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File name: wadi_2021_IOP_Conf._Ser._Earth_Environ._Sci._681_012002-2...
File size: 402.57K
Page count: 7
Word count: 3,300
Character count: 16,351
Submission date: 06-Jul-2021 06:45AM (UTC-0500)
Submission ID: 1616343739

The 1st International Conference on Environmental Ecology of Food Security IOP Publishing
IOP Conf. Series: Earth and Environmental Science 681 (2021) 012002 doi:10.1088/1755-1315/681/1/012002

Income and expenditure composition household poor maize farmers

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Abstract. This study aims to analyze the income and expenditure of low-income families of corn farmers and assess their proportion of income and expenditure. The study was conducted in Gorontalo Province in May - July 2018 using the survey method. The total number of respondents was 90 farmers with a multistage purposive sampling technique. The selection of poor farmer respondents based on the condition of the house where the corn farmers live. Data were analyzed descriptively quantitatively and using income and expenditure analysis. The results showed the income of poor households of Gorontalo Province's corn farmers every year is 14,413 million per year and expenditure of 20.34 million per year; 2) The composition of the income of poor households of corn farmers is 79.11% sourced from corn farming and the remaining 20.89% comes from outside corn farming, while the composition of expenditure is food consumption 56.01%, non-food consumption 22.09%, cigarette consumption 18.18% and use for energy 3.72 %.

1. Introduction

Poverty is an absolute and relative condition that causes a person or group of people in an area not to have the ability to meet their basic needs following individual values or norms that apply in the community due to natural, cultural, and structural causes [1]. Natural poverty is caused by the limited quality of natural resources and human resources. Structural poverty is caused directly or indirectly by various policies, regulations, and decisions in development, this poverty can generally be recognized from the economic transformation that runs unbalanced. Cultural poverty is more poverty caused by individual attitudes in society that reflect the lifestyle, behavior, or culture that traps itself in poverty. In other words, a person is said to be poor if and only if his income level does not allow that person to obey the values and norms in his society [2,3].

BPS [4] shows the percentage of poor people in Gorontalo Province in March 2018 was 16.81% or decreased by 0.33% compared to September 2017, which was 17.14%. Nevertheless, this achievement is still above the national average of 9.82%. Based on the number, the sparse population of Gorontalo Province in March 2018 was 198.51 thousand people, while in September 2017, there were 200.91 thousand people or decreased by 2.4 thousand people.

The poor population in Gorontalo Province mostly lives in rural areas, which is 87.88%, and the remaining 12.12% live in urban areas. The province still relies on its economy from the agricultural

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File name: wadi_2021_IOP_Conf._Ser._Earth_Environ._Sci._681_012002-2-8.pdf (402.57K)

Word count: 3300

Character count: 16351

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sector, wherein 2017 it accounted for 38.01% of the total GRDP based on current prices. From the workforce structure of the farming industry, it is still dominant at 33.17%. This indicates the number of poor people in Gorontalo Province is in the agricultural sector. One of the agricultural commodities that are its mainstay is corn. Therefore, the characteristics of corn farmer poor households and the composition of their household income and expenditure can be used as a reference in the economic development of corn farmer households. The objectives of this study are: 1) analyzing the income and expenditure of poor households of corn farmers; and 2) assess the proportion of income and expenditure of poor households in corn farmers.

2. Methods

The study was conducted in Gorontalo Province in May - July 2018 using the survey method. The respondents used were poor households of corn farmers. Respondent sample areas are in 3 villages in 2 districts in Gorontalo Regency, namely: Telaga Biru Subdistrict and Limboto Subdistrict and three communities located in Randangan Subdistrict, Pohuwato Regency. The total number of respondents was 90 farmers with a multistage purposive sampling technique. The selection of poor farmer respondents is based on the condition of the house where the corn farmers live. Data were analyzed descriptively quantitatively and using income and expenditure analysis. To find out the income of corn farming used to profit and loss analysis with the following equation model [5].

$$\Pi = TR - TC \quad (1)$$

$$TR = P \times Q \quad (2)$$

$$TC = TFC + TVC \quad (3)$$

Information:

Π	=	Income of rice farming	Q	=	Number of outputs
TR	=	Total acceptance	TFC	=	Total fixed costs
TC	=	Total cost	TVC	=	Variable total cost
P	=	Output Price			

To find the total household income, the household income equality model is used as follows:

$$Prt = P1 + P2 + P3 \quad (4)$$

Information :

Prt	=	Rice farmers household income per year
$P1$	=	On-farm income (rice farming, livestock, yard, and fisheries)
$P2$	=	Off-farm income
$P3$	=	Income outside the agricultural sector (construction workers, services, etc.)

To find out household expenditure using the BPS household expenditure equation model as follows:

$$Ct = Ca + Cb \dots + Cn \quad (5)$$

Information :

Ct	=	Total household expenditure
Ca	=	Food consumption expenditure
Cb	=	Non-food consumption expenditure
Cn	=	Other expenses

3. Results and discussion

3.1. Living conditions

In 2010, the University of Oxford, UK, together with the United Nations Development Program (UNDP) issued a new poverty index called the Multidimensional Poverty Index or IKM by using three dimensions: education, health, and quality of life. Of these three dimensions, there are 11 indicators, one of which is the living conditions. Based on the results of research on the living conditions of poor corn farmer households are presented in Table 1.

Based on Table 1, the physical condition of dwelling houses of farmer families including houses with walls made of woven bamboo with the highest percentage of 83.33%, followed by fence houses with a rate of 73.33%, houses without ventilation 71.67%, houses with thatched roof (traditional roof) 66.67% of the remaining roofed with zinc and others. There are still houses with a floor that is 45%, and the rest have semi-permanent floors and boards, while the walls of the house are commonly woven bamboo, which is 83.33%. The description of the condition of this house shows that corn farmers classified as inferior generally have inadequate shelter. The thing that makes it difficult for farmers to build a decent place to live is because the income earned is usually used to meet their daily needs, especially for food consumption. Another factor that causes farmers to have difficulty in repairing their houses is the debt owed by farmers to intermediaries. On the other hand, farmers cannot increase their income from corn farming because of their narrow land ownership.

Table 1. Physical conditions of poor households corn farmers in Gorontalo Province.

Physical Condition of The House	Persentase (%)
Wall board	16.67
Woven bamboo walls	83.33
Ground floor	45.00
Semi-permanent floor	48.33
Floor board	6.67
Thatched roof	66.67
Zinc roofing	21.67
No ventilation	71.67
Fenced house	73.33

3.2. Household income

Maize farmer household income is earned by farmers sourced from corn farming and outside farming. Descriptions of household income of poor corn farmers are presented in table 2. The average income of Gorontalo Province corn farmer poor households is 14,413 million per year, 79.11% each sourced from corn farming, and 20.89% sourced from outside corn farming. Comparison between districts shows that the income of corn farmers every year in the District of Telaga Biru and District of Limboto is below the average salary of the Province, which is Rp. 12,513 million and Rp. 13,418 million, while in Randangan Subdistrict, the average household income of poor farmers each year is above the provincial average of 18,418 million rupiahs.

Table 2. Poor household income of corn farmers in Gorontalo Province according to the source is per year.

Region		Respondents (People)	Income according to source (thousands of rupiah/year)		
Village	District		Corn Farming	Other Income	Amount
Telaga Biru	Tonala	30	11,513	1000	12,513
	Tilihuwa	20	9,546	4,008	13,556
Limboto	Tenilo	10	9,933	3,213	13,146
Average Limboto		30	9,675	3,743	13,418
Randangan	Imbodu	10	15,050	-	15,050
	Siduwonge	10	14,828	4,890	19,718
	Huyula	10	11,144	7,975	19,119
Average Randangan		30	14,130	4,288	8,418
Average Provinsi		90	11,403	3,010	14,413

Based on household income, it can be calculated per capita income of farmer households after divided by the number of family members owned by farmers as presented in table 3.

Table 3. The income per capita per year poor households of com Province Gorontalo Province.

Region		Respondent (People)	Family members (People)	Income per capita (Rupiah)
Village	District			
Telaga Biru	Tonala	30	5.23	2,391,042
	Tilihuwa	20	5.05	2,683,951
Limboto	Tenilo	10	5.00	2,629,126
Average Limboto		30	5.03	2,667,564
	Imbodu	10	4.60	3,271,841
Randangan	Siduwonge	10	4.60	4,286,435
	Huyula	10	4.50	4,248,578
Average Randangan		30	4.57	4,030,252
Average Province		90	4.94	2,917,687

The average income per capita of poor corn farmers in Gorontalo Province is Rp. 2.92 million every year. Details per district show that the average per capita income of corn farm households in Telaga Biru District is Rp. 2,391 million per year or below the provincial average. Limboto District per capita income of Rp. 2,667 million and Randangan District Rp. 4,033 million per year, or above the provincial average per capita income each year.

The low income of farmers is caused by the low income received from corn farming, while other sources of income are not enough to supplement the household income of farmers. The lack of different sources of income outside of agriculture is due to the limited education and skills possessed by farmers and the limited employment opportunities by their abilities.

3.3. Outlay

Household expenditure relates to the consumption of household members to meet the needs of goods or services. According to Todaro, consumption is defined as the use of products and services that will directly meet social demands ". Expenditure as spending by households on goods and services for end

consumers or needed by a person or society to meet the needs of the person doing the work. The expenditure of poor households of Gorontalo Province corn farmers in this study is grouped into spending on food, non-food, energy and cigarettes. Table 4 presents the expenditure of poor households of Gorontalo Province corn farmers by expenditure group.

Table 4 shows that the average annual expenditure of poor corn farmers is Rp 20.38 million, where the highest cost is on food. Based on the District, the highest average spending is in the Randangan District, which is Rp 24.58 million followed by Limboto sub-district amounting to Rp 19.33 million, and the lowest in Telaga Biru Subdistrict was Rp 17.20 million. The expenditure is not only related to the presence of family members but also the space from the city center. The interesting thing is the expenditure in the Tenilo village is then other villages, even though this village is close to the center of Gorontalo Regency. This relates to the consumption patterns of farm households in the village. This argument can be proven from the small expenditure on the consumption of cigarettes from corn farmers who live in the village of Tenilo. Comparison between types of corn farmers' expenditures can be more precise by looking at the percentage.

Table 4. Poor household expenditures of Gorontalo Province corn farmers per year.

Region		Respondent	Expenditures (thousands of rupiah / Year)				
Village	District		Food	Non Food	Energy	Cigarette	Total
Telaga Biru	Tonala	30	9,406	5,121	474	2,194	17,195
Limboto	Tilihuwa	20	12,440	5,206	251	2,700	20,598
	Tenilo	10	10,200	4,304	422	1,872	16,797
Average Limboto		30	11,694	4,905	308	2,424	19,331
Randangan	Imbodu	10	12,298	3,444	796	6,485	23,022
	Siduwonge	10	12,830	3,140	1,571	6,686	24,228
	Huyula	10	14,301	3,848	2,038	6,315	26,502
Average Randangan		30	13,143	3,478	1,468	6,495	24,584
Average Province		90	11,414	4,501	759	3,704	20,379

Table 5 presents the percentage of farmers' expenditure by type. The average expenditure of poor corn farmers for food needs is 56.01%, followed by non-food spend 22.09%, and cigarette needs 18.18% and energy needs by 3.72%. An interesting thing to do is assess the amount of cigarette consumption of corn farmers, where the percentage is quite high. If expenditures for food and expenditure for cigarettes are combined, the cost reaches 74.19%. Data from the findings of this study indicate that the household income of corn farmers in Gorontalo Province is still largely used to meet basic needs in the form of food. Households that allocate expenditure for basic needs such as food shows that the level of welfare of the household is still low. This is in line with the theory revealed by [6], which states that low-income households, household expenditure will be higher for food and other basic needs, while families with high incomes will allocate their needs for non-food needs.

Table 5. Percentage of poor household spending on corn farmers in Gorontalo Province.

Region		Expenditure (% / year)				
Village	District	Food	Non Food	Energy	Cigarette	Total
Telaga Biru	Tonala	60.40	25.28	1.22	13.11	100.00
Limboto	Tilihuwa	60.72	25.62	2.51	11.14	100.00

	Tenilo	60.49	25.38	1.59	12.54	100.00
	Average Limboto	53.42	14.96	3.46	28.17	100.00
	Imbodu	52.96	12.96	6.48	27.60	100.00
Randangan	Siduwonge	53.96	14.52	7.69	23.83	100.00
	Huyula	53.46	14.15	5.97	26.42	100.00
	Average Randangan	56.01	22.09	3.72	18.18	100.00
	Average Province	56.01	22.09	3.72	18.18	100.00

Data on the expenditure of poor corn farmers can be derived to calculate per capita spending, which is obtained from the distribution of expenditure data by the number of corn farmer family members. Table 6 presents the expenditure per capita of poor corn farmer households in Gorontalo Province each year.

Table 6. Expenditures per capita poor households of Gorontalo Province corn farmers per year.

Region		Respondent (People)	Members of family (People)	Expenditures per Capita (Rupiah)
Village	District			
Telaga Biru	Tonala	30	5.23	3,285,634
Limboto	Tilihuwa	20	5.05	4,078,723
	Tenilo	10	5.00	3,359,480
Average Limboto		30	5.03	3,843,108
Randangan	Imbodu	10	4.60	5,004,804
	Siduwonge	10	4.60	5,266,957
	Huyula	10	4.50	5,889,289
Average Randangan		30	4.57	5,379,424
Average Province		90	4.94	4,125,272

Table 6 shows that the average expenditure per capita of poor corn farmers with an average family member of 4.94 people is Rp. 4.13 million per year. The highest per capita expenditure is in Randangan District, Rp. 5.38 million, and the lowest is in Telaga Biru District, which is Rp. 3.29 million. The difference in spending is influenced by consumption patterns factors, family members, and the accessibility of the region. Like Tonala Village, which has the lowest average per capita expenditure, the accessibility of its area is quite difficult compared to other areas sampled in this study.

Data on income per capita and data on expenditure per capita can be used as a reference to get a picture of the ability of farmers to save. Table 7 presents the situation. There is a negative difference between the per capita income of poor corn farmer households and their expenditure, which is higher than income. Overall the difference is Rp. 1.21 million. Randangan District, Rp showed the highest variance. 1.35 million, while the lowest is Telaga Biru District with an average difference of Rp. 0.89 million. The existence of this negative difference shows that the economic condition of this corn farmer household is classified as poor people. However, this difference is still far from spending on food consumption.

Table 7. The difference in income per capita and expenditures per capita in poor households of poor corn farmers in Gorontalo Province.

Region		Per capita income (Rupiah)	Per Capita Expenditures (Rupiah)	Difference (Rupiah)
Village	District			
Telaga Biru	Tonala	2,391,042	3,285,634	(894,591)
Limboto	Tilihuwa	2,683,951	4,078,723	(1,394,771)
	Tenilo	2,629,126	3,359,480	(730,354)
Average Limboto		2,667,564	3,843,108	(1,175,544)
Randangan	Imbodu	3,271,841	5,004,804	(1,732,963)
	Siduwonge	4,286,435	5,266,957	(980,522)
	Huyula	4,248,578	5,889,289	(1,640,711)
Average Randangan		4,030,252	5,379,424	(1,349,171)
Average Province		2,917,687	4,125,272	(1,207,585)

4. Conclusions

Based on the results of the study, it can be concluded as follows:

- The income of Gorontalo Province corn farmer inadequate household income is 14,413 million per year and expenditure of 20.34 million per year
- The composition of poor household income of corn farmers is 79.11% sourced from corn farming, and the remaining 20.89% comes from outside corn farming, while the balance of expenditure is food consumption 56.01%, non-food consumption 22.09%, cigarette consumption 18.18% and use for energy 3.72 %.

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