and the number of family dependants no effect significant, on the Model 2 variables age and labor allocation outside the family is not significant and on the Model of 3 variabel age, load a dependent family and labor allocation beyond the family has no effect.

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