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THE STRUCTURE AND DISTRIBUTION OF CASSAVA FARMER HOUSEHOLD REVENUE IN SITIHARJO VILLAGE, TUGUMULYO SUBDISTRICT, MUSI RAWAS DISTRICT

Struktur dan Distribusi Penerimaan Rumahtangga Petani Ubi Kayu di Desa Sitiharjo Kecamatan Tugumulyo Kabupaten Musi Rawas

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ABSTRACT

The purposes of this research are to analyze 1) the structure of cassava farmer household revenue, and 2) the distribution of cassava farmer household revenue in Sitiharjo Village, Tugumulyo Subdistrict, Musi Rawas District. The 50 respondent of this research was taken by Slovin method. This research was conducted on November to December 2017. The results showed that the greatest source of revenue is from off-farm activities, amounting to 46.78%. The unequal level of distribution of cassava farmers' household revenue based on the Gini Ratio (GR) on the source of revenue from on-farm is classified as low inequality with a GR index of 0.29, non-cassava farming (on farm) is classified as high inequality with GR index is 0.80, off-farm is classified as high inequality with a GR index of 0.57, non-farm is classified as high with a GR index of 0.67 and the GR index of all cassava farmer households is 0.39 which is classified as moderate. Based on the criteria of the World Bank (World Bank), cassava farmer households are measured by the share of revenue owned by 40 percent of the population with the low revenue group, which is for the source of revenue from cassava farming receiving 22.92 percent (low category), non-cassava farming. received 0.00 percent (high category), off-farm received 3.10 percent (high category), non-farm received 0.00 percent (high category) and the total of all cassava farmer household revenues received 12.43 percent (medium category).

Keyword: cassava farmer, revenue distribution, revenue structure.

ABSTRAK

Tujuan penelitian ini adalah untuk menganalisis 1) struktur penerimaan rumahtangga petani ubi kayu, dan 2) distribusi penerimaan rumahtangga petani ubi kayu di Desa Sitiharjo Kecamatan Tugumulyo Kabupaten Musi Rawas. Responden penelitian ini sebanyak 50 orang yang diambil dengan metode Slovin. Penelitian ini dilakukan pada bulan November sampai Desember 2017. Hasil penelitian menunjukkan bahwa sumber penerimaan rumahtangga petani ubi kayu yang terbesar adalah dari kegiatan off-farm yaitu sebesar 46,78%. Tingkat ketimpangan distribusi penerimaan rumahtangga petani ubi kayu berdasarkan Gini Ratio (GR) pada sumber penerimaan dari on-farm ubi kayu tergolong rendah dengan indeks GR 0,29, dari on-farm usahatani non ubi kayu tergolong tinggi dengan GR sebesar 0,80, dari kegiatan off-farm tergolong tinggi dengan indeks GR 0,57, dari non pertanian tergolong tinggi dengan indeks GR 0,67 dan indeks GR untuk total sumber penerimaan rumahtangga adalah sebesar 0,39 yang termasuk pada kategori ketimpangan sedang. Berdasarkan kriteria Bank Dunia (World Bank), rumah tangga petani singkong diukur dari bagian penerimaan yang dimiliki oleh 40 persen penduduk dengan kelompok berpenghasilan rendah, yaitu dari usahatani singkong menerima 22,92 persen (kategori rendah), usahatani non singkong menerima 0,00 persen (kategori tinggi), off farm menerima 2,66 persen (kategori tinggi), non-farm menerima 0,00 persen (kategori tinggi) dan total penerimaan seluruh rumah tangga petani singkong menerima 14,13 persen (kategori sedang).

Kata Kunci: petani ubi kayu, distribusi penerimaan, struktur penerimaan

INTRODUCTION

Efforts to improve the welfare of farmers in rural areas cannot be separated from their households. The household is the smallest unit in society, if you want to improve the community's welfare, it must start from the household level. To meet the economic needs of households, farmers cannot rely on revenue from farming alone and will carry out activities outside of farming. In addition, farming activities also have busy times and free time. The free time they have causes farmer households to devote their time to work outside the business to increase revenue (Datau et al., 2017).

Farming communities in rural areas often carry out a double revenue pattern to meet household needs. The double revenue pattern is defined as a combination of many jobs owned by a person. This combination consists of the main or main economic activities and the side ones. Both in the agricultural sector and non agricultural sector. Side economic activities in rural areas are activities outside the main household work of rural farmers who generally make a living as farmers of certain commodities. This secondary economic activity may be carried out by the head of the household or other members of the household, including other agricultural activities, namely on-farm activities

for commodities other than the main commodity and or non-agricultural activities. These side activities either directly or indirectly creates important revenue to ensure the fulfillment of needs and improve household welfare (Andriani, 2017).

According to Gecho (2017) in general, farming households have revenue from various sources. This is done as a strategy in earning a living in order to meet the needs of the family as well as to overcome various challenges and risks. Diversity of livelihoods is expected to provide a guarantee of life for farmer households. One of the reasons for this is the declining carrying capacity of the agricultural sector to achieve food security and livelihoods.

The various sources of revenue will affect the structure of farmer household revenue and the distribution of farmer household revenue. The structure and distribution of revenue will describe the farmer's household's welfare level. The level of welfare of farmers' households can be seen in addition to the number and types of sources of revenue, it can also be seen from the distribution of revenue in various groups of farmers' household revenue.

The revenue earning strategies applied according to conditions and resource ownership. Farmers with large lands with larger natural capital ownership will be different from the livelihood patterns of farmers with narrow lands (Widianto et al., 2021). Land tenure relate to inequality of revenue distribution. Farmers who have larger lands tend to depend on their household revenue from the commodities that are cultivated on the land. Meanwhile, farmers who have narrower land tend to look for other sources of revenue, especially outside the agricultural sector, because the main revenue from farming is not able to meet household needs. Therefore, inequality in the distribution of revenue can vary based on the source of revenue, both from agriculture and non-agriculture (Moervitasari et al., 2018).

The revenue structure of rural farmers' households is highly dependent on the availability of natural resources in the area. The revenue structure of rural households shows that most of their revenue comes from the agricultural sector. It means that rural communities depend on the agricultural sector for their lives (Astuti et al., 2008).

The distribution of revenue will be able to describe the inequality level of farmer household welfare. The higher the distribution of revenue, the more unequal the revenue will be and the possibility of revenue inequality between one farmer household and another (Nasir et al., 2015). If the source of inequality is very important to identify, the best policy can be formulated to overcome the gap in the distribution of revenue. The widening revenue inequality in the last decade is of particular concern to the government (Wicaksono et al., 2017).

Cassava is a commodity that is easy to cultivate and easy to plant anywhere because cassava can survive in critical land and lack water. In

addition, in Sitiharjo Village, cassava is used as the main raw material for agro-industrial products. These processed products have a higher selling value so that profits increase. The existence of an agro-industry that supports the added value of agricultural products is very useful in increasing revenue because the nature of agricultural products which are usually easily damaged can be minimized by further processing. These processed products have a higher selling value compared to unprocessed agricultural products.

Household revenue of cassava farmer in Sitiharjo Village does not come from one source, but comes from two or more sources of revenue. The level of revenue influences the variety of revenue sources. In Sitiharjo Village, most of the household revenue comes from agriculture. In addition, the work that farmers in Sitiharjo Village generally do comes from non-agriculture. Based on these thoughts, this research was conducted to analyze : 1) the cassava farmer household revenue structure, and 2) the cassava farmer household revenue distribution, in Sitiharjo Village, Tugumulyo Subdistrict, Musi Rawas District.

RESEARCH METHOD

This research was conducted in Sitiharjo Village, Tugumulyo District, Musi Rawas Regency. The location determination was determined intentionally considering that in Sitiharjo Village, most of the population made a living as cassava farmers. The study was conducted from November 27 - December 27, 2017.

The total number of cassava farmer households in Sitiharjo Village is 100 households. The number of samples taken in this study was determined using the Slovin formula (Nazir, 2005).

$$n = \frac{N}{1 + Ne^2}$$

Note: n is Number of samples; N is Number of population, and e is Critical value.

Using a critical value of 0.1 (10%) and the population is 100 cassava farmer households, the number of samples to be taken are 50 households.

The data used in this study consisted of primary data and secondary data. Primary data is data obtained directly from farmers who cultivate cassava through direct interviews with respondent farmers using a list of questions (questionnaires) that have been prepared. Secondary data is data obtained by recording reports and documents from agencies related to research.

Identification of sources of household revenue is important before analyzing the revenue distribution between households (Zhang et al., 2019). Analysis of the revenue structure of cassava farmer households is distinguished according to each source of revenue, namely from on-farm including cassava farming, non-cassava farming, off-farm, and non-agriculture. Meanwhile, to

calculate the amount of household revenue of cassava farmers with the following formula:

$$R_H = R\ on\text{-}farm_{\ C} + R\ on\text{-}farm_{\ NC} + R\ off\text{-}farm + R\ non\text{-}agr$$

Note: R_H denotes Household revenue (IDR/month), R on-farm $_C$ is Agricultural revenue from cassava farming (IDR/month), R on-farm $_{NC}$ is Agricultural revenue from farming other than cassava (IDR/month), R off-farm is Agricultural revenue outside of farming (IDR/month), and R non-agr is Non-agricultural revenue (IDR/month)

Then the percentage of revenue from each source of household revenue is calculated using the formula:

$$\%R_i = \frac{R_i}{R_{rt}}\ x\ 100\%$$

Note: R is Revenue, and i is Revenue source i

Distribution of Cassava Farmer Household Revenue

The cassava farmer household revenue distribution was analyzed using the Gini Ratio index (GR). The GR formula is as follow:

$$GR = 1 - \sum_{i=1}^{k} f_i\ (y_{i-1} + y_i)$$

Notes: GR is Gini Ratio index, f_i is Proportion of number of households in class i, y is Cumulative proportion of total household revenue up to i, and k is Number of classes

The Gini Ratio is a statistical measure of revenue inequality. It is a natural indicator of the spread of revenue among each other. A value of 0 indicates perfect equality, and a value of 1 indicates total inequality (United States Cencus Bureau, 2020).

The GR index ranges from 0 - 1. If GR = 0, there is perfect equality, where everyone receives the same revenue as the others. If GR = 1, there is perfect revenue inequality or the revenue is only received by one person or one group. The inequality category based on the GR index can be seen in Table 1.

Table 1. The Level of Inequality Based on the Gini Ratio (GR)

Gini Ratio (GR) Index	Inequality Category
0.00 – 0.35	Low
0.36 – 0.50	Moderate
0.51 – 1.00	High

Source : Todaro and Smith, 2003.

In addition to the GR index, the distribution of revenue inequality among cassava farmer households was also analyzed using the World Bank criteria. According to the World Bank, the size of the distribution of inequality describes the revenue received by households based on the share of revenue owned by 40% of the population (in this study, cassava farming households) with low revenue. It can be seen in Table 2.

Table 2. Criteria for Inequality according to the World Bank

Share of Revenue Received by 40% Low-revenue Household (%)	Inequality Category
< 12	High
12-17	Moderate
> 17	Low

Source:https://okikab.bps.go.id/indicator/23/253/1/indeks-gini-ukuran-bank-dunia kabupaten-ogan-komering-ilir.html. 2020.

The research method includes items of specific time and place of research; describes the types and sources of data and information collection techniques, and research variables studied and explains data analysis methods.

RESULT AND DISCUSSION

Characteristics of Cassava Farmer Households

Characteristics of cassava farmer households describe the conditions and circumstances. The characteristics of cassava farmer households observed in this study included the household head's age, the household head's education level, the household head's work experience, and the number of family members (Table 3).

Based on the study results, the age of the household head of cassava farmers ranged from 25-77 years with an average of 50 years. Most of the cassava farmers (42%) are 43-60 years old. Farmers of productive age determine the state of the cassava farmer's business because it is directly related to the business activities they manage. Farmers have better physical and mental abilities to manage their farms.

The education of the head of the farmer household is closely related to the ability of farmers to adopt new technologies that can support their farming to increase farmers' acceptance. The ability of farmers to accept technology to optimize their farming is very closely related to formal education. With formal education, it is expected to form a progressive and realistic mindset to bring progress to their farming.

Farmer household heads with elementary school education have the highest number of 17 people (34%). This shows that farmers in Sitiharjo Village have a low level of education. Knowledge about the cultivation and

management of cassava farming is not obtained from the formal education bench but is obtained by farmers who first start cassava farming.

Table 3. Characteristics of Cassava Farmer Households

Characteristic	Percentage (%)	Average
Age (Year)		
25 – 42	34	
43 – 60	42	50
61 – 77	24	
Total	100	
Education Level of Family Head		
Didn't finish elementary school/Didn't go to school	18	
Graduated Elementary School	34	
Graduated Junior High School/Equivalent	24	7
Graduated Junior High School/Equivalent	22	
Bachelor	2	
Total	100	
Work Experience of Family Head (Year)		
2-6	58	
7-11	40	6
12-15	2	
Total	100	
Number of Family Dependent (Person)		
1-3	42	
4-6	56	4
7-9	2	
Total	100	

Source : Primary Data Processed, 2018

Farming experience will affect the behavior of farmers in processing their farming. Usually, farmers who have longer farming experience tend to be careful in making decisions and learn from their experiences. Not only that, farmers who have long had a high level of knowledge, experience, and skills in running their farms. Most farmers (58%) have 2-6 years of farming experience. The average experience of farming cassava farmers is six years, meaning that farmers have experience in managing their farms, so they are more careful in making decisions regarding the development of their farming.

The number of dependents of the family is the family member whose fulfillment of their daily needs is the responsibility of the head of the family.

Generally consists of a wife, children, parents, and other family members. The number of dependent family members can motivate the head of the family to earn a living. The number of dependents of the farmer's family is one factor that determines the amount of production and household revenue of cassava farmers. Farmers who have more family responsibilities must try to do better in farming and even find other sources of revenue to meet their household needs. The average number of dependents of a cassava farmer's household is four people.

Structure of Cassava Farmers Household Revenue

The revenue group reflects the revenue level of the population in an area. This revenue comes from various activities carried out by households. The level of community revenue is strived to continue to increase from time to time. This increase in revenue is accompanied by an increase in purchasing power so that people's welfare can also be improved (Winarti & Permadi, 2019).

The structure of household revenue for cassava farmers comes from two sectors, namely agriculture and non-agriculture. Revenue from agriculture consists of on-farm (cassava and non-cassava farming), off-farm (agriculture other than farming), and non-agriculture. The structure of household revenue for cassava farmers can be seen in Table 4. Based on the study results, the average of cassava farmer household revenue is IDR 5,907,428/month.

Farming households in rural must diversify their sources of revenue to meet their needs. Osarfo et al., (2016) also stated that households that only depend on agricultural products as a source of revenue will lead to poverty. If agricultural produce is the main source of food and revenue, most households may not be able to meet their food needs for consumption in the lean season and to meet other household needs such as children's education, health, clothing, and housing. In addition, they are also expected to be able to meet social and other needs.

Communities in rural areas tend to diversify their livelihoods to increase household revenue. This is caused by various problems related to agricultural activities in rural areas. These problems include the decreasing land area due to population growth which causes low revenue. Livelihood diversification is related to the household revenue of rural farmers. For this reason, a strategy is needed to facilitate livelihood diversification in order to increase household revenue, including the development of rural infrastructures such as roads, markets, credit facilities, and input supply (Gebreyesus, 2016).

Table 4. Structure of Cassava Farmer Household Revenue

No	Revenue Source	Average (IDR/month)	Percentage (%)
1.	Agriculture		
	a. On-farm:		
	- Cassava farming	449,955	7.26
	- Non-cassava farming	921,767	15.60
	b. Off-farm:	3,626,050	61.38
	Total of agriculture revenue (a+b)	4,997,772	84.60
2	Non-agriculture	909,656	15.40
Total of household revenue (1+2)		5,907,428	100.00

Source : Primary Data Processed, 2018

The household revenue of cassava farmers from the agricultural sector consists of revenue from on-farm and off-farm activities (Figure 1). The source of revenue that gave the highest contribution was the agricultural sector, which amounted to 84.60%. The revenue-earning activity that offers the highest yield is off-farm (61.38%) (Table 4).

1. Agriculture Revenue

a. On-farm Revenue

On-farm revenue of cassava farmer households come from cassava farming and non-cassava farming or farming other than cassava.

Cassava Farming Revenue

On-farm revenue of farmer households come from cassava farming, obtained from cassava production multiplied by the selling price. The average revenue from cassava farming is IDR 449,955/month (7.26% of household revenue) (Table 4). This revenue is obtained from the sale of fresh cassava after being harvested. Only a small part of cassava production is fresh, the rest is used as raw material by the farmer households themselves to become cassava products in various processed forms.

Non-cassava Farming Revenue

Only 42% of cassava farming households do farming other than cassava, i.e., farming of rice, eggplant, rubber, tilapia, carp, catfish, carp and/or raising chickens, goats and cows. The distribution of households by the source of revenue from non-cassava farming activities can be seen in Table 5.

Table 5. Household Number Distribution by Source of Revenue from Non-cassava Farming

No	Source of Revenue	Farmer Household Percentage (%)	Average (IDR/month)
1	Rice Farming	6.90	7,200
2	Eggplant Farming	6.90	1,292
3	Rubber Farming	13.79	45,850
4	Tilapia Farming	34.48	621,750
5	Goldfish Farming	6.90	142,500
6	Catfish Farming	3.45	29,967
7	Gurame Farming	3.45	20,000
8	Kampung Chicken Farming	3.45	292
9	Goat Farming	17.24	22,917
10	Cow Farming	3.45	30,000

Sumber : Data Primer Diolah, 2018

Based on Table 5, it is known that cassava farmer households in Sitiharjo Village also carry out farming activities other than cassava. This is done in order to increase family revenue. The activity that gives the highest revenue is tilapia farming, which is an average of IDR 621,750/month. A total of 34.48% of cassava households cultivate tilapia

b. Off-farm Revenue

As many as 70% of cassava farming households in Sitiharjo Village receive revenue from off-farm activities. Off-farm activities are farmworkers, tractor rental, land rental, collector merchant of agriculture products, and agroindustry. Off-farm activities in rural area can be the source of livelihood for some cassava farming households in Sitiharjo Village. This means that off-farm activities provide job opportunities and become a source of revenue. According to Bera & Dubey (2020) economic conditions in rural areas experienced significant changes. Economic growth in the non-agricultural sector is very influential on revenue and employment in rural areas.

Haggblade et al., (2010) also stated that more productive agriculture in rural areas requires additional inputs and services such as seeds, fertilizers, credit, pumps, machinery, marketing, and processing of agricultural products. The increasing need will create non-agricultural activities or companies that can provide these services. On the other hand, an increase in the demand for agricultural household goods for non-food goods will accelerate the demand for non-agricultural goods and services. To meet this increasing demand, the

diversification of the production of rural non-agricultural goods and services is growing.

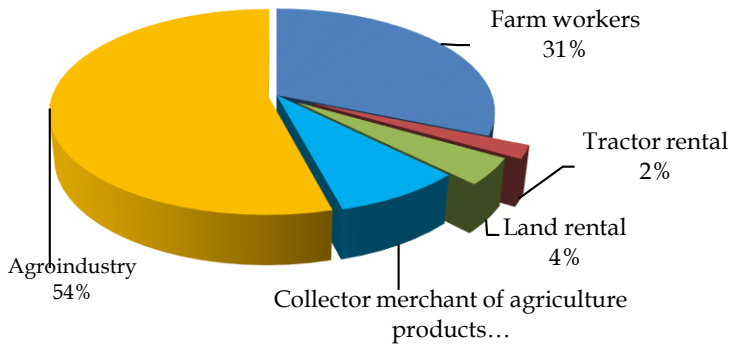

Figure 1.
Household Number Distribution by Source of Revenue from Off-farm Activities

The average household revenue from off-farm activities can be seen in Table 6.

Table 6. Average of Household Revenue from Off-farm Activities

No	Off-farm Activities	Average (IDR/month)
1	Farm worker	471,600
2	Tractor rental	5,433
3	Land rental	9,167
4	Collector merchant of agriculture products	134,000
5	Agroindustry	3,005,850

Sumber : Data Primer Diolah, 2018

These off-farm activities are carried out to increase household revenue. The highest average revenue from off-farm activities came from agroindustry of IDR 3,005.850/month with a farmer percentage of 54.17 percent of the total off-farm household revenue, most of the cassava farmers doing agro-industry, processing fresh cassava into various kinds of food like cassava crackers, *opak*, *eyek-eyek*, *kelanting*, *tiwul*, *kolong-kolong*, *tape* and cassava chips. Agroindustry in Sitiharjo Village is able to provide additional revenue for cassava farming households and become potential employment opportunities for the local community. Timisela et al. (2021) stated that agroindustry in rural areas helps people who do not have jobs to earn revenue. Low-skilled workers can be

accommodated by agroindustry because agroindustry does not require workers with special skills. Therefore, agroindustry in rural areas can be a way to overcome poverty and improve the welfare of people in rural areas.

2. Non-agriculture Revenue

Other sources of household revenue that also contribute to household revenue are non-agricultural activities. Only 44% of households have a source of livelihood in the non-agricultural sector. The percentage of cassava households that have sources of income from non-agricultural activities such as labourer, private sector employee, village official, government employee, and merchant are presented in Figure 2.

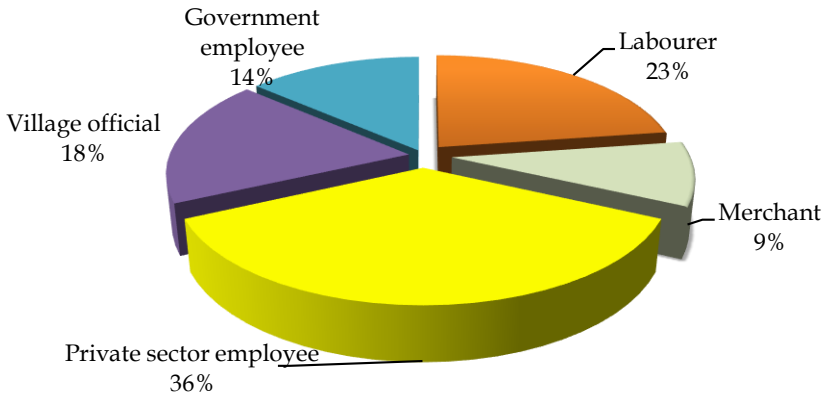

Figure 2.
Household Number Distribution by Non-Agriculture Revenue Sources

Non-agricultural revenue in Sitiharjo Village is a side revenue for family members who work as cassava farmers. The average revenue of farmers from non-agricultural activities can be seen in Table 7. Household revenue from the non-agriculture sector only contributed 15.40% to cassava farmer household revenue. The highest revenue is from private sector employee, IDR 296,000/month, while the lowest is from activities as village official, IDR 120,000/month.

In order to earn revenue and sustain life, household engage in various types of work and activities. Some of these activities are the main source of livelihood and some are additional activities. Livestock herding households receive revenue from agro-pastoral activities about 43.62% of total household revenue, 29.24% from other agricultural work and the rest comes from non-agricultural activities (Teka et al., 2019).

Table 7. Average of Cassava Farmer Household Revenue from Non-agriculture Activities

No	Non-agriculture Activities	Average (IDR/month)
1	Labourer	199,000
2	Merchant	135,000
3	Private sector employee	296,000
4	Village official	120,000
5	Government employee	159,656

Sumber : Data Primer Diolah, 2018

Distribution of Cassava Farmer Household

Revenue Distribution Based on Gini Ratio (GR)

The results of the analysis of the distribution of cassava farmer household revenue based on GR values in various sources are presented in Table 8.

Table 8. Inequality Distribution of Cassava Farmer Household Income in Various Sources based on Gini Ratio (GR)

No	Income Source	Gini Ratio	Inequality Category
1	Agriculture		
	a. On-farm		
	- Cassava farming	0.29	Low
	- Non-cassava farming	0.80	High
	b. Off-farm	0.57	High
2	Non-agriculture	0.67	High
3	Total household income	0.39	Moderate

Source : Primary Data Processed, 2018.

The value of the GR ratio differs among sources of livelihood. The revenue inequality on cassava farming is low, while on non-cassava farming, off-farm, and non-agricultural sources are included in the high category.

Revenue Distribution Based on Worl Bank Criteria

Another criterion that can be used to measure inequality in the distribution of revenue is using the approach determined by the World Bank. Data from the analysis of inequality in cassava farmer household revenue based on the GR value (Table 8) and the World Bank criteria (Table 9) give same result. Table 9 contains data on the percentage of revenue received by 40

percent of farmers with the lowest revenue for each source of revenue and the level of inequality.

Table 9. Inequality Distribution of Cassava Farmer Household Revenue in Various Sources based on World Bank Criteria

No	Revenue Source	Share of Revenue Received by 40% Low-revenue Household (%)	Inequality Category
1	Agriculture		
	a. On-farm		
	- Cassava farming	22.92	Low
	- Non-cassava farming	0.00	High
	b. Off-farm	2.66	High
2	Non-agriculture	0.00	High
3	Total household revenue	14.13	Moderate

Sumber : Data Primer Diolah, 2018.

Through the categorization of the level of inequality, it can be seen the level of distribution of access to sources of income by cassava farming households. High-income inequality at a particular source of income indicates that not all households have that source of income. The reason is the lack of ability of households to reach these sources of income, ranging from limited education and skills, limited capital, limited facilities, and others. According to Afdillah & Marliyah (2015) sources of income or prosperity in an area are mostly controlled by a certain group, so there will be a gap with other groups who do not have access to these sources of prosperity. Thus, to reduce inequality between groups in society, it is necessary to open up opportunities or employment opportunities, or sources of income that can be accessed by the wider community.

Soemartini & Supartini (2016) stated that the success of development which is marked by high economic growth must also be accompanied by equitable distribution of development results so that it can be enjoyed by all levels of society. So the distribution of income serves to determine the extent to which the level of equitable development occurs.

The research results on inequality category of in each source of cassava farmer household revenue are discussed in detail as follows:

1. Agriculture Revenue

a. On-Farm Revenue

Cassava Farming Revenue

Those tables show that the household revenue inequality on cassava farming is low. This is due to the land area ranging from 0.1-0.75 Ha with an average of 0.3 Ha. The revenue inequality of farmer households from on-farm cassava farming sources in Sitiharjo Village is relatively low because the land area is relatively the same among farmers. In general, the revenue inequality of farmers households in rural areas is very dependent on the nature of the growth process and the initial inequality, especially land (Ravallion, 2018).

The selling price of the produce (fresh cassava) with a relatively uniform price IDR 1,000/Kg – IDR 1,500/Kg. it also influence farming revenue. This research result in line with the result of research conducted by Ritonga et al. (2020) which stated that the distribution of black pepper farmer household revenue from black pepper farming was in a low category. The area of land, productivity, and selling price of products are relatively homogeneous, so revenue was also relatively uniform, ranging from IDR 108,333/month to IDR 2,025,833/month. According to Afif et al., (2016) farmers who generally make farming their main livelihood with the same commodity and manage it, in the same way, tend to have revenue evenly distributed.

Non-Cassava Farming Revenue

The results showed that the revenue from non-cassava farming activities was distributed with a high level of inequality. The reason is the variety of activities carried out on these sources of revenue. Afif et al. (2016) also stated that mastery of assets, capital, knowledge, technology, and other access among households to non-cassava farming causes high-revenue inequality among cassava farmer households. Inequality could be caused by differences in the control of resources, land, capital, and education.

Table 5 shows that the sources of revenue from non-cassava farming activities are quite diverse. The percentage of households that also rely on sources of revenue from non-cassava farming activities is only 42% meanwhile, 58 % do not have revenue from this source. There are ten commodity farming activities other than cassava (food crop farming, vegetable crop farming, plantations, fisheries, and animal husbandry) with different households and revenues. So that the revenue from non-cassava farming activities also varies from IDR 0/month to IDR 7,666,667/month.

This is what causes the revenue inequality distribution from non-cassava farming activities to be high. Tilapia cultivation provides the highest average revenue, IDR 621,750/month, because land conditions and water availability are very potential for tilapia cultivation in this village.

b. Off-farm Revenue

Revenue inequality from off-farm activities is also included in the high category. Several off-farm activities increase household revenue, and not all households own an agricultural business outside the farm. Based on the study results, it was found that 70% of cassava farmer households carried out off-farm activities with revenue intervals. The reception range is so wide between Rp. 0/month to 16,160,000/month.. This high variation represents high inequality. The highest contribution was obtained from agro-industry activities, with an average of IDR 3,005.850/month (Table 6). According to Umeh (2015), agroindustry generates added value for cassava and becomes a potential source of revenue for cassava farmers. If rural residents depend on food crop farming, including cassava, they will make it their livelihood. For this reason, it is necessary to find various added values in cassava to increase cassava farmer household revenue.

This is in line with previous research conducted by Mat et al. (2012). Revenue from off-farm activities reduces the poverty level of agricultural households in Kedah, but on the other hand, increases inequality between these households. The agricultural sector is the main source of revenue, therefore off-farm agricultural activities must be intensified, especially activities that focus on added value, especially for low-revenue group.

Bayar & Günçavdı (2021) also stated that revenue distribution was strongly influenced through increases in entrepreneurial earnings. This revenue generally comes from business profits. Therefore, business activities in rural areas are one way to increase and even out the revenue distribution.

2. Non-agriculture Revenue

The revenue distribution from the non-agricultural sector is also categorized high inequality. Less than half of cassava farming households (44%) have a secondary source of revenue from activities outside the agricultural sector. The revenue range from the non-agricultural sector ranges from IDR 0/month to IDR 4,475,700/month. This large difference results in high inequality.

Non-agricultural activities will increase farmers haousehold revenue. On the other hand, it will lead to revenue inequality. According to Osarfo et al. (2016) participation in non-agricultural work has significant positive effect on household revenue and food security status. Policy must focus on promoting non-agricultural employment opportunities in rural farming communities.

However, it must be noted that low-revenue groups can also access these non agricultural revenue sources.

According to the research results of Wijaya (2021) efforts are needed to encourage increased business capacity outside the main business. it has been done especially for the lowest revenue group of fishermen to increase their household revenue.

3. Total Household Revenue

Meanwhile, for total household revenue, the inequality is categorized as moderate. Households carry out various livelihood activities to increase revenue. Farmer households that engage in various businesses will have higher revenues than farmer households that only rely on their revenue from cassava farming alone. So, if an analysis of the distribution of household revenue is carried out in total, it is included in the category of moderate inequality (Zakaria et al., 2020).

The total revenue contribution can provide a more even revenue distribution between groups of cassava farmer households (Jannah, 2012). This shows that the household revenue of cassava farmers after obtaining additional revenue from the non-agricultural sector has been able to create a fairly good revenue distribution. The expansion of both on-farm and off-farm employment opportunities will improve farmers' living standards (Ogundipe et al., 2019).

CONCLUSION AND SUGGESTION

Conclusion

Based on the results of the study, the following conclusions can be drawn:

1. The average household revenue of cassava farmers in Sitiharjo Village, Tugumulyo Subdistrict, Musi Rawas District, is IDR 5,907,428/month and mostly comes from the agricultural sector, which is 84.60% (IDR 4,997,772/month). The rest comes from the non-agricultural sector. The highest revenue from the agricultural sector comes from off-farm activities, which the average amounted IDR 3,626,050/month.
2. The distribution of inequality in household revenue of cassava farmers in Sitiharjo Village, Tugumulyo Subdistrict, Musi Rawas District based on the Gini Ratio and based on World Bank criteria shows the same results, namely for revenue from cassava farming including low inequality category. Meanwhile revenue from non-cassava farming, revenue from off-farm activities and revenue from non-agricultural activities are included in the high category. Total household revenue distribution inequality is classified as moderate.

Suggestion

Cassava farmer households in Sitiharjo Village, Tugumulyo Subdistrict, Musirawas District have various revenue sources to meet their needs, both in the agricultural and non-agricultural sectors. Inequality in the distribution of revenue from non-cassava farming, off-farm activities and non-agricultural activities is categorized as high. For this reason, it is necessary to create value added-based business fields that can be accessed, especially by low-revenue households. In addition, it is also necessary to increase household access to capital, skills, and marketing of goods and services produced.

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