



Investigation of Traditional Fishermen's Income in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency

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ABSTRAK

This research aims to reveal and analyze the income of traditional fishermen in Labuhan Bilik Village. The research methods used are surveys, interviews, and data analysis. The data collected includes fishermen's income, sources of income, equipment used, and challenges faced. The research results show that traditional fishermen's income comes from several sources, including fish catches, seafood, and side jobs such as agriculture. Although fishermen's income varies throughout the year and is influenced by weather factors, fish catches remain their main source of income. The main challenges traditional fishermen face in this village include climate change, declining fish stocks, and competition with commercial fishermen. It provides a basis for developing policies that support the fisheries sector in the region.

INTRODUCTION

Indonesia is the largest archipelagic country in the world. Indonesia has 17,499 islands with a total area of around 7.81 million km². Of the total area, 3.25 million km² is ocean and 2.55 million km² is the Exclusive Economic Zone. Only around 2.01 million km² of the island. In 2019, the export value of Indonesian fishery products reached IDR 73,681,883,000, an increase of 10.1% from export results in 2018. (Ministry of Maritime Affairs and Fisheries, 2020).

Traditional fishermen aim to catch fish using boats and simple (traditional) fishing gear. Due to limited boats and fishing equipment, the fishing area is limited, usually only 6 miles from the coastline. These traditional fishermen are usually fishermen from generation to generation who fish to make ends meet. Thus, the level of fulfillment of a family's consumption needs is determined by the income it receives. Fisheries resources can actually potentially be utilized to improve the standard of living and welfare of fishermen, but in reality, there are still many fishermen who have not been able to increase their production, so fishermen's income levels have not increased. There are several factors that cause fishing communities to not be able to increase their catches and this is based on the lack of capital and technology owned by fishermen, low market access, and low community participation in processing natural resources. Apart from that, there are also other causes, namely social factors such as high population growth, low levels of education, and low levels of health as well as other reasons such as public facilities and infrastructure in coastal areas (Prakoso, 2013: 16).

The current problems of fishermen have an impact on their economy which is increasingly declining. In fact, fishing is one of the main livelihoods to meet daily needs and support family members. The many problems of poverty that befall fishermen make their lives ups and downs. As the quality of human resources is limited, this reduces fishermen's opportunities for entrepreneurship other than going to sea. Apart from that, low levels of education also make it difficult for fishermen to choose and obtain other jobs, while the high cost of basic needs makes it difficult for fishermen to meet their family needs. In theory, fishermen's income is related to several factors. One of the factors mentioned above is the distance factor and also the capital factor. The longer the distance traveled, the more likely it is to obtain catches (production) and of course provide greater income than fishing near the coast. Apart from that, the capital factor is also very influential because when fishermen have bigger boats and technology, fishermen will earn more income.

The Barumun River in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency is one of the potential areas in Labuhan Batu Regency. Because the Barumun River is also close to the open sea, it is easier to get more fish. In general, the people of Sungai Barumun make their living as fishermen and this is one of the jobs that the people of Labuhan Bilik rely on Barumun River. Fisheries production in Labuhan Bilik Village in 2016 amounted to 978,624.9 (Kg) (Labuhan Batu Central Statistics Agency 2018). The author also found in the field that there are still many traditional fishermen who are still relatively poor. Most of the fishermen's children have not completed their

education and the fishermen also have a very low level of education, this is due to lack of funds, access to schools that are far from where they live, and the social conditions of the community that do not allow it, but on the other hand, they are also the heir to the nation. Judging from the living conditions of fishermen in Labuhan Bilik Sungai Barumun, Panai Tengah District, Labuhan Batu Regency is classified as underdeveloped. This can be seen, among other things, from the condition of housing and the infrastructure used for fishing that has not shown progress. Apart from that, in Labuhan Bilik Sungai Barumun there is no place to process dried fish, or raw fish which will later be sold to various other places.

With this reality, it is only natural that the potential of existing fisheries resources is developed for the prosperity of the people while maintaining and preserving these fisheries resources, in addition to paying attention to factors that support fishermen's production.

LITERATURE REVIEW

1) Fisherman Concept

Fishermen are people who live from marine products. In Indonesia, fishermen usually live in coastal or coastal areas. The fishing community is a group of people who make their living from marine products and live in coastal or coastal villages (Sastrawidjaya, 2002). The characteristics of fishing communities can be seen from various aspects, as follows:

- a) In terms of livelihood, fishermen are those whose activities are all related to the marine and coastal environment, or those who make fishing their livelihood.
- b) In terms of way of life, the fishing community is a mutual cooperation community. The need for mutual cooperation and mutual assistance is very important when dealing with situations that require large expenditures and the exertion of a lot of energy, such as when sailing, building houses, or wave-blocking embankments around villages.
- c) In terms of skills, even though fishermen's work is hard work, in general, they only have simple skills. Most of them work as fishermen, which is a profession passed down to them by their parents, not something they learned professionally.

From the social structure, fishing communities consist of heterogeneous and homogeneous communities. Heterogeneous communities are those who live in villages that are easily accessible by land transportation, while homogeneous communities found in remote fishing villages usually use simple fishing equipment, so productivity is small. Meanwhile, difficulties in transporting produce to market will also be the cause of low prices for seafood in their area. In general, fishermen are the term for people whose main work/occupation is catching fish in the sea, living/residing in coastal and coastal areas, and depending on marine products for their livelihood. It is difficult for the fishing community to escape the trap of poverty because they are often faced with this season, various businesses are carried out by

fishermen, for example, they sell their wife's jewelry to make ends meet or borrow from moneylenders (Kamaluddin, 2014: 18).

The condition of coastal communities or fishing communities in various areas is generally characterized by several characteristics such as poverty, socio-cultural backwardness, low human resources (HR), and weak functioning of the existence of business groups (Kusnadi, 2010; 25). Fishermen, as a group of people whose livelihoods depend directly on marine products, carry out business activities by earning income from the fishermen's own activities. They generally live along the coast, in a settlement close to the location of their activities.

2) Income Concept

A fisherman's income is the difference between receipts (TR) and all costs (TC). So $Pd = TR - TC$. A fisherman's income (TR) is the multiplication of the production obtained (Y) and the selling price (Py). Fishermen's costs are usually classified into two, namely fixed costs and variable costs. Fixed costs (FC) are costs that are relatively fixed in amount and continue to be incurred whether the production obtained is large or small. Variable costs (VC) are costs whose size is influenced by the production obtained, for example, labor costs. Total costs (TC) are the sum of fixed costs (FC) and variable costs (VC), so $TC = FC + VC$ (Soerkartawi, 2002).

According to Sukirno (2006), income is the amount of income received for work during a certain period, whether daily, weekly, monthly, or annually. The income of fishing communities depends on the utilization of potential fishery resources in the ocean. The income of fishing communities, directly or indirectly, will greatly influence their quality of life, because income from sailing is their main or even only source of income, so the size of their income will greatly influence their lives, especially their ability to manage the environment. where they live.

3) Production Function

According to Joesron and Suhartati (2003; 48) production is the final result of an economic process or activity by utilizing several inputs. With this understanding, it can be understood that production activities combine various inputs or inputs to produce output. The technical relationship between input and output in the form of equations, tables, or graphs is the production function. So, the production function is an equation that shows the maximum amount of output produced with a certain combination. Each factor has a different function and is interrelated with each other. If one factor is not available then the production process will not run, especially three factors, namely land, capital, and management, of course, the production process or farming business will not run because there is no workforce.

METHODOLOGY

This research was conducted using a quantitative paradigm. This research was conducted in Labuhan Bilik Village, Central Panai District, Labuhan Batu Regency. The object of this research is fishermen who live in the

research location. The population in this study were caught fishermen as ship owners in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency, namely 433 fishermen. Meanwhile, the number of samples taken in this research is only 82 people who are considered to represent Central Panai, Labuhan Batu Regency.

The variables in this research are:

- a. Independent variable (Independent Variable). An independent variable is a variable that influences other variables or is the cause of changes or emergence of the dependent (dependent) variable. In this research, the independent variables are age, family responsibilities, experience, length of time at sea, and engine size.
- b. Dependent Variable. The dependent variable is the variable that is influenced or is the result, because of the existence of the independent variable. The dependent variable in this research is income.

This research uses descriptive analysis methods and linear regression analysis, which are used to describe the reality of the object being observed, and then link it to theories or previous research whose truth is recognized. Apart from that, this technique is also used to provide suggestions based on problems that occur related to factors that influence the income of traditional fishermen.

RESULT

The following are the results of research conducted to determine the investigation of traditional fishermen's income in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency using a series of statistical tests, including:

PenMeasurement of R² Model Accuracy

Table 1. Regression Result
**Model
 Summary**

	Model R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.937a	.878	.870	30,269

a.Predictors: (Constant), Machine, Age, Dependents, Time, Experience

From the regression results, an Adjusted R² value of 0.870 was also obtained, indicating that 87.0 percent of the variation in changes in traditional fishermen's income in Labuhan Bilik Village, Central Panai District, Labuhan Batu Regency can be explained simultaneously by the variables of fishermen's age, number of family dependents, experience,

length of time at sea and size of engine used. Meanwhile, the remaining 13.0 percent is explained by other variables not included in the model.

Simultaneous Significant Test (Statistical F-test)

Table 2. F test

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	502005,159	5	100401,032	109,580	,000b
1 Residual	69633,866	76	916,235		
Total	571639.024	81			

a. Dependent Variable: INCOME

b. Predictors: (Constant), dependents, machine size, fishing time, age, experience.

This test was carried out to determine the significant influence of the independent variable on the dependent variable. This test uses a 99 percent confidence level with a significance level of 0.01. Based on the spss output table, the calculated f value is obtained 109,580 and is greater than the f table value, namely 3.26 at a confidence level of 0.01 or 99 percent. This means that H0 is rejected and H1 is accepted, which means that the independent variables (age, number of family dependents, fishing experience, length of time at sea and size of machine used) together have a real influence on the dependent variable (traditional fishermen's income) in Labuhan Bilik Village, District. Central Panai, Labuhan Batu Regency.

PenIndividual Parameter Significance Test (Statistical t-test)

Table 3. t test

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-89,620	34,339		-2,610	.011
1 AGE	5,698	,804	,654	7,087	,000
LAMA NETTING	6,368	3,833	,159	1,661	.101
EXPERIENCE	-.659	1,165	-.074	-.566	,573
ENGINE	-2,469	5,914	-.027	-.418	,677
HANDLE SIZE	15,921	6,182	,259	2,575	.012

a. Dependent Variable: income

This test is used to determine whether each independent variable individually has a significant influence on the dependent variable. By looking at the t table value at the 99 percent confidence level (0.01), namely 2.642. Based on the spss output table it can be seen that the calculated t value for age is $7.087 > 2.642$, so it can be concluded that there is an influence of age on income, the old t net is $1.661 < 2.642$, So it can be concluded that there is no effect of fishing time on income. t experience $-0.566 < 2.642$ then it can be concluded that there is no influence of experience on income, t calculate the size of the machine $-0.418 < 2.642$ so there is no influence of the size of the machine on income, t calculate the dependents $2.575 < 2.642$ so there is no influence of dependents on income.. So it can be concluded from this statement that of the six variables included in the model, only one variable individually influences the income of traditional fishermen in Labuhan Bilik Village, Central Panai District, Labuhan Batu Regency. This variable is the age variable used.

Testing the Classic Assumptions of Multicollinearity and Heteroscedasticity

Table 4. Multicollinearity and Heteroscedasticity Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-89,620	34,339		-2,610	.011		
LONG LIFE	5,698	,804	,654	7,087	,000	,188	5,315
1 NETTING	6,368	3,833	,159	1,661	.101	,174	5,744
EXPERIENCE OF	-.659	1,165	-.074	-.566	,573	,093	10,726
HANDLE ENGINE	-2,469	5,914	-.027	-.418	,677	,388	2,577
SIZES	15,921	6,182	,259	2,575	.012	,159	6,293

a. Dependent Variable: Income

Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant) AGE	-89,620	34,339		-2,610	.011
LAMA NETTING 1	5,698	,804	,654	7,087	,000
EXPERIENCE	6,368	3,833	,159	1,661	.101
ENGINE HANDLE	-.659	1,165	-.074	-.566	,573
SIZE	-2,469	5,914	-.027	-.418	,677
	15,921	6,182	,259	2,575	.012

a. Dependent Variable: Income

PeWe can test whether multicollinearity is occurring or not by looking at the variance inflation factor (VIF) contained in the regression results. If the VIF value is smaller than 10, then there is no multicollinearity, conversely, if the VIF value is greater than 10 then multicollinearity occurs. Based on the regression results on the SPSS output, age, dependents, length of fishing, and

machine size do not show or indicate the occurrence of multicollinearity (double collinearity) and only the experience variable has multicollinearity because it is greater than 10. Meanwhile, whether the heteroscedasticity problem occurs or not can be determined by using the Park test method, where the error variable as an independent variable is regressed against each independent variable in the model. Based on the regression results of the SPSS output, it can be seen that age and dependents have heteroscedasticity, while length of service, experience, and dependents do not have heteroscedasticity.

DISCUSSION

a) Age

Based on the research results, it shows that the age variable has a significant influence on the income of traditional fishermen in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency. The regression coefficient value is 5,698, which means that every increase in the age of fishermen will reduce the income of traditional fishermen. Whether the age variable has an influence or not can be seen from the regression results which show a regression coefficient value of 5,698 with a significance level of 0.000, which is much smaller than the significance level used, namely 1 percent (0.01). Technically, profit is calculated from the reduction between total revenue (total revenue) and total costs (total costs) incurred and then normalized by the output price and fixed input quantity so as to overcome small price variations.

b) Number of Family Dependents

Based on the research results, it is known that the number of family dependents has a significant effect on the income of traditional fishermen. The regression coefficient value is 15,921, which means that every additional family responsibility will only reduce the income of traditional fishermen by 15,921 percent. Whether or not the dependent variable has an influence can be seen from the regression results which show a regression coefficient value of 15,921 with a significance level of 0.012 which is much greater than the significance level used, namely 1 percent (0.01). The number of family dependents influences family dependents in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency because it can be seen from the distribution of respondents in the sample where the maximum number of family dependents is only 1-2 people.

c) Experience

Based on the research results, it is known that fishing experience is not significant on the income of traditional fishermen. The regression coefficient value is -0.659, which means that every additional fishing experience will only reduce the income of traditional fishermen by -0.659 percent. Whether the experience variable has an influence or not can be seen from the regression results which show a regression coefficient value of -0.659 with a significance level of 0.573 which is much smaller than the significance level used, namely 1 percent (0.01).

Fisherman's experience has no effect on the income of traditional fishermen in Labuhan Biik Village, Panai Tengah District, Labuhan Batu Regency because it can be seen from the distribution of respondents, where the largest fishing experience is in the 5-14 year interval, namely 38 fishermen. Apart from that, fishermen who have more fishing experience tend to no longer be of productive age so they have less fishing distance.

d) Long Time Fishing

Based on the research results, it was found that fishing time had a significant effect on the income of traditional fishermen. The regression coefficient value is 6.368, which means that every additional 1 hour of fishing time will increase the income of traditional fishermen by 6.368 percent. Whether or not the fishing time variable has an influence can be seen from the regression results which show a regression coefficient value of 6,368 with a significance level of 0.101 which is much greater than the significance level used, namely 1 percent (0.01). The length of netting has a significant effect because the longer the distance a fisherman travels, the production of the catch will also increase, causing income to also increase, and vice versa. Technically, profit is calculated from the reduction between total revenue and total costs. (total costs) incurred are then normalized by the output price and fixed input quantity so as to overcome small price variations. This is in line with research conducted by Sujarno (2014) which stated that the variable length of time at sea (distance traveled at sea) has a significant influence on the income of fishing fishermen in the research location.

e) Machine Size

Based on the research results, it turns out that the size of the machine used is not significant to the income of traditional fishermen. The regression coefficient value is -0.027, which means that every 1 HP increase in the size of the machine used will increase the income of traditional fishermen by -0.027 percent. Whether the age variable has an influence or not can be seen from the regression results which show a regression coefficient value of -0.027 with a significance level of 0.677 which is much smaller than the significance level used, namely 1 percent (0.01). Technically, profits are calculated from the results of the reduction between the total revenue (total revenue) with total costs (total costs) incurred are then normalized by output prices and fixed input quantities so as to overcome small price variations. This is not in line with research conducted by Syam (2014) which stated that the variable size of the engine used had no effect on the business income of traditional outboard motorboat fishermen in Ujung Tanah Pelabuhan District.

CONCLUSION

The investigation carried out found that the factors that significantly influenced the income of traditional fishermen in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency were age, dependents, and length of time fishing. Meanwhile, factors that do not have a significant effect on the

income of traditional fishermen in Labuhan Bilik Village, Panai Tengah District, Labuhan Batu Regency are experienced and machine size.

Based on the results of the research that has been carried out, the conclusion obtained is that the variables age, dependents, and length of fishing have a significant influence on the income of traditional fishermen, so the regional government should provide education about the importance of reducing the birth rate because it is one of the factors that significantly influences the income of fishermen in the region. this is the fisherman's responsibility or burden on his family. This can be done by the Regional Government by involving the regional PKK Team to provide outreach.

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