

Factors Affecting Household Income of Traditional Fishermen in Galesong District, Takalar Regency, Indonesia

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ABSTRACT

Traditional fishermen are characterized as poor people with low levels of education and living standards. This study aims to determine the factors that influence the household income of traditional fishermen in the Galesong District. This research was conducted in Galesong District, Takalar Regency. The population in this study were all traditional fishermen who use outboard motors. A sampling of traditional fishermen was done by random sampling method and selected 58 traditional fishermen who use outboard motorboats. The data obtained were then analyzed using descriptive analysis and multiple linear regression analysis. The results showed that fishermen in Galesong District earned an average profit of IDR 288,900 per trip. The results of multiple linear regression analysis obtained that; fishing experience, number of retreats at sea, number of workers, and dummy variables have a positive and significant effect in increasing fishermen's income. Meanwhile, the level of education and the number of family members have a positive but not significant effect on increasing the income of traditional fishermen on the coast of Galesong District.

Keywords: Traditional Fisherman, Revenue, Outboard Motor.

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I. INTRODUCTION

The development of capture fisheries is essentially aimed at improving the welfare of the community and maintaining the sustainability of fish resources and the environment. This goal is currently being expanded in scope so that it is not only to improve the welfare of fishermen and maintain the preservation of fish resources, but also to increase the contribution of the Capture Fisheries Sub-sector to national economic development (pro-growth), and help overcome the multidimensional crisis that is currently engulfing our country, both in terms of the form of providing employment (pro-jobs), foreign exchange earnings through exports, non-tax state revenues, as well as for poverty alleviation (pro-poor), (Marine and Fisheries Ministry, 2009; Triarso, 2012).

The income of the fishing business is very different from other types of business, such as traders and farmers. If traders can calculate the profits they get every month, as well as farmers can predict their harvests, then this is not the case with fishermen whose activities are full of uncertainty (Mubyarto, 1984; Rahim, 2011; Nikijuluw, 2002). Meanwhile, according to the level of community welfare, coastal areas generally occupy the lowest strata (poor) compared to other communities on land. Even includes the poorest group in all countries with the attribute the poorest of poor (Nikijuluw, 2002; Akhmad *et al.*, 2020).

The life of fishermen on the coast of Galesong District, Takalar Regency can be categorized as the lower middle-class community, some of which are even below the poverty line. To increase the income of fishermen on the coast, it is necessary to take advantage of free time to do business outside the capture fishery business, (Riptanti, 2005; Amir *et al.*, 2020). One of the characteristics of fisheries in Takalar Regency is the limited ability of fishermen in terms of facilities and capital, which causes the limited reach of fishermen to exploit water resources further afield. Low production and low fish prices result in low income for fishermen's households. Efforts to increase fishermen's income include taking advantage of working time to sell fish in their area.

The purpose of this study in general is to determine the level of welfare of fishermen's households on the coast of Galesong District, Takalar Regency, while in particular are:

(1) Identifying the amount of income and costs incurred by fishermen's households obtained in the capture fishery business.

(2) Identifying the amount of fisherman's household income obtained by taking advantage of free time by carrying out non-catch fisheries business.

(3) knowing the factors that affect the amount of fisherman household income in Galesong District, Takalar Regency.

II. LITERATURE REVIEW

Household income can come from more than one source of income. Tain (2011). said that the phenomenon of the diversity of income sources of farmer households is relatively more real than in fishing households. The amount of income from various sources is relatively more evenly distributed among farmer households, while fishing households rely more on their main job. The income itself can be obtained as a result of work and donations from other parties. The collection of income from these various sources is the total household income. In fishing households, it appears that fishing is almost the only reliable source of household income (Dahuri, 2012). Meanwhile, the pattern of household expenditure (consumption) is influenced by income level, the number of family members, age composition, gender, daily activities, and prices of goods (Varian, 2003). For people who are classified as low-income, in general, the largest proportion of expenditure is used to meet food needs. On the other hand, in the rich community, the largest expenditure they use is to meet the needs of clothing, housing, recreation, and other services.

Engel's theory says that if family income increases, there will be: (1) The percentage of income spent on groceries increases, (2) The percentage of income spent on clothing is more or less the same, (3) The percentage of income spent on other things increased (Akhmad, 2014). The pattern of spending related to the level of welfare is subjective, meaning that everyone has different life guidelines, life goals and ways of living, so different values affect the factors that determine their level of well-being (Todaro, 2009).

In the book, *The Evolution of Leisure* says that leisure time is a life free from pressures that come from outside one's culture and environment so that one is able to act in a loving, fun, appropriate, and provide way basic belief (Stiglitz, 2005). The same thing was also expressed by Triatmoko (2007) who saw the meaning of the term leisure from 3 dimensions, namely: (a) from the time dimension, leisure time was seen as a time that was not used to work to earn a living, carry out obligations, and maintain life, (b) in terms of how to fill it, free time is time that can be filled with self-chosen activities or time that is used and utilized at will, (c) from function, leisure time is time used as a means of developing potential, improving personal quality, therapeutic activities for those who experience emotional disturbances, as an entertainment interlude, a means of recreation, as compensation for an unpleasant job, or as an activity to avoid something.

Harahap and Subhihar (2005) found that fishing business income for fishermen in Medan City is positively influenced by fishing hours, capital, and family responsibilities. Meanwhile, the results of the research (Rahim, 2010; Wahyono *et al.*, 2001). The size of the fishing business income of motorboat fishermen per each in the coastal area of South Sulawesi is positively influenced by kerosene prices, fishing business productivity, age, and fishing gear, while negatively influenced by gasoline prices, length of time at sea, and differences in fishing grounds.

III. RESEARCH METHODS

This research was conducted on the coast of Galesong District, Takalar Regency, South Sulawesi Province. The population in this study includes all traditional fishing households on the coast of Galesong District, Takalar Regency. Sampling was done by random sampling method, on 58 traditional fishing households using outboard motorboats on the coast of Galesong District, Takalar Regency. The data collected in this study include income earned by fishing households from capture fisheries business, costs incurred by fishing households for capture fisheries business, and income earned from businesses outside of capture fisheries. In addition, data is also collected in the form of factors that affect fishermen's household income, such as education level, number of household members, experience in doing capture fisheries business, and fuel price.

The data analysis used in this study is as follows:

A. Descriptive Analysis

In this case, the researcher will describe the amount of income received by traditional fishermen originating from the business results of fishing fishermen, the amount of costs incurred by fishermen's households in the fishing business, and the amount of income received by fishermen outside the fishing business.

B. Multiple Linear Regression Analysis

To find out the factors that influence the income of fishermen's households, multiple regression is used with (1).

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e \quad (1)$$

where

Y = fisherman household income;

a = Constant;

b1 ... b5 = Regression coefficient;

x1 = Experience (years);

x2 = formal education (years);

x3 = Number of family members (persons);

x4 = Number of rets at sea (rets);

X5 = Number of workers (persons);

X6 = Dummy variable (D), in the sense that there is a difference in income between fishermen who have side activities and fishermen who only rely on activities from fisheries,

where

D1 = 1; for households that have side activities.

D0 = 0; for households that only earn income from fishing activities.

e = error.

IV. RESEARCH RESULTS AND DISCUSSION

A. Identification of Fisherman's Household Income Fishing Business/Catching Fish

The results of the identification of fishermen's income in Galesong District, Takalar Regency obtained income from motorboat fishermen: The results showed that the average fisherman carried out fishing business for 2-3 times in one week. In one-year fishermen generally do not go to sea for 3

months due to the weather. The results showed that in one month on average, fishermen go to sea 8 times so that, in 1 year the number of fishing retreats is 8 x 9 months = 72 times. The income earned every time you go to sea is an average of 40 kg of fish with an average price of IDR. 25.000 so the income of fishermen for 1 time to catch fish is an average of IDR. 1,000,000.

B. Other Business

The results of the identification of respondent fishermen showed that, out of 58 respondents, there were 4 people doing trading business, 8 workers, 3 farmers, 18 people doing other businesses, and 25 fishermen having absolutely no other business, apart from fishing business.

The income of fishermen who carry out labor activities gets an average income of IDR. 100,000 per day or 2,400,000 per month, for 3 months so the total income of the workers' business is IDR. 7.200.000 per year. Meanwhile, fishermen who serve as security, get an average monthly salary of IDR. 2,500,000, so the total income in 1 year is IDR. 7.500.000. Then those who carry out trading business, generally carried out in fishermen's homes, by selling mixed goods, and earning an average profit of IDR. 30,000 per day. So in 1 year, they earn an average of IDR. 9,000,000

C. Identification of Respondent Fisherman Fee

The results of interviews with respondents found that the costs incurred by fishermen in catching fish include labor costs, consumption costs, equipment costs, fuel costs including diesel, and lubricating oil. The average cost for once (1 ret) can be seen in Table I.

Table I shows that the total cost incurred by fishermen for each time they go to sea is IDR. 711,100, where labor costs are the largest cost element, which is 25 percent of the sales of fish caught after fishing.

TABLE I: FISHING COSTS FOR 1 RET

Description	Unit	Price	Quantity
Labor Cost	0,25	1.000.000	250.000
Consumption	1	125.000	125.000
Equipment cost	1	100.000	100.000
Fuel cost	1	75.000	75.000
Miscellaneous expenses	1	50.000	50.000
Depreciation Cost	1	111.100	111.100
Total cost	-	-	711.100

D. Identification of Respondent Fisherman Benefits

The results of the identification of the income of traditional fishermen in Galesong District, obtained the average profit obtained by fishermen for each time they go to sea as shown in Table II.

TABLE II: IDENTIFICATION OF RESPONDENTS' FISHERMEN PROFITS

Description	Unit	Price	Quantity
Sale	40 kg	25.000	1.000.000
Operating costs	-	-	-
Labor Cost	0,25 percent	1.000.000	250.000
Consumption	-	125.000	125.000
Equipment cost	1 ret	100.000	100.000
Fuel cost	1 ret	75.000	75.000
Miscellaneous expense	1 ret	50.000	50.000
Cost of depreciation	1 ret	111.100	111.100
The amount of costs	-	-	711.100
Profit	-	-	288.900

Table II shows the sales for each ret of IDR 1,000,000, where the price of fish per kilo is IDR 25,000 and the weight of the fish is 40 kg. While the operational costs that arise, each ret includes labor costs of IDR 250,000, consumption costs of IDR 125,000, equipment costs of IDR 100,000, fuel costs of IDR 75,000 and other costs of 50,000, as well as depreciation costs. amounting to 111,100 The amount of sales is greater than the cost so that the fishing business earns an average profit of 288,900. In one year, fishermen in Galesong District go to sea 72 times on average. So that the total profit obtained by fishermen in one year is IDR. 20,800,800.

E. Factors Affecting Fishermen's Income

Observing the characteristics of fishing respondents on the coast of Takalar Regency, it shows that the factors that affect fishermen's income include fishing experience (X1), an education level (X2), number of family members (X3), number of fishing retreats (X4), number of workers (X5), and dummy variables, namely other businesses besides fishing businesses (X6). The results of the F test Table III show the number 24.20, with a probability value of 0.000. This shows that at least one or more of the variables are significantly different from zero. It can be traced through the t-test. The regression model in Table IV is written as (2).

$$Y = -0.486 + 0,194X1 + 0,101X2 + 0,092 X3 + 0,283 X4 + +0,330 X5 + 0,893 X6 \tag{2}$$

Variable X1, the experience of fishermen has a positive and significant effect on the catch of fishermen at the 95% confidence level. In doing fishing business, showing a positive number of 0.194, which means that for every 1 percent increase in experience, the number of catches will increase by 0.194 percent of the total catch.

Variable X2, fishermen's education level has a positive but not significant effect on fishermen's catches at the 95% confidence level. In carrying out a fishing business, showing a positive number of 0.101, which means that for every 1 percent increase in the level of education, the number of catches will increase by 0.101 percent of the total catch.

Variable X3, the number of fishermen's family members has a positive but not significant effect on fishermen's catches at the 95% confidence level. In carrying out a fishing business, it shows a positive number of 0.092 which means that for every 1 percent increase in the level of family members, the number of catches will increase by 0.092 percent of the total catch.

Variable X4, the number of rets has a positive and significant effect on the catch of fishermen at the 95% confidence level. In carrying out a fishing business, it shows a positive number of 0.283, which means that for every 1 percent increase in the number of rets, the number of catches will increase by 0.283 percent of the number of catches.

TABLE III: ANOVA^B

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	40.027	6	6.671	24.200	0.000 ^a
1 Residual	14.059	51	0.276	-	-
Total	54.086	57	-	-	-

a. Predictors: (Constant), X6, X3, X5, X4, X2, X1.
b. Dependent Variable: Y.

TABLE IV: COEFFICIENTS^A

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	-0.486	0.320		-1.517	0.135
Experience (X1)	0.194	0.071	0.252	2.738	0.008
Education (X2)	0.101	0.138	0.065	0.733	0.467
Number of Family members (X3)	0.092	0.057	0.132	1.621	0.111
1 Number of retreats at sea (X4)	0.283	0.047	0.478	5.977	0.000
Number of workers (X5)	0.330	0.087	0.331	3.788	0.000
Other Work Dummy Variables (X6)	0.893	0.183	0.458	4.878	0.000

Variable X5, the number of fishermen's workforce has a positive and significant increase in the number of fishermen's catches at the 95% confidence level. In doing fishing business, showing a positive number of 0.330, which means that for every 1 percent of the workforce, the number of catches will increase by 0.330 percent of the total catch.

Variable X6 is a dummy variable of other fishermen's businesses having a positive and significant effect on fishermen's catches at a 95% confidence level. In doing fishing business, it shows a positive number of 0.893 which means that for every 1 percent increase in the dummy rate, the number of catches will increase by 0.893 percent of the total catch.

The results of the R Square and Adjusted R Square analysis in Table V indicated by the numbers 0.74 and 0.709, indicating that the explanatory variable can only explain 55.2 percent while the rest is explained by variables outside the mod

TABLE V: MODEL SUMMARY

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.860 ^a	0.740	0.709	0.52504

V. CONCLUSIONS AND RECOMMENDATIONS

A. Conclusion

Most of the fishermen on the coast of Galesong District depend on their lives as fishermen. Income as a fisherman is still relatively low because the outboard motorboats used are of small capacity. Moreover, the boats and tools used are still very simple, thus affecting the number of fish caught. The results showed that the average fisherman's sales turnover received by fishermen every time they went to sea was only IDR 1.000.000. In other sessions they spent IDR. 711,100, which includes costs, of labor, equipment costs, consumption costs, fuel, depreciation, and other costs. The results of the break event point analysis show that to get BEP, at least fishermen must get a catch of 11.11 kg per one time at sea.

The results of multiple linear regression analysis obtained that; experience at sea (X1), number of retreats at sea (X4), number of workers, and dummy variables/other businesses outside of fishermen (X6) have a positive and significant impact on increasing fishermen's income. While the level of education (X2), and the number of family members have a

positive but not significant effect in increasing the income of traditional fishermen on the coast of the Coastal District of Galesong, Takalar Regency.

B. Suggestion

The fishermen on the coast of Galesong District, Takalar Regency should increase the number of fishing retreats, so that the number of fish caught also increases. The government needs to build more representative fish auction places so that fishermen can sell their caught fish at a more reasonable price. The active role of the government in protecting, empowering, and providing capital assistance to fishermen, so that the income and welfare of fishermen increase.

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