

SOCIO-ECONOMIC DETERMINATIONS THAT AFFECT THE INCOME OF TRADITIONAL FISHERMEN IN KRUENG MANE NORTH ACEH DISTRICT

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Abstract

Fishermen's income is the accumulation of fishermen's business results which do not stand alone, but are influenced by various factors. Therefore, fishermen's income includes capital, season, climate, fishing gear productivity, fishing area, fish price and number of fish caught. Fishermen's income factors include factors such as seasonal fluctuations, limited capital and human resources, access to exploitative fish trade networks, and the negative effects of fisheries modernization and the blue revolution, both of which have led to excessive depletion of marine resources. This process is still ongoing today, and fishermen are experiencing further impacts from a decline in their income levels and difficulties in obtaining their catch. The purpose of this research is to determine the income analysis method that calculates fixed costs and variable costs to income. Next, a production function analysis is carried out, where the production function describes the relationship between input and output. Based on this, it is hoped that the results of this research will be taken into consideration by the government in formulating policies related to the welfare of traditional fishermen with all their limitations. This type of research is descriptive quantitative with a research population of traditional fishermen in Krueng Mane, North Aceh. The type of data in this research uses primary data in the form of a questionnaire with a Likert scale where the research sample selection uses random sampling and then regression will be carried out using the SPSS application. The output of this research is the publication of international journals, indexed international proceedings and ISBN certified research reference books with TKT level 3, which is focused on proving the formulation of socio-economic factors that influence the income of traditional fishermen in Krueng Mane, North Aceh Regency.

Keywords: *Traditional Fishermen, Income Theory*

1. INTRODUCTION

The low income of traditional fishermen is a long-standing problem, but this problem has not been resolved until now, because it is too complex. This is not only related to socio-economics, but also related to the environment and technology. Several obstacles in efforts to increase the income of traditional fishermen are biological, technological and socio-economic factors. Biological constraints are related to limited stocks of fish resources due to pollution of the marine environment and excess catches.

Technological constraints relate to fishing gear, engines, motors or other driving infrastructure such as ship length, size and facilities, or processing equipment that can improve fish quality. Most traditional fishermen in Krueng Mane, North Aceh Regency go to sea using boats measuring 15 feet (approximately 4.5 meters) to operate to catch fish and the engine used is Power knot (PK), so a 15 foot boat uses a 5 power knot (PK) engine. People who have a livelihood and income as fishermen are one of the community groups who carry out business activities by earning income from fishing activities themselves. Fishermen are people who actively work in fishing operations. The level of welfare of fishermen is largely determined by their catch.

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Figure 1.1 Research Location

The large number of catches is also reflected in the amount of income received and most of this income is for family consumption needs. Thus, the level of fulfillment of family consumption needs or minimum physical needs is largely determined by the income they receive. The income of fishing communities is still an unresolved polemic. Fishermen's income is largely determined by the level of catch. When the catch rate is high, fishermen can earn greater income. Vice versa, when the catch level is small, or perhaps non-existent, the income received by fishermen is very small. This is in line with what Ruswanty (2019) said. Fishermen carry out their work with the aim of earning income for living needs. The fishing community is one of the poor community groups whose economic conditions are still low. The low level of welfare of fishermen is a challenge in achieving fisheries development goals, among others. improve the welfare of fishermen. Based on this description, I am interested in conducting research related to socio-economics that influence the catches of traditional fishermen. This research wants to observe and analyze the factors that influence the catches of fishermen in Krueng Mane, North Aceh Regency.

Traditional Fishermen

Traditional fishermen are fishermen who utilize fisheries resources using conventional fishing equipment, small business capital, relatively simple fishing organizations, and operate for daily needs.

Machine

Machines are equipment that is driven by energy or power that helps humans work on certain products or parts of products.

Experience

The amount of time a person spends to complete certain tasks to the best of their abilities is known as work experience.

Capital

Short-term permanent debt, long-term debt, preferred stock, and common stock make up capital.

Fuel oil

Fuel oil (BBM) is a type of fuel made from crude oil extracted from the bowels of the earth.



2. IMPLEMENTATION METHOD

The research method used is a case study method, namely research carried out by looking directly at the field. This research examines the influence of machines, experience, capital, fuel oil and nets on the income of traditional fishermen in Krueng Mane, North Aceh Regency. In this research, the population used was Krueng Mane fishermen, North Aceh Regency, totaling 40 people. The sampling method used was random sampling. The data collected in this research consists of primary data and secondary data, namely by interview techniques and questionnaires, namely data obtained directly from the field.

3. RESULTS AND DISCUSSION

Regression Analysis Results Partial Hypothesis Test Results (t Test)

Regression analysis is used to see the influence of machines, experience, capital and fuel on the income of traditional fishermen in Krueng Mane, North Aceh, presented in the following table:

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	6,574	1,288		5,105	,000
M.S	,196	,089	,187	2,197	,030
PL	,410	,090	,399	4,573	,000
MD	,197	,094	,143	2,103	,037
BBM	,173	,089	,211	-1,712	,109

a. Dependent Variable: PD

Source: SPSS results data processed, 2024.

Based on the results of the analysis as presented in Table 5.10 above, a multiple regression equation can be prepared as follows:

$$Y = 6.574 + 0.196 MS + 0.410 ML + 0.197 MD + 0.211 BBM$$

Based on the results of the analysis above, it is known that of the three variables studied all have a positive contribution to the income of traditional fishermen in Krueng Mane, North Aceh, only the fuel variable has no effect.

Simultaneous Hypothesis Test Results (F Test)

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	101,859	3	33,953	25,628	,000a
Residual	201,372	152	1,325		
Total	303,231	155			

a. Predictors: (Constant), MS, PL, MD, BBM

b. Dependent Variable: PD

Based on the results of the F test in Table 5.11, it is found that F count = 25.628 with p value = 0.000 < 0.05, while F table = 2.43 so that F count > F table, it can be concluded that the hypothesis H1, H2, H3 and H4 are accepted, which means that there is a simultaneous influence

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between Machine (MS), Experience (PL), Capital (MD) and Fuel Oil (BBM) on the dependent variable, namely income (PD), which is positive and significant so that the proposed hypothesis is accepted.

DISCUSSION**The Effect of Machines on Income**

Based on the results of partial multiple regression analysis of the influence of machines (MS) on income (PD) using the SPSS program, t_{count} is 2.197, while the value at the real level $\alpha = 0.05$ value, obtained $t_{table} = 1.654$, meaning $t_{count} > t_{table}$ with a probability of 0.005 because The probability value is $0.030 < 0.05$. It can be concluded that machines have a positive and significant effect on the income of traditional fishermen in Krueng Mane, North Aceh.

This is due to adjustments to the use of engines on fishing boats. Generally, a dinghy using a 5 Pk engine is capable of pushing a boat that is categorized as a dinghy, so there is no need for a larger sized engine because it only increases the fishermen's production costs, which means that if the use of output is adjusted appropriately it will minimize production output and maximize income. . In accordance with the theoretical basis used, namely the Cobb-Douglass profit function which is derived from the Cobb-Douglass production function, which is a function that involves the prices of production factors which have been normalized by the output price.

The Effect of Experience on Income

Based on the results of partial regression analysis of the influence of experience (PL) on income (PD) using the SPSS program, $t_{count} = 4.573$, while the value at the real level $\alpha = 0.05$ value, obtained $t_{table} = 1.654$, meaning $t_{count} > t_{table}$ with a probability of $0.000 > 0.05$, which means experience has a positive and significant influence on the income of traditional fishermen in Krueng Mane, North Aceh. Fishermen's experience influences the income of traditional fishermen because it can be seen from the distribution of respondents, where the greatest fishing experience is in the interval above 31 years, namely 18 fishermen. Apart from that, fishermen who have more fishing experience tend to still be of productive age so the distance they travel at sea is still affordable.

The Effect of Capital on Income

Based on the results of partial regression analysis of the influence of capital (MD) on income (PD) using the SPSS program, it was obtained that $t = 2.103$, while the value at the real level $\alpha = 0.05$ value, obtained $t_{table} = 1.654$, meaning $t_{count} > t_{table}$ with a probability of $0.037 > 0.05$ so that capital has a positive and significant effect on the income of traditional fishermen in Krueng Mane, North Aceh. This is very in line with what happens to fishermen in Krueng Mane, North Aceh, because basically increasing working capital will affect the operational costs incurred in production activities and with the amount of capital increasing the funds used to purchase input will increase. so that the distance that will be covered to catch fish will be wider and the possibility of getting fish during the fishing process will be greater so that income will also increase.

The Effect of Fuel on Income

Based on the results of partial regression analysis of the influence of fuel oil (BBM) on income (PD) using the SPSS program, it was obtained that $t = -1.712$, while the value at the real level $\alpha = 0.05$ value, obtained $t_{table} = 1.654$, meaning $t_{count} < t_{table}$ with probability $0.109 < 0.05$ so fuel has no effect on the income of traditional fishermen in Krueng Mane, North Aceh. In general, the more fuel used, the farther the fishermen can travel, which means that if fishermen can cover long distances and move to locations where there are lots of fish, the fishermen's catch will increase. However, with the fishermen's knowledge, they have chosen the point, location or place where they catch fish. Apart from that, the location or distance has also been adjusted to the

engine's range capacity so that fuel is not the main obstacle in going to sea as long as supplies are not limited.

4. CONCLUSION

With the results of this research, the author concludes from several fishermen's opinions that the results of fishermen's efforts do not stand alone, but are influenced by various factors. Therefore, fishermen's income includes capital, season, climate, fishing gear productivity, fishing area, fish price and number of fish caught. Fishermen's income factors include factors such as seasonal fluctuations, limited capital and human resources, access to exploitative fish trade networks, and the negative effects of fisheries modernization and the blue revolution, both of which have led to excessive depletion of marine resources. This process is still ongoing today, and fishermen are experiencing further impacts from a decline in their income levels and difficulties in obtaining their catch. The purpose of this research is to determine the income analysis method that calculates fixed costs and variable costs to income. Next, a production function analysis is carried out, where the production function describes the relationship between input and output.

Based on the results of data analysis which shows that there are differences in the influence of each research variable, the machine variable has a positive and significant effect on the income of traditional fishermen in Krueng Mane, North Aceh. experience has a positive and significant effect on the income of traditional fishermen in Krueng Mane, North Aceh. capital has a positive and significant effect on the income of traditional fishermen in Krueng Mane, North Aceh. Fuel has no effect on the income of traditional fishermen in Krueng Mane, North Aceh.

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