

**THE INFLUENCE OF INCOME, SOCIAL CAPITAL, AND PRODUCTION LEVELS  
ON THE WELFARE OF MUSLIM FISHERMEN AT  
PT TIMUR JAYA TELUK NIBUNG**

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**Abstract:** *The purpose of this study was to determine the effect of income, social capital, and production level on the welfare of Muslim fishermen in PT. Timur Jaya Teluk Nibung. The type of research used in this study is associative quantitative research with multiple linear regression. The object of this study was Muslim fishermen on the coast of PT Timur Jaya Teluk Nibung with a total of 100 fishermen. The sampling method uses a simple random sampling technique. The results showed that partially the three variables, namely income, social capital, and production level, together had a positive and significant effect on the welfare of fishermen. Simultaneously showing the results that income ( $X_1$ ), social capital ( $X_2$ ), and production level ( $X_3$ ) have a significant effect on the welfare of fishermen. Then it can be said that  $H_a$  is accepted.*

**Keyword:** *Income, Social Capital, Production Levels, And Welfare*

## 1. Introduction

Indonesia is an archipelagic country that has a lot of natural resource potential. One of its abundant natural resources is the marine and fisheries sector. Proper and consistent management of the potential of coastal, marine and small island resources that we have will be able to provide social welfare to Indonesian people, especially people in coastal areas (Mufid, 2019). The potential of national maritime resources is the basis for developing various economic activities, so that coastal areas are one of the potential areas to support sustainable national development (Reni Ria Armayani Hasibuan, 2020).

Coastal areas are areas that have potential resources. This area is an area that is between the land area and the sea area. This enormous resource is supported by the Indonesian coastline which reaches a length of around 81,000 km. The potential wealth of natural resources stored along the Indonesian coastline is very large. This potential is biological resources and non-biological resources (Khusnawati, 2022). Biological potential, for example: fisheries, coral reefs and mangrove forests, while non-biological resources have potential such as: minerals and mining materials and tourism. In coastal areas there are also fishermen, most of whom are still below the poverty line or less prosperous (Wihastuti, 2019).

Communities living around coastal areas should be able to improve their welfare, just like fishing communities. Geographically, fishing communities are a group of people who live, grow and develop in coastal areas, namely a transition area between land and sea areas. Fishing communities have cultural values and symbols that they usually carry out every day, fishing

communities living in coastal areas, either directly or indirectly, can manage natural resources to meet their living needs (Aqwa Naser Daulay, 2019).

Fishing communities are people who live on the coast and depend on the sea for their livelihood. As a system, the fishing community consists of social categories that form a social unity (Munavizt, 2020). They also have a value system and cultural symbols as a reference for their daily behavior. This cultural factor differentiates fishing communities from other social groups. Some coastal communities have complex political, social and economic problems (Nurmalia, 2019).

**Table 1. Amount of Social Capital, Production Level, and Average Income of Fishermen, 2018-2022**

Year	Social Capital (%)	Production Level (%)	Income (%)
2018	40%	39%	45%
2019	46%	42%	53%
2020	30%	28%	32%
2021	45%	34%	45%
2022	56%	38%	51%
Amount	217%	181%	226%
Average	43%	36,2%	45,2%

Source: Written Documents of Tanjung Balai City

Table 1.1 shows that the average social capital for the last five years is 43%. This further resulted in an average production rate of 36.2%. Meanwhile, the average income is 45.2%. In 2018-2022 the amount of social capital, production levels and income will fluctuate from year to year. The decrease in income was caused by decreasing production levels, and was followed by an increase in social capital spent by fishermen while at sea, thereby reducing the net income earned by fishermen. So these three variables can influence the welfare of fishermen.

The phenomenon of low fishermen welfare is a problem that often occurs, especially among traditional fishermen, thus hampering the development of the fisheries subsector, especially capture fisheries (Sevina et al., 2022). The low level of fishermen's welfare is a challenge in achieving fisheries development goals, including improving the welfare of fishermen, fish farmers and other coastal communities. The fishing community is one of the poor community groups with all the attributes that describe their backwardness, whether seen from the inability to fulfill daily needs, such as clothing, food and shelter, so that fishing communities are often found to be malnourished, have low education and poor health, which has an impact on Fishermen's productivity is low which results in low income, so that the level of welfare is also low (Siagian, 2020).

The fishermen at PT. Timur Jaya Teluk Nibung works with the aim of earning income for living needs. To carry it out, several equipment is needed and is influenced by many factors to support the success of the activity.

Fisherman communities whose livelihoods depend on the management of potential fisheries resources so that communities living in coastal areas have different social characteristics from communities living in mainland areas (Ayatina, 2020). Communities in coastal areas are heterogeneous in structure, have high work enthusiasm, a strong level of social solidarity, and are easily open to change and social interaction. However, the problem of

poverty still plagues some coastal communities, so this social fact seems ironic amidst the wealth of coastal ocean resources (Reni Ria Armayani Hasibuan, 2021).

One form of fishing business at PT. Timur Jaya Teluk Nibung in the fisheries sector is a capture fisheries group business. In the area PT Timur Jaya Teluk Nibung is dominated by coastal villages and the permanent livelihood of its residents is as catch fishermen. In the capture fisheries business process, fishermen still use traditional production methods and a simple management basis. So far, the development of capture fisheries businesses has not been pursued optimally due to various technical and non-technical obstacles (Jusriadi, 2020). The main problem so far is that knowledge is still limited to the management of capture fisheries businesses, so it is realized that management of capture fisheries businesses needs to be reviewed not only from economic aspects, but also from social and environmental aspects.

Income comes from two sources, namely: income from fishing and income from outside the fishing business. The main source of income for fishermen comes from fishing, while income from non-fishing is usually lower. Decreasing income will cause the purchasing power of fishing communities to decrease (Daim, 2022). So, it can be said that if fishermen's capital increases, fishermen's productivity will also increase. 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 (Djanegara, 2019). Research conducted by Ayun Shela Laily (2020) states that social capital has a positive and significant effect on welfare, but income does not have a positive effect. And then research from Irsyad Shadri (2023), which states that income has an effect on welfare, while social capital and expenditure have no effect on the welfare of rice farmers. Research conducted by Didit Purnomo and Nando Savikri (2021) states that production levels have a negative effect on welfare, while other variables such as income have a positive effect.

Based on the description of this background and in order to increase income at PT. Timur Jaya Teluk Nibung Tanjung Balai City, research is needed on the influence of income, social capital and production levels, using direct research techniques or questionnaires. This research will take samples at PT. Timur Jaya Teluk Nibung is considered to represent the fishing population because they are located on a coastline that is close to each other and there are not too many significant differences between one village and another when viewed from the variables to be studied. Therefore, in this research, the author is interested in choosing the title "The Influence of Income, Social Capital, and Production Levels on the Welfare of Muslim Fishermen at PT Timur Jaya Teluk Nibung."

## **2. Literature Reviews**

### **Income**

Revenue is the main purpose of establishing a company. As a profit-oriented organization, revenue has a very large role. Revenue is an important factor in the operation of a company, because Revenue will affect the level of profit that is expected to ensure the survival of the company (Aqwa Naser Daulay, 2020a).

The Indonesian Institute of Accountants revealed in the Financial Accounting Standards of Entities Without Public Accountability (SAK ETAP) defines income as income arising in the implementation of ordinary entity activities and known by different names such as sales, rewards, interest, dividends, royalties and rent (Akuntansi, 2020).

According to Frima (2019) wrote that income is. "increase or increase in assets and decrease or decrease in liabilities of the company as a result of operating activities or

procurement of goods and services to the community or consumers in particular". Revenue is an inflow of assets arising from the delivery of goods or services carried out by a business unit during a certain period (Frima, 2019). For the company, the income earned on the principal operation will add value to the company's assets which will basically also increase the company's capital. However, for accounting purposes, additional capital as a result of the delivery of goods or services to other parties is recorded separately with the income account (Suci Indah, 2019).

Income or wages can be interpreted as a sum of money paid by people who give work to workers for their services according to the agreement. In the Qur'an surah Ash-Shura verse 20, Allah Almighty says :

مَنْ كَانَ يُرِيدُ حَرْثَ الْآخِرَةِ نَزِدْ لَهُ فِي حَرْثِهِ طُورًا وَمَنْ كَانَ يُرِيدُ حَرْثَ الدُّنْيَا نُؤْتِهِ مِنْهَا وَمَا لَهُ فِي الْآخِرَةِ مِنْ نَصِيبٍ ۚ ٢٠

*"Whoever desires profit in the hereafter We will increase that profit to him, and whoever desires profit in the world We give him a portion of the profit of the world, and there is not for him any part in the hereafter". (QS. Ash-Shura: 20)*

Judging from the various definitions above, it can be concluded that revenue is the amount of input obtained for services provided by the company which can include the sale of products or services (Aqwa Naser Daulay, 2020b). Income is usually measured and interpreted by several indicators, namely monthly income and the value of work. Monthly income is any additional economic ability that someone receives or obtains every month. The value of work is the value of the relationship involving two parties between the company and workers/employees. Workers will get a salary in return for services from the company or employer.

## Social Capital

Narayan (in Suharto, 2007) states that social capital is the rules, norms, obligations, reciprocity and trust that bind social relations, social structures and institutional arrangements of society that enable members to achieve individual goals. Social capital is a relationship that occurs and is bound by trust, mutual understanding, and shared values that bind group members to make possible joint action efficiently and effectively (Imsar, 2019). Social capital is the amount of resources, actual or virtual (implied) that develop in an individual or group of individuals due to the ability to have a lasting network in relationships that have more or less been institutionalized on the basis of knowledge and mutual recognition (Nasution, 2019).

Social capital by its function is not a single entity, but a compound entity containing two elements. First, social capital encompasses several aspects of social structure. Second, social capital facilitates certain actions of actors in such structures (Dea Lora Veni, Fauzi Arif Lubis, 2021). Social capital can be defined as the accumulation of different types of social, psychological, cultural, institutional and intangible aspects that influence cooperative behavior . The social life patterns, networks, norms and beliefs that enable participants to act together more effectively to pursue common goals. Allah Almighty says in the Qur'an surah Al-Maidah verse 2, which reads :

وَلَا تَعَاوَدُوا عَلَىٰ الْإِثْمِ وَالْعُدُوتِ ۚ وَاتَّقُوا اللَّهَ ۖ إِنَّ اللَّهَ شَدِيدُ الْعِقَابِ ۚ ٢

*"Help one another in doing good and piety. And do not help each other in sinful and hostile deeds. Fear Allah SWT. Actually, the torment of Allah Almighty is very painful". (QS. Al-Maidah: 2)*

Social capital is needed to create an unobtainable kind of moral community as in the case of forms of human capital (Reni Ria Armayani Hasibuan, 2022). The acquisition of social

capital requires habituation to the moral norms of a community and in its context at the same time adopting virtues such as loyalty, honesty, and dependability. Social capital is based more on general social virtues, which are a melting pot of beliefs and factors important to a country's economic health, relying on cultural roots (Muhamad Umar Mai, 2020). In social capital, it can be shared by several indicators to determine values and understandings, namely prevailing norms, kinship relations and community awareness. Norms are general habits or rules that become guidelines for behavior and already exist in a community group and have certain regional boundaries. Kinship or kinship is a relationship between each entity that has the same genealogical origin, whether through biological, social, or cultural descent. Public consciousness is a condition in which people are aware of their rights and obligations as citizens and social beings. Consciousness is also synonymous with knowledge, conscious and knowing.

### **Production Rate**

According to Hadiprodjo and Soedarmo, the Production Level is the activity of transforming inputs into outputs, including all activities or activities that produce goods or services, as well as other activities that support or support the business of producing products (Pambudy & Handayati, 2022). So the usual level of production is interpreted as the quantity or amount of products produced by production activities (Triyana, 2021).

Proper production is optimal production. In optimizing the production process, it is necessary to know the function of the production itself. The purpose of production activities in general is to meet human needs to achieve prosperity. That is, a person achieves goods and services in sufficient quantities (Sunarsi, 2021). This is in accordance with the word of Allah SWT in the Qur'an surah Yusuf verse 43 which reads :

وَقَالَ الْمَلِكُ إِنِّي أَرَى سَبْعَ بَقَرَاتٍ سِمَانٍ يَأْكُلُهُنَّ سَبْعٌ عِجَافٌ وَسَبْعٌ سُنبُلَاتٍ خُضْرٍ وَأُخَرَ يَابِسَاتٍ يَا أَيُّهَا الْمَلَأُ أَفْتُونِي فِي رُؤْيَايَ  
إِنْ كُنْتُمْ لِلرُّؤْيَا تَعْبُرُونَ ٤٣

*"The king said (to the leading men of his people): "Verily I dreamed of seeing seven fat heifers eaten by seven thin heifers and seven green (wheat) and seven dry ones". O eminent men: "Explain to me about the ta'bir of my dreams if you can make dreams". (QS. Yusuf: 43)*

The level of production is an activity that converts inputs into outputs. Such activity in ordinary economics is expressed in terms of product function, product function indicates the maximum amount of output that can be produced from the use of a certain number of inputs using a certain technology (Aqwa Naser Daulay, 2023). Production is often defined as the creation of use, where guna means the ability of goods or services to meet human needs. Meanwhile, production factors are objects provided by nature or created by humans that can be used to produce goods and services (Budi Dharma, 2023). At the production level, to determine the assessment or measurement using indicators of the technology used and the length of time at sea. The technology used is a tool developed by humans to create certain procedures, more up-to-date and practical or facilitate life. Examples of technology, present in the form of various machines, communication tools, and so on. And the length of time to go to sea is the time done during the process of going to sea and catching fish.

### **Welfare**

According to Halim (2021) Welfare or prosperous can have four meanings (Big Dictionary Indonesian), in general terms, prosperous refers to a good state, a human condition in which people are in a prosperous state, in a healthy and peaceful state. In economics,

prosperity is associated with material gain (Nur Zaidah, 2019). Prosperity has a specific official or technical meaning (see welfare economics), as in terms of social welfare functions (Muhammad Ikhsan H, 2022).

In social policy, social welfare refers to the range of services to meet the needs of the community. This is the term used in the idea of a welfare state. In the United States, prosperity refers to money paid by the government to people who need financial assistance, but are unable to work, or whose fishermen's exchange rate (income) received to meet basic needs is inadequate (Lobeng, Hander and Wahono, 2020). The amount paid is usually well below the poverty line, and also has special conditions, such as evidence of being looking for work or other conditions, such as incompetence or childcare obligations, that prevent him from being able to work. In some cases, recipients of funds are even required to work, and are known as workfare (Handoko, 2020). Allah Almighty says in the Qur'an surah An-Nisa verse 9 which reads :

وَلْيَخْشَ الَّذِينَ لَوْ تَرَكَوْا مِنْ خَلْفِهِمْ ذُرِّيَةً ضَعِيفًا خَافُوا عَلَيْهِمْ فَلْيَتَّقُوا اللَّهَ وَلْيَقُولُوا قَوْلًا سَدِيدًا ۙ

*"And fear (God) those who if they leave a weak offspring behind them whom they fear for (welfare). Therefore, let them fear Allah, and let them speak with the right words." (QS. An-Nisa: 9)*

According to Law No. 11 of 2009, concerning Social Welfare. Social welfare is a condition of meeting the material, spiritual, and social needs of citizens in order to live a decent life and be able to develop themselves, so that they can carry out their social functions (Harina, 2019). Social welfare problems that develop today show that there are citizens who have not fulfilled the right to their basic needs properly because they have not received social services from the State. According to the Central Statistics Agency (2019), the indicators used to determine the level of welfare are the level of fishermen's exchange rate (NTN), family consumption or expenditure, living conditions, living facilities, education, health of family members, ease of obtaining health services (Handoko, 2020).

### **3. Research Method**

This research uses an associative quantitative approach with multiple linear regression, where this research is research that uses scientific calculations obtained through individual samples in a research object by asking them to provide answers to a survey which aims to determine the relationship between two or more variables. This research uses quantitative data because the data presented is related to numbers or scoring. The research has 4 variables with 3 independent variables (X) and 1 dependent variable (Y). The population is Muslim fishermen who live on the coast of PT. Timur Jaya Teluk Nibung. The sample for this research was 100 respondents. The data analysis method uses multiple linear regression analysis and hypothesis testing. The scope of this research is the income variable which is reflected by the income received per month, the value of the work. Production level factor variables are reflected by length of time at sea and technology. Social capital variables are reflected by applicable norms, community awareness, and kinship relationships (*networks*). And variables welfare (Y) is reflected by the fishermen's exchange rate (NTN), education and health of the fishing community. In line with this research, the aim is to carry out hypothesis testing in finding the influence of the variable aspects of Income, Social Capital and Production Level on the Welfare of Muslim Fishermen at PT. Timur Jaya Nibung Bay. This research uses SPSS 24 software.

**4. Results and Discussion**

**Geographical location of Teluk Nibung District, Tanjung Balai City**

Teluk Nibung District occupies an area of 1,255 Ha, which includes 5 sub-districts. The Teluk Nibung sub-district area to the north of Tanjung Balai City borders Air Joman sub-district, to the east it borders Sei Kepayang sub-district, to the south it borders Sei Tualang Raso sub-district, and to the west it borders Tanjung Balai sub-district.

Of the five sub-districts in Teluk Nibung sub-district, the one with the largest area is Pematang Pasir sub-district with an area of 420 Ha, and the smallest is Perjuangan sub-district with an area of 128 Ha.

**Table 2. Location and Geography**

No	Characteristics	Explanation
1	Island	Sumatra
2	Province	North Sumatra
3	City	Tanjung Balai
4	Height of Place	0-1 m DPL
5	An area	1,255 Ha
6	Limit	
	North	Asahan Regency
	East	Sei Kepayang District
	South	Sei Tualang Raso District
	West	Tanjung Balai District
7	Distance from Teluk Nibung District office to the Mayor's Office	12 Km

Source: Written Documents of Tanjung Balai City

**Data Processing Results**

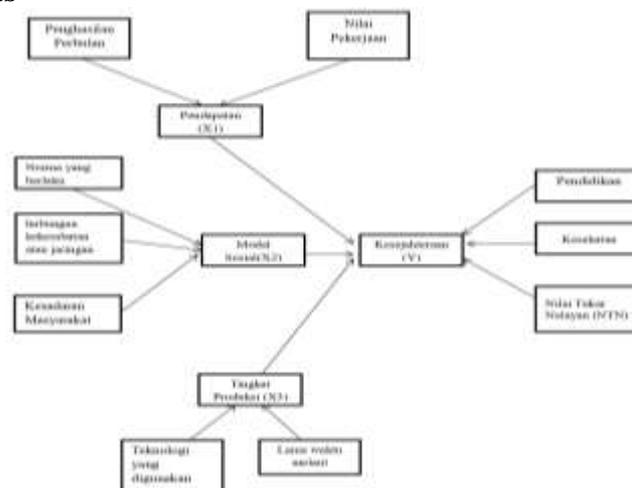


Figure 1, Research Flow Diagram

## 1. Test Research Instruments

### Validity and Reliability Test

Based on the results of data processing with the help of SPSS 24, the questions and answers from respondents can show the level of validity and reliability of the research. To measure the validity of the research, a comparison is used between the calculated r value and the r table value. If the calculated r value  $>$  r table then it can be said that all of the respondents' answers are valid. The calculation results show that all calculated r values  $>$  r table, this indicates that all of the respondents' question and answer instruments are declared valid.

As for measuring the extent to which the data used is reliable, it can be seen in the Cronbach alpha number. Based on the Cronbach alpha value of each of these variables, it exceeds the specified limit, namely 0.6. So it can be said that the use of all instruments is reliable. The equation model in this research is in accordance with Figure 1.

## 2. Classic assumption test

The prerequisite test analysis in this research is using the classical assumption test as one of the requirements for using regression analysis. The testing can be divided into several testing stages, namely :

### Normality test

The normality test is used to test whether the dependent and independent variables in the regression method have a normal distribution or not. This research was carried out using graphs and looking at the magnitude of the Kolmogorov-Smirnov significance number. The way the Kolmogorov-Smirnov test works is to determine the results, one of which is to see the significant value of Monte Carlo (2-tailed). If the Monte Carlo sig (2-tailed) value is  $>$  0.05 (sig  $>$  0.05) then the residual is normally distributed. And if the Monte Carlo sig (2-tailed) value is  $<$  0.05 (sig  $<$  0.05) then the residual is not normally distributed.

**Table 3. Normality Test Results with Kolmogorov Smirnov Test**

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		100
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	8.30382904
Most Extreme Differences	Absolute	.092
	Positive	.072
	Negative	-.092
Test Statistic		.092
Asymp. Sig. (2-tailed)		.200
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: SPSS 24 data output processed, 2023

From the results in table 1.3, normality testing using the One-Sample Kolmogorov-Smirnov Test reveals that the Asymp. Sig (2-tailed) is 0.200. So the Sig value is  $0.200 > 0.05$ . Therefore, it can be concluded that the data is normally distributed because the value of the normality test results is greater than the standardized value, namely 0.05.

### Multicollinearity Test

This test aims to test whether in the regression model a correlation is found between the independent variables. Based on the variance inflation factor (VIF) and tolerance rules, if the VIF exceeds 10 or the tolerance is less than 0.10 then symptoms of multicollinearity are declared to have occurred. On the other hand, if the VIF value is less than 10 or the tolerance is more than 0.10, it is stated that there are no symptoms of multicollinearity. The results of the multicollinearity test can be seen in the following table :

**Table 4. Multicollinearity Test Results**  
Coefficients<sup>a</sup>

Model	Collinearity Statistics	
	Tolerance	VIF
Constant		
Income	.832	1.201
Social Capital	.416	2.404
Production Level	.457	2.190

Source: SPSS 24 data output processed, 2023

Table 1.4 shows the VIF value for each variable income, social capital and production level, the VIF value is  $< 10$  and the tolerance value for each variable is  $> 0.10$  so that the regression model is declared to have no symptoms of multicollinearity.

### Heteroscedasticity Test

The heteroscedasticity test aims to test whether there are differences in variance or residuals from one observation to another. In regression, the main condition that must be met is that heteroscedasticity does not occur. To find out that the regression model is not heteroscedastic, it can be seen from the significant value of each variable, which is greater than 0.05 (Djaali, 2020).

**Table 5. Heteroscedasticity Test Results**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	52.580	2.510		2.232	.000
	Income	.449	.077	.515	5.826	.104
	Social Capital	.272	.095	.359	2.870	.085
	Production Level	.319	.104	.364	3.053	.121

a. Dependent Variable: Abs\_Res

Source: SPSS 24 data output processed, 2023

Table 1.5 shows the test resultsheteroscedasticity, in the table above it can be seen that the significant value of the income, social capital and production level variables is greater than 0.05 so that heteroscedasticity does not occur.

### Autocorrelation Test

The autocorrelation test aims to see whether in the linear regression model there is a correlation between the confounding error in period t and the confounding error in period t-1 (*previous*). The test uses the Durbin Watson Test (DW Test). A good regression model is if  $du < dw < 4-du$ , it is concluded that there are no symptoms of autocorrelation, either positive or negative.

**Table 6. Autocorrelation Test Results**

Value Durbin Watson				
D	Dl	Du	4-dl	4-du
1,872	1,6131	1,736	2,3869	2,264

Source: SPSS 24 data output processed, 2023

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.375 <sup>a</sup>	.613	.356	1.892	1.872
a. Predictors: (Constant), Income, Social Capital, Production Level					

Source: SPSS 24 data output processed, 2023

Table 1.6 shows the DW (Durbin Watson) value of 1.872. Based on the DW table, the values for  $dl = 1.6131$  and  $du = 1.736$  are obtained. The condition for not being affected by autocorrelation symptoms is the  $du < dw < 4-du$ . So, the value obtained is  $1.736 < 1,872 < 2,264$ . Therefore, it can be concluded that in this study there were no symptoms of autocorrelation.

### 3. Multiple Linear Regression Analysis

This multiple linear analysis aims to determine the effect of the independent variables, namely Income ( $X_1$ ), Social Capital ( $X_2$ ), and Production Level ( $X_3$ ), on the dependent variable, namely the Welfare of Muslim Fishermen ( $Y$ ) at PT. Timur Jaya Teluk Nibung. The following are the results of multiple regression analysis using the IBM SPSS 24 program.

**Table 7. Multiple Linear Regression Test Results**

Model	Unstandardized Coefficients		Standardized Coefficients Beta
	B	Std.Error	
Constant	1,051	2,380	
Income	0,449	0,077	0,515
Social Capital	0,272	0,095	0,359
Production Level	0,319	0,104	0,364

Source: SPSS 24 data output processed, 2023

Based on the results of the table above using the IBM SPSS 24 program, it is known that the multiple linear regression equation is as follows :

$$\text{Ln}Y = \beta_0 + \beta_1 \text{Ln}X_1 + \beta_2 \text{Ln}X_2 + \beta_3 \text{Ln}X_3 + \mu$$

So the regression equation becomes as follows :

$$\text{LnY} = (1,051) + 0,449X_1 + 0,272X_2 + 0,319X_3 + \mu$$

Information :

$\text{LnY}$  = Fishermen's Welfare

$\text{LnX}_1$  = Income

$\text{LnX}_2$  = Social Capital

$\text{LnX}_3$  = Production Level

The results of the multiple regression equation above can be seen as follows :

1. Coefficient Value ( $\beta_0$ )

The coefficient value  $\beta_0$  is (1,051), this figure shows that if income ( $\beta_1$ ), social capital ( $\beta_2$ ), production level ( $\beta_3$ ) social capital (0) or the constant means that fishermen's welfare is 1,051.

2. Income ( $X_1$ )

The regression coefficient on the income variable ( $X_1$ ), amounting to 0,449 is positive, this means that if income ( $X_1$ ), increases by 1%, then the welfare of fishermen (Y) will also increase by 0,449%. This is in accordance with the previous hypothesis that income has a positive and significant effect on fishermen's welfare.

On opinion indicatorsanIt can be seen that monthly income and the value of the job are the most influential, because if the income is high then the income and also the value of the job are also high. With a high level of income, fishermen will be prosperous. Increasing fishermen's income affects the welfare of fishermen. The greater the ability of supporting factors, the greater the income generated and the relative welfare increases.

3. Social Capital ( $X_2$ )

The regression coefficient on the Social Capital variable ( $X_2$ ), amounting to 0,272 is positive, this means that if Social Capital ( $X_2$ ) increases by 1%, then the welfare of fishermen (Y) will also increase by 0,272%.

Social capital has the greatest influence on welfare, due to, among other things, compliance with norms that apply in fishing communities, such as obedience not to pollute coastal areas, which can significantly improve the health status of fishermen who mostly live in coastal areas. Furthermore, close kinship relationships or social networks, and a high level of trust among fishermen towards fellow fishermen and collectors are also able to improve the welfare of the fishermen themselves. Good communication can increase public awareness of the importance of family education in efforts to improve the quality of life.

4. Tingkat Produksi ( $X_3$ )

The regression coefficient on the Production Level variable of ( $X_3$ ) amounting to 0,319 319 is positive, this means that if the Production Level ( $X_3$ ) increases by 1%, then the welfare of fishermen (Y) will also increase by 0,319%.

In the production factor variables, technological indicators have the most dominant influence on fishermen's welfare. The more sophisticated the fishing gear used, the more catches you will get. The more sophisticated the technology and fishing gear used by fishermen, the more productivity will increase, thereby increasing production, and the community will earn higher incomes and can improve fishermen's welfare.

5. Fishermen's Welfare (Y)

Based on the research results, it is shown that the variables income ( $X_1$ ), Social Capital ( $X_2$ ), and Production Level ( $X_3$ ) have a positive and significant effect on Fisherman's Welfare (Y).

The level of welfare of the Muslim fishing community in PT Timur Jaya Teluk Nibung can be measured using the fishermen's exchange rate (NTN) which is obtained by comparing the entire value of revenue to all expenditure, looking at this phenomenon it will of course greatly influence the tendency to consume, more is allocated to spending on food ingredients, meaning that more productive distribution must be ignored As a result, the level of income that only comes from catches is very dependent on ocean conditions. These are indicators of welfare in this research, namely income, social capital and production level.

### Hypothesis testing

Hypothesis testing is a temporary answer to the problem formulation in research :

#### 1. T Test

The t test is used to test the influence of the independent variables (*income, social capital and level of production*) on the dependent variable (*welfare*) partially to test whether each independent variable is significant or not on the dependent variable using a significance level of 0.10.

Based on the SPSS 24 output, it can be seen from the three independent variables, namely income, social capital and production levels on fishermen's welfare in table 1.8 below :

**Table 8. Significant Values of the T Test**

Model		T Hitung	T Tabel	Sig.
1	(Constant)	.442		.660
	Income	5.826	1.661	.000
	Social Capital	2.870	1.661	.005
	Production Level	3.053	1.661	.003
a. Dependent Variabel: Fisherman's Welfare				

Source: SPSS 24 processed data, 2023

The results of the partial regression analysis above can be concluded that :

- In the income variable  $t_{count} > t_{table}$  ( $5,826 > 1,661$ ) and sig ( $0,000 < 0,05$ ) means that  $H_0$  is rejected and  $H_a$  is accepted. This means it is variable income has a significant influence on the welfare of fishermen. This means that the better the income received by fishermen, the welfare of PT Timur Jaya Teluk Nibung Muslim fishermen will improve.
- On the social capital variable  $t_{count} > t_{table}$  ( $2,870 > 1,661$ ) and sig ( $0,005 < 0,05$ ) means  $H_0$  is rejected and  $H_a$  is accepted. This means that the social capital variable has a significant influence on the welfare of fishermen. That means it's getting better capital social, it will improve the welfare of Muslim fishermen at PT Timur Jaya Teluk Nibung.
- At the production level variable  $t_{count} > t_{table}$  ( $3,053 > 1,661$ ) and sig ( $0,003 < 0,05$ ) means that  $H_0$  is rejected and  $H_a$  is accepted. This means that the production level variable has a significant influence on the welfare of fishermen. This means that the better the production level, the welfare of PT Timur Jaya Teluk Nibung Muslim fishermen will improve.

#### 2. F Test

The F test is a simultaneous test to determine whether the variables income, social capital and production level simultaneously have a significant influence on fishermen's welfare. The results of the analysis can be seen in table 1.9 below :

**Tabel 9. ANOVA<sup>a</sup> F Test Results**

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	206.457	3	68.819	19.222	.000 <sup>b</sup>
	Residual	343.703	96	3.580		
	Total	550.160	99			
a. Dependent Variable: Fisherman's Welfare						
b. Predictors: (Constant), Income, Social Capital, Production Level						

Source: SPSS 24 processed data, 2023

From the output results in table 1.9, the calculated F value is 19,222 with a significant level of 0,000 because the significant level is  $0,000 < \alpha = 0,05$ , so there is a simultaneous influence of Income ( $X_1$ ), social capital ( $X_2$ ) and production levels ( $X_3$ ) on fishermen's welfare (Y). This shows that the three independent variables simultaneously or together have a significant effect on the dependent variable.

### 3. Coefficient of Determination Test ( $R^2$ )

The coefficient of determination is used to measure the best accuracy of multiple linear regression analysis. If the  $R^2$  obtained is close to 1 (*one*), it can be said that the stronger the model explains the independent variable on the dependent variable. On the other hand, if  $R^2$  approaches 0 (*zero*), the weaker the independent variables explain the dependent variable. This means that what percentage of the welfare variable (Y) can be explained by the variables income ( $X_1$ ), social capital ( $X_2$ ) and production level ( $X_3$ ).

**Tabel 10 Adjusted  $R^2$**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.375 <sup>a</sup>	.613	.356	1.892
Dependent Variabel : Welfare				

Source: SPSS 24 processed data, 2023

Based on table 1.10, the coefficient of determination has an R square value of 0.613. This means that 61.3% of fishermen's welfare (Y) can be explained by independent variables, namely income, social capital and production levels. Meanwhile, the remaining 38.7% can be explained by other variables not studied.

## Discussion

On income  $t_{count} > t_{table}$  ( $5,826 > 1,661$ ) and sig ( $0,000 < 0,05$ ) means that  $H_0$  is rejected and  $H_a$  is accepted. This means it is variable income has a significant influence on the welfare of fishermen. This means that the better the income received by fishermen, the better the welfare of Muslim fishermen will be.

With increasing income, fishermen's household expenditure at PT Timur Jaya Teluk Nibung tends to increase as well. When fishermen's income increases, their consumption also increases, but the increase is not too large, the increase does not occur in food expenditure, but in expenditure on the need for education, recreation, luxury goods and savings will increase. As income increases, consumption will increase. Fulfilling the living needs of fishermen reflects the welfare of the fishermen themselves. Furthermore, income is the difference between the costs incurred during business activities and the income obtained from the catch. The average

income of fishermen at PT Timur Jaya Teluk Nibung is above the Regency/City Minimum Wage (UMK) of IDR 3,102,000.00. The higher the income level of fishermen will also increase their purchasing power for the types of goods or services needed. It is proven that the higher the income of fishermen in Tanjung Balai City, the greater their household expenditure or household consumption.

This research is in line with research conducted by Hendra Laksamana and Suud Ema stating that there is a positive and significant relationship between income and the welfare of fishermen in the Salimbatu Village community (Hendra Laksamana., 2021). Which means that the higher the community's income, the higher the level of fishermen's welfare.

On social capital  $t_{count} > t_{table}$  (2,870 > 1,661) and sig (0,005 < 0,05) means  $H_0$  is rejected and  $H_a$  is accepted. This means it is variable capitalsocial media has a significant influence on the welfare of fishermen. That means it's getting better capitalsocial media, it will improve the welfare of Muslim fishermen. Social capital has an influence on the middle class, but it has a greater influence on the lower classes. By increasing the quality of fishermen's social capital, the welfare of fishermen tends to increase. There is a close relationship between social capital and welfare. A country or nation with a high level of welfare is a nation that has high social capital. The better the relationship between fishing communities can further improve the welfare of local fishermen. Even though fishing activities can give rise to the potential for disputes, the level of trust, compliance with norms, and the existence of a fairly strong social network between fishermen are capital in themselves for business continuity and are able to improve fishermen's welfare.

This research is in line with research conducted by Ayun Shela Laily which states that there is a positive and significant relationship between capitalsocial and economic welfare of pond farmers in Pokdakan Mina Lestari in Dororejo Village (Laily, 2020).

At the production level  $t_{count} > t_{table}$  (3,053 > 1,661) and sig (0,003 < 0,05) means that  $H_0$  is rejected and  $H_a$  is accepted. This means that the production level variable has a significant influence on the welfare of fishermen. This means that the better the production level, the better the welfare of Muslim fishermen.

At the production level, The more sophisticated the technology and fishing equipment used by fishermen, the more productivity will increase, thereby increasing production, and the community will earn higher incomes. The length of time at sea or working hours for fishermen at PT Timur Jaya Teluk Nibung varies from 10 to 15 hours a day, 10 to 15 times going to sea a month, so that fishermen's working hours reach 100 to 180 hours a month. The longer the time spent doing the job, the greater the possibility of getting more catches with the same fishing gear. The longer time spent and the greater the distance traveled in fishing work, the greater the possibility of obtaining a catch (*production*) compared to fishing near the coast. Fishermen who use more sophisticated fishing equipment, with the same capital, are able to obtain greater catches so that fishermen's income is also greater. This indicates that technology has the greatest influence on the level of production and welfare at PT Timur Jaya Teluk Nibung.

This research is in line with research conducted by Dwi Kusumayanti, Djinar, and Suyana stating that there is a positive and significant relationship between production with the welfare of fishermen in Jembrana district (Ni Made Dwi Kusumayanti., 2018).

In the income variable, the income earned is expected to be able to meet the living needs of a fisherman. The level of income reflects the economic growth that must be achieved in a good economy, namely an economy that is able to provide prosperity. Second, the social capital variable is the most important resource in people's lives because this capital is a network

or family relationship with the outside world, both formal and informal, to solve various problems that exist in society, including the problem of increasing welfare. Third, production level variables. Efficient use of production factors will result in an optimal increase in production, such as: length of time at sea. The costs required by fishermen for the fishing process are quite large for operations while at sea.

Variations in changes in income (*monthly income, value of work*), social capital (*norms, networks or kinship relationships, community awareness*), and production levels (*length of time at sea, technology*), influence variations in changes in welfare (*fishermen's exchange rate, health, education*) of fishermen at PT Timur Jaya Teluk Nibung but are also influenced by other factors not included in this research model.

## **5. Conclusion**

Based on the results of data analysis obtained from 100 respondents who work as fishermen on the coast of PT. Timur Jaya Teluk Nibung, the following conclusions are drawn, namely :

Income has a significant influence on the welfare of fishermen. This means that the better the income received by fishermen, the better the welfare of Muslim fishermen will be.

Social capital has a significant influence on the welfare of fishermen. This means that the better the social capital, the better the welfare of Muslim fishermen.

Production levels have an important role in fishermen's income. Where the level of production has a significant influence on the welfare of fishermen. This means that the better the production level, the better the welfare of Muslim fishermen.

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