

## ENHANCEMENT FACTORS AFFECTING FISHERIES INCOME IN PAHLAWAN VILLAGE, TANJUNG TIRAM DISTRICT, BATU BARA DISTRICT

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### ABSTRACT.

This study examines whether the variable income of fishermen, the length of the sea and the length of business. Hypothesis this study states that the old variables of sea and length of time have a significant effect on the income of fishermen, because if the length of the sea and the length of business increases, the community can be said to be prosperous. Then the data obtained were analyzed using multiple regression analysis, data normality test, multicollinearity test suitability test, partial test (t-test), partial test (F-test), heteroscedasticity test and determination. The area studied was in the Pahlawan Village of Tanjung Tiram Sub-District, Batu Bara Regency, North Sumatra Province. Samples were taken as many as 30 samples, which were fishermen in Pahlawan Village, Tanjung Tiram District. The data taken is primary data taken directly with interview techniques using questionnaires. The results showed that the length of time and the length of sea fishing had a significant effect on the income of fishermen, and partially in the business did not significantly influence the income of fishermen, and the length of the sea had a significant effect on the income of fishermen in the Village of Heroes.

**Keywords:** *Fishermen's income, length of business, long time at sea.*

### I. INTRODUCTIONS.

Fisheries in Indonesia have many positive impacts on people's welfare. In addition to expanding employment opportunities and business opportunities, this also has an impact on improving health in the food sector. Minister Puji Astuti intensified the slogan "Let's Eat Fish" for the community because of the importance of the nutrients contained in fish. In the city of Medan, the coastal area is dominated by the coastal area of Cermin and its surroundings. Located approximately 3 hours from Medan City, there is also Coal Regency which saves the potential of fisheries in its area.

Pahlawan Village in Tanjung Tiram District, North Sumatra's Batu Bara Regency has an area of 173.79 km<sup>2</sup>. Located in a low-lying area of 0.4.5M which is directly adjacent to the Malacca Strait on the East. The village of heroes has a tropical climate with two seasons namely the rainy season and the dry season, where almost half of the area is affected by tides. The people who live in Pahlawan Village, Tanjung Tiram Subdistrict, have a population of around 5567 people, with a Family Head of 1452 (KK), 2649 men (LK) and 2918 Women (PR). 89% of the population work as fishermen, and some work as sea laborers.

The total population of Coal in June 2011 is estimated at 379,400 people, an area of 904.96 Km<sup>2</sup>, the number of households is 87,592. Most of the population resides in rural areas, namely 77.11 percent and the remaining 22.89 percent live in urban areas. When viewed per sub-district, the Lima Puluh Subdistrict is the district with the largest population with a population

distribution rate of 22.85 percent while Sei Balai District is the smallest at 7.63 percent. For the most densely populated Subdistrict, Medang Deras Subdistrict with a density reaching 705 people per km<sup>2</sup>, followed by the one that is located in Sei Suka District, which is 311 people per km<sup>2</sup>. The population of the Coal Regency is dominated by ethnic Malays, Javanese and Batak tribes. The Mandailing people are the Batak sub-ethnic who live here the most.

**Table 1.** Area Size, Number of Households, Population and Population Distribution by District in Batu Bara District in 2014

District	Size Area (Km <sup>2</sup> )	House Hold	Population	Distribution Population (%)
Sei Balai	92,64	6.604	26.914	7,09
Tanjung Tiram	173,79	14.714	63.728	16,80
Talawi	89,80	12.510	54.185	14,28
Lima Puluh	238,55	19.811	85,811	22,62
Air Putih	72,24	10.855	47.017	12,39
Sei Suka	171,47	12.238	53.010	13,97
Medang Deras	65,47	11.251	48.735	12,85
Total	904,96	87.592	379.400	100,00

However, in Pahlawan Village the level of community welfare is still relatively low. This can be seen in the condition of the village where there are still many houses which are considered slums. Images of the state of the community in the region are explained in the following figure. Work experience or the length of being a fisherman are the factors examined in this study. This is because the longer a fisherman seeks fish in the sea, the greater the level of experience. With this, the tendency of fishermen's income is also considered to increase (Dhian, 2012: 11). The explanation above illustrates that if you want to see the level of welfare of fishermen in Pahlawan Village, Tanjung Tiram Subdistrict, research is needed on factors that can affect the income level of coastal fishing communities. Some of the factors that are independent variables of fishermen's income level are the length of time at sea, and the length of effort that is the focus of this research

## II. LITERATURE REVIEW.

The concept of national income was first coined by Sir William Petty of England who tried to assess his country's national income (UK) in 1665. In his calculations, he used the assumption that national income is the sum of the cost of living (consumption) for a year. However, this opinion was not agreed upon by modern economists, because according to the view of modern economics, consumption is not the only element in the calculation of national income. According to them, the main tool as a measure of economic activity is Gross National Product (GNP), that is, the entire number of goods and services produced each year by the



country concerned is measured according to the market price in a country. The main purpose of running a trading business is to obtain income, where the income can be used to meet the needs of life and the survival of its trading business. The income received is in the form of money, where money is a means of payment or means of exchange (Samuelson and Nordhaus, 2003).

Fishermen are a term for people who work daily to catch fish or other biota that live on the bottom, column or surface of the water. The waters that become the area of activity for fishermen can be fresh, brackish or sea water. In developing countries such as in Southeast Asia or in Africa, there are still many fishermen who use simple equipment in fishing. Fishermen in developed countries usually use modern equipment and large vessels equipped with advanced technology. Eidman (1991) divides fishermen into two categories, namely cultivator fishermen and owner fishermen.

**III. METHOD OF RESEARCH.**

The research approach carried out in this study is quantitative because this study aims to determine the relationship between two or more variables (Rusiadi, 2013: 14). This quantitative study presents inferential statistical data analysis with multiple linear regression models. Data collection techniques used in this study using interview techniques (questionnaire questionnaire). Data collected is in the form of primary data, data originating directly from respondents through the interview process. Data sources are fishermen which include small boats / individual boats, informants (communities and Fish Auction Places / TPI). This study also uses the convenient sampling method, which is a procedure for obtaining sample units according to the wishes of researchers. A total of 50 respondents were taken from the location of Bunga Beach, the Heroes of Tanjung Tiram Regency, Batu Bara, North Sumatra.

In this case the author uses descriptive statistical analysis techniques. According to Sugiyono (2002: 142) that descriptive statistics are statistics used to analyze data by describing or describing data that has been collected as it is without intending to make conclusions that apply to the general or generalization. In this case the descriptive statistics know the development of old business data, the length of the sea and income. The author uses the SPSS 16 computer program to process data. The model used in this analysis is the econometric model. The data analysis method used is the ordinary least squares (Ordinary Least Square). The matching models are as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \mu \dots \dots \dots (2)$$

**Where:**

- Y = Income (Rupiah / month)
- α = Intercept
- β1, β2 = Regression coefficient
- X1 = Duration (year)
- X2 = Length of sea (hours / trip)
- μ = Term of error

## IV. RESULT.

### 4.1. Descriptive statistics

Descriptive statistics are statistics used to analyze data by describing or describing data that has been collected as it is without intending to make conclusions that apply to the general or generalizations. In this case the descriptive statistics are aware of the development of old data on sea time, length of business and income.

a. The minimum value for income is 0.79, then for the duration of business is 3.79. Length of sea is minus 52594.12.

b. For the maximum or highest value, income has a value of 6.49. The length of business has the highest value of 5.79, and the length of the sea has the highest value of 1.87.

c. For the average value, income during 1999-2015 has a value of 5.1127. The average length of business has a value of 4.8111, and the average length of sea is 1.2547.

### 4.2. Research Variable Data

Raw data for independent (independent) variables at length of time and length of time can be seen in the following table.

**Tables 2. Business Long Data**

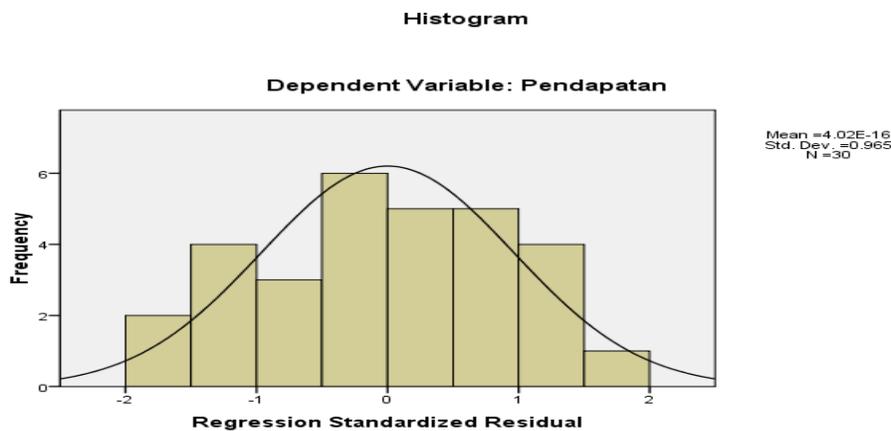
No.	Business Duration (years)	Number of people / Fishermen
1	< 10	1
2	11—20	6
3	21 – 30	10
4	31 – 40	10
5	41 – 50	3
	<b>Totals</b>	<b>30</b>

Based on the old business data, it is known that fishermen respondents who have 10 years of business have only 1 person. Respondents with a business duration of 11-20 years were 6 fishermen respondents. The length of effort of 21 to 30 years was 10 respondents, and 31-40 years worked as fishermen as many as 10 people. For the duration of the business 41-50 years there are 3 respondents. From the data, it is seen that the fishermen who are respondents have good and long-term business experience with a majority of over 20 years. They have a long experience because their culture has been handed down for generations, with parents working as fishermen.

**Tables 3.** Time Data Sail

No.	Time Sail (Hours)	Number Of Peoples
1	< 200	1
2	200-250	2
3	251-300	14
4	301-350	11
5	351-400	1
6	>400	1
<b>Totals</b>		<b>30</b>

Data normality test aims to test whether in the regression model, the interrupting or residual variables have a normal distribution. To find out whether there is data that has a normal distribution or not, the author uses graph analysis consisting of histograms and normal probability plots. The following is a normality test using histogram graphs and normal probability plots.



**Figure 1.** Value Normality test aims

## V. CONCLUSIONS.

The conclusions from this study are:

1. The old variable of business has a positive and insignificant effect on income variables in Pahlawan Village, Tanjung Tiram District.
2. The old variable of fishing has a significant positive effect on income variables in Pahlawan Village, Tanjung Tiram District.
3. Variables of the length of business and length of sea jointly have a significant positive effect on income in Pahlawan Village, Tanjung Tiram District.



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