AGRITROPICA
Journal of Agricultural Sciences

Content is available at :
https://ejournal.unib.ac.id/jagritropica
ISSN: (Print) 2621-217X, (Online) 2621-699X
Agritropica. J. Agr. Sci. 7 (1): 60-68, May 2024

Farmer Household Income Exchange Rate in Bingin Kuning District, Lebong Regency, Bengkulu

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Article info: Submitted: 2024-02-08, Accepted: 2024-05-30, Publish: 2024-06-01

ABSTRACT: The Farmer Household Income Exchange Rate (NTPRP) is used to determine the level of welfare of farmer households. This research aims to analyze the income structure of rice farmer households in Bingin Kuning District, Lebong Regency, analyze the consumption expenditure patterns of rice farmer households in Bingin Kuning District, Lebong Regency, and analyze the rice farmer household income exchange rate (NTPRP) in Bingin Kuning District, Regency. Lebong. The research was conducted in Bingin Kuning District, Lebong Regency. The population in this study was rice farmers. The sample for this research was 94 farmers using Simple Random Sampling. The analytical method used in this research is descriptive quantitative. Quantitative descriptive analysis helps to understand the income structure, consumption expenditure patterns, and the farmer household income exchange rate (NTPRP). The study results show that the welfare of rice farmer households in Bingin Kuning District, Lebong Regency, is not prosperous.

Keywords: farmer household income exchange rate, farmer, paddy

Reference to this paper should be made as follows:
Panriski, N., G. Mulyasari, E. Yuliarti, Sriyoto, and A. Trisusilo. 2024. Farmer Household Income Exchange Rate in Bingin Kuning District, Lebong Regency, Bengkulu. Agritropica. J. Agr. Sci. 7 (1): 60-68. Doi: https://doi.org/10.31186/J.agritropica.7.1.60-68.

INTRODUCTION

The agricultural sector is one area that receives the most attention in national development, especially in the utilization and management of agricultural products and the food commodities sector. Agricultural development aims to increase farmers' income and improve their quality of life (Ministry of Agriculture, 2016). The Lebong Regency government has made agriculture one of the main factors in the regional economy. Lebong Regency is also a district that supplies rice to Bulog in Bengkulu Province. The agricultural sector dominates Lebong Regency's income stream. However, farmers' economic value has not been maximized because their potential capabilities cannot be managed optimally.

Bingin Kuning District is one of the sub-districts in Lebong Regency that prioritizes rice, a mainstay commodity, so it is the leading cause of increasing income and welfare of farming households. In 2022, several rice fields belonging to farmers in Bingin Kuning District will experience drought. However, not all rice fields experience drought, thereby reducing water supplies. Additionally, many farmers continue to hold the misconception that double cropping poses the most significant risk. Farmers only dare to plant once a year because they do not dare to accept the risk of failure, which will occur due to frequent rat attacks in the second planting season and cannot be avoided.

Most of the farmers in Lebong Regency are sharecroppers who must pay the costs of farming activities. At the same time, the results are divided equally between the landowners, with the assertion that the farmers bear all costs for farming. So later, the cultivating farmers will decide not to work on cultivating the land to plant rice in the second season. Most farmers also raise fish or grow vegetables on land that has already been harvested because they are not obligated to

share profits with the landowner unless the capital comes from the landowner. Apart from cultivating rice farming, farmers also cultivate plantation commodities. The leading plantation commodities farmers own are robusta coffee, cocoa, and rubber. Where plantation commodities in 2020 for robusta coffee production were 103,640 kg with a land area of 222 hectares, cocoa production was 40,379 kg with a land area of 133 hectares, and rubber commodities were 33,527 kg with a land area of 159 hectares (BPS, 2021).

The level of the farmer's income will affect the farmer's life. The farmer's income will increase if the amount of rice produced from the quality obtained is maximum. If the farmer's income rises, the farmer's welfare will also be better. In carrying out farming, farmers hope to increase their income so that they can meet their daily needs. Farmers have income that comes from agricultural production. Efforts to increase the quantity of income for rice farmers affect their ability to increase their income, and farmers' selling prices and exchange rates also affect income. The income earned by farmers is not only from farming but also from outside farming. This income can influence farmer household expenses. The problem often faced by farming households is that the income earned by farmers, on average, is not enough to meet their daily needs. This condition is caused by the socio-economic environment around the farmer's residence, which is unsuitable for the farmer's conditions. Prices of basic commodities continue to rise, but farmers' income tends to remain constant, which causes farmers' welfare to decline.

The farmer household income exchange rate (NTPRP) is the farmer's ability to meet their daily needs with the income obtained by the farmer household both from farming and non-farming (Yulian et al., 2016). The welfare of farmer households is determined by whether farmers can allocate household income for other household needs, seen from the exchange rate of farmer household income, or whether farmer families can meet their daily needs with this income (Yulian et al., 2016.). Based on this description, this research analyzes the income structure, consumption expenditure patterns, and rice farmer household income exchange rates (NTPRP) in Bingin Kuning District, Lebong Regency, Bengkulu Province.

MATERIALS AND METHODS

Research Area and Sampling

The research was conducted in Bingin Kuning District, Lebong Regency, Bengkulu Province (Figure 1). This location was chosen purposive, considering that this location is one of the areas that has the most significant potential for rice cultivation, with higher standard land area, production, and productivity compared to other sub-districts in Lebong Regency, namely a standard land area of 1,399.91 Ha and an average total production of average 6.7–7 tons (BP4K, 2022).

The sample is a portion or representative of the population studied (Arikunto, 2010). Samples taken from the population must be truly representative. Research sampling was carried out using a proportional sample technique, which takes samples in a representative manner. Each subject is determined in a balanced manner by the number of subjects from each stratum. The number of samples from the population in this study was determined using the Slovin formula, which had a standard error of 10%. Based on calculations, the number of rice farming household respondents studied was 94 respondents.

Data analysis method

Household income is household income originating from lowland rice farming, non-rice lowland farming, and income from non-farming. Household income can be calculated using the formula (Mudatsir, 2021):

$$P_{rt} = P_{on\ farm} + P_{off\ farm} + P_{non\ farm}$$

Information :

P_{rt} : Household income of rice farmers (IDR/month)

$P_{on\ farm}$: Income from rice farming (IDR/month)

$P_{off\ farm}$: Non-rice farming income (IDR/month)

$P_{non\ farm}$: Income outside rice farming (IDR/month)

Farmer household consumption patterns can be determined by calculating food and non-food expenditures (Amaliyah, 2011).

$$Tp = Pp + Pn$$

Information:

Tp: Total farmer household expenditure (IDR/month)

Pp: Food expenditure (IDR/month)

Pn: Non-food expenditure (IDR/month)

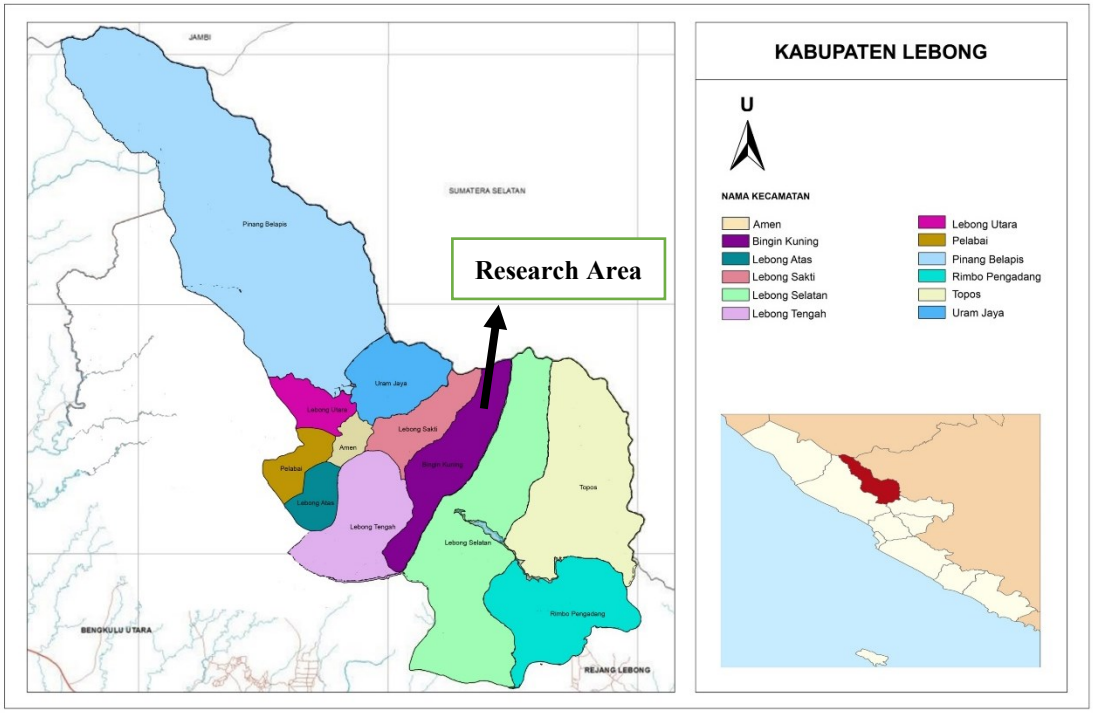

Figure 1. Research Area

Below, we will present a table of household expenditures, including both food and non-food expenditures.

Table 1. Allocation of household consumption expenditure

No	Food Expenditure	Non-Food Expenditure
1	Grains	Housing and fuel
		Various goods and services:
2	Tubers	a. Body care
		b. Book, magazine, newspaper
3	Meat/egg/chicken/fish	c. Communication
4	Oil and fat	Clothing
5	Fruits	Non-agriculture
6	Nuts	Tax and assurance
7	Sugar	Education
8	Vegetables	Health care
9	Beverage ingredients	Electricity
10	Flavoring	PAM
11	Ready-made food and drinks	Other consumptions
12	Other consumptions	

Source: BPS, 2021

The data obtained is presented in tabular form and analyzed using the following formula (Yulian et al., 2016):

$$NTPRP = Y/E$$

Information :

NTPRP : Exchange Value of Farmer Household Income
Y : Farmer Household Income (IDR/month)
E : Farmer Household Expenditures (IDR/month)

The following are indicators used to measure farmer welfare based on the farmer household income (NTPRP) exchange rate.

a) If NTPRP > 1, the farmer's welfare level has entered the prosperous group.
b) If NTPRP <1, the farmer's welfare level is not yet included in the prosperous group.

RESULTS AND DISCUSSION

Socio-economic characteristics of farmers

Rice farming households in this research are farmers in nine villages in Bingin Kuning District, Lebong Regency. Characteristics of rice farming households include (1) Age, (2) Formal Education, (3) Farming Experience, (4) Household Size, and (5) Land Area (Table 2).

Table 2. Characteristics of farmers

Characteristics	∑	%	Average
Age (years)			
29 – 46	66	70.2	
47 – 64	26	27.6	44.6
>65	2	2.12	
Formal education			
SD	19	20.21	
SMP	33	35.10	9
SMA/SMK	42	44.68	
Farming experience (years)			
5 - 18	35	37.23	
19 - 32	47	50	22.5
33 - 47	12	12.76	
Household size (person)			
1-3	51	54.25	
4-7	43	45.74	3
Land area (Ha)			
0.15 - 0.42	25	26.59	
0.43 - 0.69	36	38.29	0.52
0.70 – 1.00	33	35.10	

Source: Primary data is processed, 2023

The research results (Table 2) show that the average age of rice farmers in Bingin Kuning District is 44.6 years, which is included in the productive age category, where farmers of productive age can carry out farming to the maximum. Farmers are said to be at a productive age, namely when they can manage their farming business, which, in this case, affects their physical condition and thinking ability. In reality, in the field, young farmers understand innovations in the agricultural sector better. In contrast, farmers over their productive age prefer to do their farming traditionally according to what their ancestors taught them. According to Putri and Setiawina (2013), the productive age ranges from 20-64 years, where at this productive age, a person can carry out work diligently to produce maximum productivity compared to those below or above the productive age. Older farmers tend to have a more conservative workforce or are more prone to burnout. Young farmers may lack knowledge and skills in farming, but they are more willing to take risks.

A person's knowledge level will influence how they think, feel, and manage their farming business. Therefore, education is another component that shows how successful farmers are in running their businesses. The final education in question includes knowledge and experience regarding activities and efforts intended to change human behavior in a better direction (Putri and Setiawina,2013). Most rice

farmers' education is still relatively low. The average level of education of rice farmers in Bingin Kuning District is up to nine years or the equivalent of a Junior High School (SMP). This low level of education makes it difficult for farmers to obtain innovations and farm using modern technology.

Farming experience is an essential factor in running a business and increasing productivity. So, farming experience is also the time that has passed since cultivating lowland rice. As Gustiana and Irwanto (2017) argue, business experience influences entrepreneurs' ability, expertise and skills in farming. Based on research results, the average experience of rice farmers in Bingin Kuning District is 22.5 years. The farming experience of rice farmers in Bingin Kuning District influences the success of rice farming. Having experience in paddy farming in Bingin Kuning District, with an average of 22.5 years, means that farmers are experienced enough in cultivating rice plants to have good knowledge of the survival of their farming business.

Based on the research results (Table 2), it is known that most rice farmer members in Bingin Kuning District are categorized as members of small families, namely three people. These family members usually consist of a father, mother, and children, whose expenses are relatively small compared to family members of more than three people. In this study, there was one farmer who had seven family members. This will cause high expenditure in the household. The number of members will influence the farmer's income, and the number of family members can motivate the farmer to work harder to meet the family's needs (Hasyim, 2003).

The most important production factor in agriculture is land area. The quantity of land used for agriculture and production is known as land area. Naturally, a larger plot of land will produce better output (Purba et al., 2021). It is known that the average land area of rice farmers in Bingin Kuning District is 0.52 Ha. So, based on the land area, farmers in Bingin Kuning District are still classified as poor farmers. According to Ambarita dan Kartika (2015), the land area can impact production volume because more land can be used for agriculture, more goods will be produced, and more money will be generated. On the other hand, if the land area is small, the farmer's production and income will be small.

Household income of farmers

Farmer household income is obtained in the form of money that farmers receive from income on farms, off farms, and non-farm. On-farm farming income is obtained from the main farming business, namely paddy fields. Off-farm income is obtained from growing coffee commodities, while non-farm income is from non-agricultural businesses, namely gold miners, stalls, counters, teachers, tokes, and others (Table 2).

Table 2. Average household income of farmers in Bingin Kuning District, Lebong Regency

No	Item	% of respondents	Income (IDR/month)
1	Rice farming	29.78	425,965
2	Rice farming + coffee farming	54.31	579,443
3	Rice farming + gold miners	1.06	2,215,544
4	Rice farming + sound system renter	1.06	1,073,393
5	Rice farming + village apparatus	1.06	2,235,785
6	Rice farming + teacher	2.12	1,472,279
7	Rice farming + coffee farming + construction workers	3.19	747,943
8	Rice farming + coffee farming + stall	1.06	585,367
9	Rice farming + toke/collector	1.06	2,529,997
10	Rice farming + stall + toke/collector	1.06	2,086,551
11	Rice farming + stall	1.06	1,364,039

Source: Primary data is processed, 2023

A household's purchasing power will depend on its income for food and non-food purchases. Income is essential in determining household purchasing patterns. The level of consumption and quality of food consumed increases along with household income (Cahyani et al., 2020).

Table 2 shows that the income structure of farmer households is the largest, namely from rice income and side income as toke/collectors amounting to IDR 2,529,997 per month with a respondent percentage of 1.06%. Income from toke/collectors contributes significantly to the total household income, while income from farming is the smallest (paddy) alone, amounting to IDR 425,965 per month. This income is still insufficient to meet the needs of farming households if they rely on rice farming alone. The income most farmers in Bingin Kuning Subdistrict earn is rice farming, and a side job is coffee farming (54.31%), with an average income of 579,443 per month. These household incomes are also still insufficient to meet their household needs. Therefore, farmers must have jobs on the other side to meet their household needs.

Table 3. Total household income of farmers in Bingin Kuning District, Lebong Regency

Item	Income	
	(IDR/Ut)	(IDR/month)
On Farm	2.775.358	462.560
Off Farm	1.159.738	96.645
Non-Farm		1.104.286
Total		1.573.490

Source: Primary data is processed, 2023

The research results show that farmers' income comprises various sources, including on-farm, off-farm, and non-farm (Table 3). The research results (Table 3) show that the average on-farm (rice) income amounted to IDR 462,560 monthly. Besides being rice farmers, they also do side jobs, although not all farmers have off-farm and non-farm side jobs. Income from off-farm (coffee) of IDR 96,645 per month. The income from off-farm (coffee) does not have much influence in contributing to the total income earned by farmers. Apart from income from coffee, farmers also use coffee land to grow horticultural commodities such as chilies, eggplants, vegetables, and so on. The income with the most significant contribution is non-farm income, amounting to IDR 1,104,286 monthly. Non-farm income of farmers, such as gold miners, sound system renters, village officials, teachers, construction workers, food stalls, and toke/collectors. So, the total household income of rice farmers in Bingin Kuning District, Lebong Regency, is IDR 1,573,490 per month. Endaryanto et al. (2020) stated that rice farming households still rely on sources of income outside the agricultural sector, and income originating from non-farm sources is greater than *on-farm* and *off-farm* income.

Farmer Household Expenditure Patterns

At the household level, food consumption changes reflect household income or purchasing power. With increased income, households tend to buy higher-quality food at lower prices. Food consumption habits will diversify as income rises, providing higher nutritional value for consumers (Yudaningrum, 2011). The research results (Table 4) show that the cost of food for rice farmer households in Bingin Kuning District, Lebong Regency is an average of IDR 1,127,683 per month. The highest food cost for rice farming households is rice, namely IDR 414,202 per month. Rice is the staple food for rice farming households because every household consumes rice to be cooked into rice every day.

Table 4. Average Food and Non-Food Expenditures of Farmer Households in Bingin Kuning District, Lebong Regency

Food expenditure		Non-food expenditure	
Item	Average (IDR/month)	Item	Average (IDR/month)
Rice	414.202	Education	321.701
Fish	101.412	Fuel	270.941
Meat	26.316	Electricity	58.021
Egg	24.000	Gas	42.404
Vegetables	19.606	Clothing	375.000
Fruits	11.648	Credit	65.770
Chili	92.973	Telecommunication	40.298
Tomato	16.947	Health care	34.309
Onion, Garlic, Leek	36.840	Soaping	86.096
Oil	65.649		
Sugar	38.723		
Flavouring	10.649		
Cigarette	222.143		
Other	47.574		
Total food expenditure	1.127.683	Total non-food expenditure	1.294.548

Source: Primary data is processed, 2023

Apart from rice, to fulfill the need for complementary foods, rice must also be present when someone consumes food. These foods include fish, meat, and eggs. Where these foods are foods that contain lots of protein. To meet fish needs, the average rice farmer spends IDR 101,412 per month, with the price of fish varying depending on the type. Fish costs more than meat, especially chicken, because the price is affordable compared to other meats such as beef, buffalo, and goat. The research results show that rice farmers only consume chicken meat because the price is cheap. The average total expenditure for consuming chicken meat is IDR 25,316 per month, while the expenditure for eggs consumed by rice farmers is IDR 24,000 per month because eggs are easy to reach, and each stall sells eggs at IDR 2,000 per egg. This research is in line with research by Cahyani (2020), which shows that the most significant expenditure comes from grain. Rice is prioritized and attracts the largest share of the total food purchases of rice farming households.

The research results (Table 4) also show that the monthly average non-food expenditure for rice farmer households in Bingin Kuning District, Lebong Regency, is IDR 1,294,548. The most significant non-food expenditure is IDR. 321,701 monthly for education costs, including pocket money, tuition fees, stationery, and other equipment. Meanwhile, the smallest average spending is for health at IDR 34,309 per month. These health costs are used to buy medicines, and most farmers buy medicines at stalls. Meanwhile, to buy birth control drugs for housewives, usually at the local midwife. Non-food expenditure is lower than food expenditure, according to Cahyani (2020). Meanwhile, the findings of this study are different, where non-food spending is greater than food expenditure, inversely proportional to that from Zainuddin et al. (2020). Purwantini (2014) emphasized that higher-income households have better access to food and greater purchasing power.

Exchange Rate of Household Income of Farmers

The exchange rate of household income is one of the indicators used to determine whether farming households have a good level of purchasing power, which affects the level of purchasing power itself. If the level of household purchasing power is good, then indirectly, the household can meet household needs, whether for agricultural, food, or non-food needs. Therefore, it can be stated that the household is prosperous. The research results (Table 5) show

that the average household income of rice farmers in Bingin Kuning District, Lebong Regency is IDR 1,573,490 per month. In contrast, the average household expenditure is IDR 2,422,231 per month. According to Mukadar et al. (2013), the high and low levels of income of farming households also determine the high and low levels of poverty and welfare of farming households.

The research results show that the NTPRP for total expenditure is 0.64 or NTPRP <1, meaning that the welfare level of rice farmer households in Bingin Kuning District, Lebong Regency, is categorized as not yet prosperous. This shows that the average rice-farming household cannot fulfill their daily household and farming needs without relying only on rice farming. Therefore, farmers must look for work other than rice farming to meet their household needs.

Table 5. Exchange Rates of Rice Farmer Household Income

Description	IDR/Month
Household expenditure	2.422.231
Household income	1.573.490
NTPRP	0.64

Source: Primary data is processed, 2023

The results of this research are in line with research by Salsabila and Siregar (2021), which states that NTPRP <1, meaning that the welfare of farming households cannot meet their needs, both for farming and non-agriculture, because the expenditure incurred is greater than the income earned by farmers. The results of this research are also inversely proportional to research by Sutrisma et al., (2022), which states that an NTPRP value of >1 means that the welfare of lowland rice farmers in terms of total expenditure is categorized as prosperous. The reason is that all spending is lower than the total household income obtained by farmers.

CONCLUSION

The rice farmer household income exchange rate (NTPRP) in Bingin Kuning District, Lebong Regency, is 0.64 or NTPRP <1, meaning that the welfare level of rice farmer households is categorized as not yet prosperous. Rice farmers are expected to increase agricultural productivity to increase household income. Apart from that, farmers are hoping to use their home gardens or harvested rice fields to grow vegetables to minimise consumption expenditure patterns.

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