Journal of Fish Health
Volume 5, Issue 2, May 2025
https://doi.org/10.29303/jfh.v5i2.6322

Exchange Rate of Household Income of Small-Scale Fisherman in Bengkulu City

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Received:
February 8th, 2025
Accepted:
March 9th, 2025

Keywords:
Fisherman Exchange Rate, Household Income, Small-Scale Fishermen

ABSTRACT

Bengkulu City has abundant marine resources, leading in marine capture fisheries volume and value among districts. However, its fishermen remain impoverished due to overfishing, unpredictable weather, and illegal fishing by large vessels, which reduce small-scale fishermen's catches and welfare. This study aims to analyze the income exchange rate of small-scale fishermen's ladders in Bengkulu City and the factors that affect it. Respondents are 100 small-scale fishermen spread across Bengkulu City selected by accidental sampling. Data analyzed using quantitative methods and using SPSS. The results showed that the Income structure of small-scale fisherman households in Bengkulu City consists of income on a fishery by percentage as 80.30% and non fishery income amounting to 19.70% of total income, which is IDR 951,675/week. The consumption expenditure pattern of small-scale fishing households in Bengkulu City consists of expenditure for food by percentage as 51.41% while expenditure for non-food as much as 48.59% of total expenditure, which is IDR 962,230/week. The fishermen's household income exchange rate in Bengkulu is 0.98 < 1, indicating that they cannot fully meet their basic needs and remain relatively poor. The variables of age, fishing hours, catch variations, fishing experience and boat size had a significant effect on the fishermen's household income exchange rate in Bengkulu City. In contrast, the fisherman fisherman education variable did not have a considerable effect on the fishermen's household income exchange rate in Bengkulu City.

INTRODUCTION

Bengkulu City is one of the areas with a sizable population of 7,217 people working as small scale fishermen (KKP, 2022). This is because the ocean area in the Bengkulu City area reaches 12,720 m (DKP, 2019). So Bengkulu City has abundant potential for fisheries and marine resources with the highest volume and value of marine capture fisheries in Bengkulu

City among other districts/cities, namely with a volume of 41,919 tons and with a value of IDR 1,518,888,654 (BPS Province Bengkulu, 2024) . Such conditions do not make fishermen in Bengkulu City prosperous, caused by the overfishing phenomenon that has occurred so far and unpredictable weather and climate changes. It is exacerbated by the use of illegal fishing gear by large vessels, which makes the catch of small fishermen in Bengkulu City decrease, which causes a low level of fishermen's welfare.

Wua *et al*. (2024) said that the welfare of fishermen is currently still lower than that of other sectors, including the agricultural sector. Most of the fishermen's household income in Bengkulu City is obtained through the capture fishery business. The amount of household expenditure for food and non-food purposes depends on their income. This influences coastal fishing communities' welfare, as evidenced by their priorities and way of life (Salakory, 2016). One of the indicators of fishermen's welfare can be measured through the Fishermen's Exchange Rate. This figure shows how well fishermen can support themselves through fishing activities and non-fishery activities (Mumu *et al*., 2019).

The fisherman household income exchange rate is the ability of fishermen to meet their daily needs with income obtained from both the capture and non-capture fisheries industries (Asmaida, 2015). The indicator used to illustrate the exchange rate of fishermen's household income in this study is the fishermen's exchange rate, which functions as a valuable tool to determine the level of welfare of fishermen. This indicator also serves as a means to assess fishermen's ability to meet their living needs (Mandak *et al*., 2020). The term used refers to gross income, usually referred to as income from fisherman's households. Based on this context, the objectives of this research are as follows: (1). Analyzing the income structure of fishermen's household in Bengkulu City, (2). Analyzing the consumption expenditure pattern of fishermen's household in Bengkulu City, (3). Analyze the exchange rate fisherman household income and the factors that affect it in Bengkulu City.

METHODS

Location and Time of Research

This research was conducted in Bengkulu City, Bengkulu Province (Figure 1). The location selection was deliberately (purposive) with consideration because Bengkulu City is an area where the people work as small-scale fishermen in Bengkulu Province, namely 7,217 people compared to other regencies/cities (KKP, 2022). In addition, the volume and value of marine fisheries caught in this area are the highest among other districts/cities, with a volume of 41,919 tons and a value of IDR 1,518,888,654 (BPS, 2024). Because this potential is relatively higher than other areas, Bengkulu City was chosen as the location for the research. This research was conducted in August 2024.

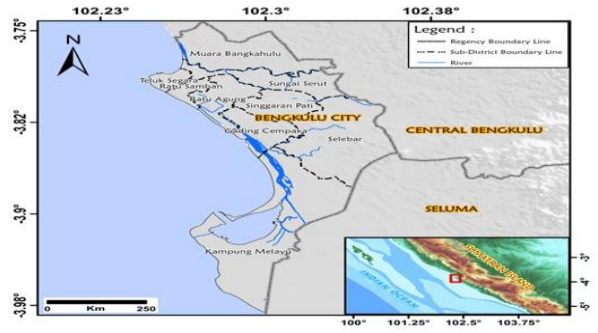

Figure 1. Research Location
Source: Mulyasari (2025)

Methods of Determining and Taking Respondents

The respondents in the study are small-scale fishermen who carry out daily fishing activities (one-day fishing). The small-scale fishermen in question have a boat weight of <10 GT. Respondents were selected using the accidental sampling method, which is a sampling technique carried out by chance, where anyone who happens to meet the researcher can be selected as a sample as long as the individual meets the criteria that have been determined (Nopia *et al*., 2023). This research was carried out between August and December 2024. The number of respondents is determined by the Moe formula with an error rate of 10% with the following calculations (Sujarweni, 2015):

$$n = \frac{Z^2}{4(Moe)^2} = \frac{1{,}96^2}{4(10\%)^2} = 96.04 = 100$$

Data Analysis Methods

The data collected in this study consisted of primary and secondary data. Primary data was obtained through direct interviews with respondents using questionnaires, while secondary data was obtained from relevant institutions or organizations, such as the marine and fisheries service, data from BPS, journals, and other research literature. This study uses quantitative descriptive analysis to understand the income structure, consumption expenditure patterns, and the exchange rate of fishermen. The multiple linear regression model is used to analyze the factors that affect the exchange rate of fishermen in Bengkulu City. The following is an explanation of the data analysis used.

Analysis of the Income Structure of Fisherman's Households

Fishermen's Income Structure is the amount of income of fishermen's households from income from the business on the fishery, off fishery, and non fishery, which is valued in rupiah. An income analysis is used with the following formula to see the amount of business income.

Table 1. Analysis of the Income Structure of Fisherman's Households

On Fishery Income	Non-Fishery Income	Fishermen's Household Income Structure
Suratiyah (2015) states that to calculate on fishery and off fishery income can use the formula: $I = TR - TC$ Information: I : Income TR : Total Revenue TC : Total Cost	For non-fishery income, there is no specific formula because the income is directly obtained from the earnings generated by their work.	The household Income Structure is calculated using the (Wahyuni *et al*., 2020). $Prt = P_{on\ fishery} + P_{off\ fishery} + P_{non\ fishery}$ Information: Prt = Household income from fishermen (IDR/week) $P_{on\ fishery}$ = Income earned from capture fishery activities (IDR/week) $P_{off\ fishery}$ = Income earned from fishery activities outside capture fisheries (IDR/week) $P_{non\ fishery}$ = Income earned outside the capture fishery business (IDR/week)

Analysis of Fisherman's Household Consumption Expenditure Patterns

Consumption expenditures are significantly influenced by income levels, where there is a positive relationship between income and consumption. The consumption pattern of

fishermen's households can be identified by taking into account expenditures for food and non-food needs (BPS, 2021). The formula used is Yudaningrum (2011).

$$Tp = Pp + Pn$$

Where:
Tp : Total household expenditure (IDR/week)
PP : Food expenditure (IDR/week)
Pn : Non-food expenditure (IDR/week)

Analysis of the Exchange Rate of Fisherman's Household Income

Supriadi *et al.* (2020) said that FER is a comparison between the sum of all incomes and the sum of all expenditures of fishermen's households in a certain period. The income referred to here is gross income, or it can be referred to as the fisherman's household income. The FER formula can be explained below:

$$FER = Yt/Et$$
$$Yt = YFt + YNFt$$
$$Et = EFt + EKt$$

Where:
FER = Fisherman's Exchange Rate
Yt = Total Income
Et = Total Expenditure
YFt = Total income through fishery activities (IDR/week)
YNFt = Total income through non-fishery activities (IDR/week)
Eft = Total expenditure for fishery activities (IDR/week)
EKt = Total expenditure household (IDR/week)
t = Period (weeks).

Criterion (Lawendatu *et al*., 2022):
1. If the value is > 1, it can be said that the family is economically prosperous.
2. If the value = 1, the fishermen's household can only meet their primary needs.
3. If the value is < 1, the fishermen's household cannot meet their basic needs or is still fairly poor.

Factors Influencing The Exchange Rate of Fisherman's Household Income

The analysis of factors influencing the exchange rate of fisherman houshold income uses a multiple linear regression model to ensure the validity of the model; then, before the initial analysis, a classical assumption test is carried out, which consists of a normality test, a multicollinearity test, and also a heteroscedasticity test. The dependent variable is fishermen's household income exchange rate with independent variables based on previous research, namely age (Kaja, 2023), fishing education (Mudzakir *et al*., 2021), fishing hours (Safa'ah *et al.*, 2018), variation of catch (Sekar *et al*., 2023), fishing experience (Safa'ah *et al.*, 2018), and boat size (Fitri *et al*, 2022). The equation model used is (Jane, 2021):

$$Y = \alpha + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \beta 4X4 + \beta 5X5 + \beta 6X6e$$

Where:
Y : Fishermen's Household Income Exchange Rate (real)
α : Constant
β1- β5 : Regression coefficients of each independent variable
X1 : Age (years)
X2 : Fisherman Education (years)
X3 : Fishing Hours (hours/day)
X4 : Catch Variation (type)

X5 : Fishing Experience (years)
X6 : Boat Size (GT)
e : Error

The results obtained were then used for a conformity test, which was based on the calculation of the value of the determination coefficient (R^2), F-test, and T-test.

RESULTS

Characteristics of Fishermen

The characteristics of fishermen are the characteristics or characteristics of the observed respondents, which include age, education level, boat size, experience, days at sea, hours at sea, and the number of dependents. These characteristics are used to describe the profiles of respondents so that researchers can understand their backgrounds and analyze the study's results in more depth.

Table 2. Characteristics of Fishermen

Characteristic	Minimum	Maximum	Mean	Std. Deviation
Age	26	74	46.99	9.779
Fisherman Education	6	12	8.37	2.385
Number of Family Dependents	0	6	3.03	1.176
Fishing Experience	2	50	23.48	11.803
Boat Size	3	10.0	3.007	2.1510
Sea Hours	5	12	8.21	1.328
Fishing Days/Week	5	6	5.47	.502

Source: Primary Data Processed, 2025

Analysis of the Income Structure of Fisherman's Households On Fishery Income

Income is the amount of catch production produced multiplied by the applicable price. In capture fisheries business activities, the total cost is all expenditure fishermen use when going to sea. The cost depends on the amount of output produced and must be spent. It can be seen in Table 3.

Table 3. Total Cost

Description	Average Cost (IDR/week)	Percentage (%)
Depreciation Costs		
Ship	56,298	2.66
Boat Engine	11,613	0.55
Dragnet	102,953	4.86
Fishing Rod	4,921	0.23
Payang Trawl	22,905	1.08
Cooler Box	2,863	0.14
Other costs (anchors, ropes, jerry cans)	1,762	0.08
Variable Costs		
Cigarette	221,020	10.44
Ship Fuel	382,400	18.06

Description	Average Cost (IDR/week)	Percentage (%)
Ice Cube	108,652	5.13
Coffee	49,230	2.33
Crew Fees	1,152,528	54.44
Total	2,117,145	100

Source: Primary Data Processed, 2025

The income of fishermen from fishery businesses can be seen in Table 4 below:

Table 4. On Fishery Income

Description	Average Income (IDR/week)
Revenue	2,881,320
Total Cost	2,117,145
Total Income	764,175

Source: Primary Data Processed, 2025

The graph of fluctuations in fishermen's income from the capture fisheries business can be seen in the following figure.

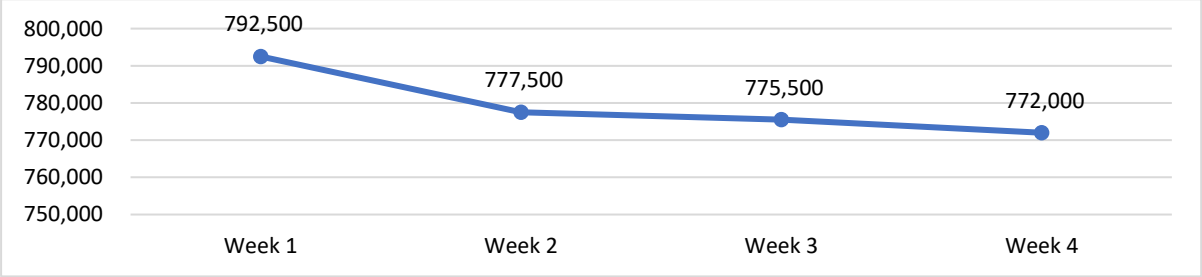

Figure 2. Chart of Fluctuations in Fishermen's Income Every Week in 1 Month of Fishing Business (IDR/week)

Non-Fishery Income

The income of fishermen from non-fishery businesses can be seen in Table 5 below:

Table 5. Non-Fishery Income

Non-Fishery Income		
Resources	% Fisherman	Income (IDR/week)
Self-employed	3.00	250,000
Taxibike	4.00	200,000
Village Apparatus	1.00	250,000
Construction Workers	1.00	100,000
Party Staff	2.00	50,000
Chicken Farming	1.00	250,000
Average		187,500

Source: Primary Data Processed, 2025

Fishermen's Household Income Structure

The structure of household income of fishing families based on sources of income can be seen in Table 6.

Table 6. Household Income Structure

Description	Average Income (IDR/week)	Percentage (%)
On Fishery Income	764,175	80.30
Off Fishery Income	0	0.00
Non-Fishery Income	187,500	19.70
Household Income	951,675	100

Source: Primary Data Processed, 2025

Analysis of Fishermen's Household Consumption Expenditure Patterns

The average spending on food consumption of fishing households in Bengkulu City can be seen in Table 7.

Table 7. Average Food Expenditure of Fisherman's Households

Description	Average Value (IDR/week)	Percentage (%)
Rice	81,888	16.55
Fish	54,550	11.03
Meat	26,738	5.41
Egg	8,035	1.62
Cooking oil	17,663	3.57
Legumes	4,188	0.85
Yolk	8,585	1.74
Beside	23,600	4.77
Tomato	4,365	0.88
Onion/White/Leaf	6,273	1.27
Vegetables	6,228	1.26
Fruit	10,763	2.18
Flavoring	3,098	0.63
Drinking Water	8,838	1.79
Cigarette	229,875	46.47
Total	494,683	100

Source: Primary Data Processed, 2025

The allocation of the average expenditure on non-food needs of fishermen in Bengkulu City can be seen in Table 8.

Table 8. Average Non-Food Expenditure of Fisherman Households

Description	Average Value (IDR/week)	Percentage (%)
Education	51,944	11.62
Vehicle fuel	57,273	12.81
Gas	22,000	4.92
Electricity	29,213	6.53

Description	Average Value (IDR/week)	Percentage (%)
Clothes	35,814	8.01
Credit	131,818	29.48
Telecommunications	28,938	6.47
Health	9,400	2.10
Treatment Materials	19,775	4.42
PDAM Fees	28,951	6.47
Other fees	32,063	7.17
Total	467,547	100

Source: Primary Data Processed, 2025

The following table presents the total household expenditure of fisherman households in one month.

Table 9. Consumption Expenditure Patterns of Fisherman's Households

Description	Average Value (IDR/week)	Percentage (%)
Food Expenditure	494,683	51.41
Non-Food Expenditure	467,547	48.59
Total	962,230	100

Source: Primary Data Processed, 2025

Fisherman's Household Income Exchange Rate

The exchange rate of fishermen's income in Bengkulu City can be seen in the following table.

Table 10. Fisherman's Household Income Exchange Rate

Description	IDR/week
Household Income	951,675
Household Expenditure	962,230
The Exchange Rate of Fisherman's Household Income	0.98

Source: Primary Data Processed, 2025

Factors Influencing The Exchange Rate of Fisherman's Household Income

The equation model and the results of the multiple linear regression analysis are as follows.

$$Y = 1.101 - 0.005\ X1 + 0.007\ X2 + 0.030\ X3 - 0.037\ X4 + 0.004\ X5 – 0.009 + e$$

Table 11. Multiple Linear Regression Analysis Results

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1.131	.141		8.018	.000
Age (X1)	-.004	.002	-.275	-1.990	.050*
Fisherman Education (X2)	.005	.006	.071	.727	.469
Fishing Hours (X3)	.030	.011	.256	2.741	.007*
Catch Variations (X4)	-.037	.008	-.397	-4.429	.000*
Fishing Experience (X5)	.004	.002	.325	2.234	.028*
Boat Size (X6)	-.013	.007	-.185	-2.008	.047*

Variable	B	Std. Error	Beta	t	Sig.
Coefficient of Determination (R^2)					.264
Test F (simultaneous)					.000

Information:
* = α 5%
Source: Primary Data Processed, 2025

DISCUSSION

Characteristics of Fishermen

A person's physical strength in carrying out activities is closely related to age. Full-productive age fishermen have excellent physical conditions and abilities and can work optimally. Suppose a person's age has passed the productive period. In that case, his physical strength decreases, so his productivity decreases, and his income also decreases because one of the primary needs of a fisherman is physical strength (Ariska & Prayitno, 2019). The study's results (Table 1) show that small-scale fishermen in Bengkulu City are, on average, 46.99 years old. This shows that most respondents are of productive age, contributing to the fisheries sector's economic activity. Meanwhile, the fishermen education level of small-scale fishermen in Bengkulu City averages 8 years or the equivalent of junior high school. This low level of education indicates the need to increase the capacity of fishermen, especially in the use of technology and marketing strategies for catches. A person's education generally affects the way and mindset in managing their business (Mulyasari, 2015).

The number of depends is closely related to the number of family dependents who are a burden on fishermen, so it will affect fishermen's motivation to run their businesses. The study's results (Table 2) show that fishermen have several family dependents with an average of three people. This sizable number of dependents affects the exchange rate of household income, especially if the per capita income is relatively low. Experience conducting a capture fisheries business shows the length of time fishermen have been running their businesses. In addition, the study's results also show that fishermen have an average of 23.48 years of fishing experience. The high level of fishing experience shows that most of the respondents have been in the fisheries sector for a long time. The longer a fisherman's experience, the more knowledge fishermen can learn in running their capture fisheries business (Mulyasari, 2015).

The boat size greatly determines the success of fishing operations and the safety of fishermen at sea, especially when facing extreme weather such as large waves and storms. In these conditions, a ship must remain in good condition and return to its original position when experiencing disturbances that cause the vessel to be in a specific condition (angle) of inclination (Ramdhani *et al*., 2023). The weight of boats used by small-scale fishermen in Bengkulu City averages 3 (three) GT. This average shows that the ship used is included in the category of small boats, so this dramatically affects fishermen when they want to go to sea; if the weather is terrible, of course, fishermen will not go to sea because they will be at risk by bringing a small boat. Small-scale fishermen in Bengkulu City go to sea for an average of 5 days a week, an average duration of 8 hours. The long duration of work reflects the fishermen's efforts in optimizing their catch, meaning that the more time available and used by fishermen to carry out their activities, the greater the likely income (Konoralma *et al*., 2020).

Analysis of the Income Structure of Fisherman's Households

A fisherman's household income is obtained in the form of money received by fishermen from on-fishery, off-fishery, and non-fishery income. Business income from the fishery is obtained from the results of going to sea. Off-fishery income is received from businesses outside of fishing. Still, it includes fishery businesses such as the sale of salted fish and fish milling. In contrast, non-fishery income is obtained from businesses outside fisheries, namely self-employed, taxibike, village apparatus, construction workers, party staff, and others.

On Fishery Income

Capture fisheries business activities require operational costs, all incurred due to the ongoing production process consisting of fixed and irregular costs (Damyanti, 2017). The study results (Table 3) show that the highest percentage of costs incurred by small-scale fishermen in Bengkulu City is the cost of crew members, which is 54.44%. This is because the crew fee is obtained from profit sharing, which is 40% of the revenue received by fishermen. Next is the cost of ship fuel, which is 18.06%, where the average fuel used by fishermen in one trip to the sea is 8 liters, and the cost of cigarettes is 10.44%, where the average consumption of fishermen's cigarettes in one trip to sea is two packs of cigarettes, followed by other expenditure.

Income from fisheries is income obtained from capture fisheries businesses carried out by fishermen. Income is a measure of income received by fishermen in income analysis, an important indicator used because it is the main source of meeting daily needs. Business income from fisheries is the difference between the revenue and the total cost incurred by fishermen to go to sea. Revenue is the value of money received from production at the selling price. Revenue results from multiplying the total number of products by the unit selling price, while expenditure or costs are the value of using production facilities and others incurred in the production process. Production is related to the receipt and cost of production. The income is received by fishermen because it still has to be reduced by the production cost, namely the overall cost (Suratiyah, 2015). The study results (Table 4) show that the average income from capture fisheries is IDR 764.175/week, which is obtained from capture fisheries revenues minus the total cost of capture fisheries.

The income received by fishermen fluctuates wildly and is always different every week. This is because natural conditions such as seasonal changes and bad weather, such as strong winds and high waves, can hinder fishing activities, ultimately reducing fishermen's income. Figure 2 shows the fluctuation of fishermen's household income over four weeks; although the decline is not very significant, it reflects the vulnerability of fishermen to external factors, such as price fluctuations and bad weather, especially during the famine season, which is usually marked by a decrease in the number of catches. This results in price fluctuations, so it has an impact on reducing fishermen's income. The decline in the income of fishermen's households had a significant effect on the welfare of their families (Sallau, 2023).

Non-Fishery Income

The greater need for life due to the increasing number of family members, as well as the growing needs because of following the development of clothing and food needs, requires fishermen not only to expect income from their fishing business but also to make efforts from other sources besides their fishing business. The results of the study (Table 5) show that taxibike have the highest percentage as a non-fishery job, which is 4% of the number of fishermen studied because the work of fishermen is very dependent on the season. When the weather is bad, or during the famine season, they cannot go to sea and need an alternative source of income. Becoming a motorcycle taxi provides flexibility to continue to earn income

at these times because it does not require such significant capital, while the lowest is in the village apparatus, construction workers and party staff, which is only 1%. This is due to minimal job options due to a lack of education, which hinders fishermen from finding and getting better side jobs (Saleh, 2023). Jobs as construction workers or party staff may be the most accessible option for them without requiring special skills even though they only get a small salary, like party staff who only earn money when there are activities.

Fishermen's Household Income Structure

The income structure of fishermen consists of various sources, including on-fishery, fishery, and non-fishery. The study's results (Table 6) show that fishing households are still dependent on fishery income, with a percentage of 80.30% of the total income of houshold obtained from capture fisheries. This is due to the low level of education, limiting fishermen's access to alternative job opportunities that require special skills, and also limited access to capital and technology prevents fishermen from developing other businesses outside the fisheries sector besides that the intensity and focus of time that fishermen devote to fishing activities is also greater than their side jobs so that the income of fishermen's housholds is still highly dependent on income from capture fisheries (Muninggar & Fauziah, 2021). The research also concluded that the income of fishermen with side jobs is IDR 951,675/week, while the income of fishermen without side jobs remains at IDR 764,175/week.

Analysis of Fishermen's Household Consumption Expenditure Patterns

The composition of household expenditure can be used as a measure to assess the level of economic welfare of the population, the lower the percentage of expenditure on food to total spending, the better the economic level of the population. On the other hand, the larger the share of food expenditure, the less prosperous the household will be (Sutrisma, 2022). The study's results (Table 7) show that the average amount of expenditure for food consumption is IDR 494,683/week. The difference in allocation and priority of spending for food needs in fisherman households that occupy the main priority is the need for cigarettes, which is a percentage of 46.47% of the total food expenditure spent on cigarette needs. Due to the limited budget owned by the fisherman's family to meet his food needs, he will try to meet his needs by choosing a relatively cheap food type. The type of food source with relatively low prices is rice, where the percentage of costs incurred by fishermen is 16.55% for rice consumption. According to (Sediaoetama, 2008), the lower the economic level of the community, the higher the percentage of energy used comes from carbohydrates or rice because energy from carbohydrates is among the cheapest.

The results of the study (Table 8) show that the largest allocation of expenditure for non-food needs in fishermen is used for credit, which is 29.48% of the total non-food expenditure. This is because fishermen need significant capital for repairs, maintenance, and the purchase of boats and fishing gear so fishermen have to borrow for their business capital also sometimes fishermen's income is often insufficient for their daily needs, forcing fishermen to make loans In addition, there are still vehicle loans so that the expenditure incurred by fishermen to pay credit is quite large (Faletehan *et al*., 2022). Furthermore, it is followed by expenditure on vehicle fuel needs of 12.81% of the total non-food expenditure, where fishermen spend an average of 1 liter of gasoline per day. It is only followed by education costs with 11.62% of total non-food expenditure. After knowing the food burden and non-food expenditure of the household of rice farmers, the total amount of existing household expenditure will be found by adding up the two types of expenditure.

The structure of expenditure and consumption is one of the indicators of welfare. Households with a higher share of food expenditure than non-food expenditure showed a

relatively lower level of welfare. Each household has a particular pattern or structure of spending to meet daily needs (Andriani & Nuraini, 2021). The study's results (Table 9) show that the most significant expenditure incurred by fishermen is food expenditure with a percentage of 51.41% of total expenditure. In comparison, non-food expenditure is only 48.59% of total expenditure. This shows that fishermen's expenditure on food is higher than non-food.

Fisherman's Household Income Exchange Rate

The results of the calculation (Table 10) show that the Fishermen's Exchange Rate (FER) < 1 is 0.98. This shows that the average fisherman household has been unable to meet their basic needs or is still relatively poor. This is because suboptimal catches, limited capital, and the use of simple fishing technology cause the low income of fishermen. This has an impact on the ability of fishermen to meet their daily needs, and the high expenditure on food and non-food needs without being balanced with adequate income causes low fishermen's exchange rates. This condition indicates that fishermen's income is insufficient to cover their basic needs (Ikhsan *et al*., 2022).

Factors Influencing The Exchange Rate of Fisherman's Household Income

Multiple linear regression analysis was used to show how far the influence of one independent variable individually in explaining the variation of the dependent variable, was carried out by comparing the statistical Sig. value to the significance level value (α = 5%). The study's results (Table 11) show that the value of R^2 is 0.264. The research results show that this independent variable contributes only 26.4% to the dependent variable, while the other 73.6% is contributed by other variables that are not included in this equation, therefore, future research can consider using other variables that may contribute more to the dependent variable. From the results of the analysis of the f test, it is known that the value of sig. 0.000, which means that there is an influence between age, education, length of sea, variation in catch, and experience at sea on the exchange rate of fishermen's household income.

The results of the research in Table (10) show that the factors that affect the exchange rate of fishermen's household income in Bengkulu City include age, fishing hours, catch variations, and fishing experience. Multiple linear regression analysis revealed that the age variable had a significant negative effect on the exchange rate of fishermen's household income with a significance value of 0.050 which means that the increase in the age of fishermen will decrease the exchange rate of fishermen's household income. This is in line with the results of research by (Ariska & Prayitno, 2019), which shows that age significantly negatively affects income. The older or older the fisherman, the income produced decreases, which will also reduce the exchange rate of fishermen. The variable of fishing hours was also proven to have a significant effect on the exchange rate of fishermen's household income (sig.=0.007) which means that the increase in the time spent at sea by fishermen will increase the level of exchange rate of fishermen's household income. This is in line with the results of (Syahma, 2016) research which shows that fishing hours has a significant effect because the longer the duration of fishermen's time at sea, the amount of catch production will also increase, which causes income to also increase, as well as the exchange rate of fishermen.

The results of the study also showed that the variable of catch variation had a negative effect on fishermen's household income exchange rate (sig.=0.000) which meant that an increase in the variation of fishermen's catch would actually reduce the level of Fishermen's household income exchange rate. This is because the rise in the variety of catches obtained by fishermen has a low selling price, so fishermen's income will decrease, which will also affect the exchange rate of fishermen. Fishermen should only focus on the type of fish that has a

high selling price rather than the kind of fish that has a low selling price. Furthermore, the fishing experience variable also significantly affects the Fishermen's household income exchange rate (sig.=0.028), which means that the increase in fishing experience by fishermen will increase the level of fishermen's household income exchange rate. This is in line with the results of Kurniawan *et al.* (2021) research stating that experience has a significant effect on Fishermen's household income exchange rate, where the higher the experience, the higher the potential for income.

The results of the study also showed that the variable of boat size had a negative effect on Fishermen's household income exchange rate (sig.=0.047). This is because the larger the vessel size, the higher the operational costs. Expenses such as fuel, maintenance, and crew wages tend to increase, which can reduce fishermen's profit margins. This is consistent with research conducted by Yulianto *et al.* (2021), which states that higher operational costs on larger vessels can decrease fishermen's net profits, thereby affecting the exchange rate of fishermen. Meanwhile, the fisherman education variable did not have a substantial effect on fishermen's household income exchange rate (sig.=0.469). This is due to other factors that are more dominant, such as local economic conditions, access to resources, and consumption patterns that affect fishermen's exchange rates. This is in line with the results of Sembiring (2018) research, which shows that income from catches and household expenditures have a more significant impact on the exchange rate of fishermen than on the level of education.

CONCLUSION

The results showed that the Income structure of small-scale fisherman households in Bengkulu City consists of income on a fishery by percentage as 80.30% and non fishery income amounting to 19.70% of total income, which is IDR 951,675/week. The consumption expenditure pattern of small-scale fishing households in Bengkulu City consists of expenditure for food by percentage as 51.41% while expenditure for non-food as much as 48.59% of total expenditure, which is IDR 962,230/week. The fishermen's household income exchange rate in Bengkulu is 0.98 < 1. This shows that the average fisherman household has been unable to meet their basic needs or is still relatively poor. The variables of age, fishing hours, catch variations, fishing experience and boat size had a significant effect on the fishermen's household income exchange rate in Bengkulu City. In contrast, the fisherman fishermen education variable did not have a considerable effect on the fishermen's household income exchange rate in Bengkulu City.

ACKNOWLEDGEMENT

I sincerely thank my supervisor Dr. Gita Mulyasari, S.P., M.Si. and Dr. Indra Cahyadinata, S.P., M.Si. for their invaluable guidance and support throughout this research. I also extend my gratitude to the faculty members, laboratory staff, and all of my friends for their assistance and collaboration. Lastly, I deeply appreciate the encouragement and support from my family, which were essential in completing this research.

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