ANALYSIS OF IMPACT FACTORS ON FISHERMEN INCOME IN THE LOVINA BEACH, BULELENG DISTRICT

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ABSTRACT: The purpose of this study is to analyze the factors that affect fishermen income. This research was conducted in the Lovina Beach Area, Buleleng Regency. The number of samples taken in this study amounted to 138 fishermen, using probability sampling techniques and simple random sampling methods. The analysis technique used in this study is multiple linear regression analysis. Based on the results it was found that working hours, capital and work experience had a significant effect on the income of capture fishermen in Lovina Beach, Buleleng Regency. This shows that the higher working hours used for fishing, the greater the capital used, and the longer work experience owned by fishermen, the higher the income earned by these fishermen.

KEYWORDS: working hours, capital, work experience, income

I. INTRODUCTION

Catch production is a determining factor for fisher's income. The more catches, the more income earned by fisher (Asmitha, 2016). Fisherman production in the form of fish catches greatly influences the level of income of fishermen as well as the purchasing power of the community itself. If the production of fishers is high, the income of fisherwill increase, so that people's purchasing power will also increase. Conversely, if the fisher's production is low, the level of fisher's income will decrease so that the level of people's purchasing power is low. The low income is also due to internal factors in the workers themselves, including their low productivity and only a small amount of time spent working (Parinduri, 2014). In general, it can be assumed that the more hours worked by fisher to go to the sea means that the work done is more productive so that if more time is devoted to working, production will increase. With this, the trend of fisher's income is also considered to be increasing (Dhian, 2012: 11). Another study conducted by Sukma and Surya (2014), stated that working hours had a positive and partially significant effect on the income of labor fisher in the Muara Sungai Ijo Gading Area, Jembrana Regency. Also, research conducted by Urmila and Windu (2017) states that outpouring of working hours has a positive and significant effect on the income of bamboo craftsmen homemakers. Huazhang (2014), found that capital has a positive effect on production results, as well as capital used for production to increase output and income in the future by saving a portion of income and reinvesting. The greater the capital used will affect the number of products produced, the level of use of the processes needed for production will be more and more (Cahya Ningsih and Indrajaya, 2015). Research conducted by Sujarno (2008) shows that working capital, labor, experience, and distance traveled to the sea have a positive influence on fisher income. Then Sasmita (2006), through her research, showed that working capital, labor, and sea time (working hours) had a positive and significant effect on the increase in fisher's business income in Asahan Regency by 60.73 percent. McIlveen (2012) suggested work experience has a positive and significant influence on career development. Meanwhile, based on the results of research conducted by Asmita (2016), it is known that the experience of fishing has a negative and not significant effect on the income of fishers. The experience of fishers does not affect the income of fishers in Galesong Village Kota Galesong District Takalar Regency. This is in line with Sasmita's (2006) study, which found that the experience variable as a fisherman did not have a significant influence on the increase in fisher's business income in Asahan Regency.

Hypotheses are scientific statements based on theoretical and empirical studies that are temporary answers to the problems faced to be tested for their truth. Based on the empirical data collected, the hypotheses in this study are as follows:

1) Suspected working hours, capital, and work experience simultaneously have a significant effect on the income of fisher on Lovina Beach.
2) It is suspected that working hours, capital, and work experience partially have a significant effect on the income of fisher on Lovina Beach.

II. RESEARCH METHODS

This research was conducted in the area of Lovina Beach, Buleleng Regency, Bali Province. The limitation of the Lovina Beach area in this study includes Kalia sem Village, Kalibukbuk Village, and Anturan Village. This location was chosen because the phenomenon shows that there is a lot of fishers who also work as fisher and also become marine tourism guides because the income earned by being a tour guide is considered to be more secure than the income of fisher when fishing at sea.

In this study, the population are people who work as fisher who also double as marine tourism guides in the area of Lovina Beach. The selection of the community who work as fisher is to find out how much income the fisher get from catching fish in the sea because in this case there is a phenomenon in the form of a large number of traditional fisher who begin to divert their activities or sources of income to the tourism sector so that work as catch fisher begins to be abandoned. Based on sample calculations using the Slovin formula, the number of samples taken was 138 people.

In this study, multiple linear regression analysis techniques are used to determine the effect of working hours, capital, and work experience on the income of fisher on Lovina Beach both simultaneously and partially. To see the effect of these variables on income, the production function analysis model is used, where the production function describes the relationship between inputs and outputs used as follows:

\[ Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + u \]

Information:
- \( Y \) = income (IDR/month)
- \( \alpha \) = Intercept / constant
- \( X_1 \) = working hours (hours / month)
- \( X_2 \) = Capital (IDR/month)
- \( X_3 \) = Work experience (years)
- \( \beta_1 \ldots \beta_3 \) = Slope or direction of the regression line stating the value of Y as a result of changing one unit X.
- \( u \) = residual error variable that represents other factors influences Y but is not included in the model.

III. RESULTS AND DISCUSSION

The variables used in this study are income, working hours, capital, and work experience. Descriptions of each variable can be seen in Table 1.

<table>
<thead>
<tr>
<th>Table 1. Statistic Descriptive</th>
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<tr>
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<tr>
<td>X1</td>
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<tr>
<td>X2</td>
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<td>X3</td>
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<tr>
<td>Y</td>
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<td>Valid N (listwise)</td>
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</tbody>
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Secondary Data, 2019

The lowest income of fisher is IDR 2,640,000, and the highest is IDR 11,890,000, with an average income of IDR 8,223,100 and a deviation of IDR 2,111,083. This shows the narrow range between the lowest and highest income. If seen from the income group according to BPS in 2012, the average income of fisher is Rp 8,223,100, then the job as a fisherman is a job that has a high income or upper class, whereas, in reality, the fisher is still classified as poor people. Back again to the uncertain factors, work as a fisherman is a job that depends on weather and season factors, and requires strong physical stamina. When the weather is bad, and the fish are quiet, the fisher can not even get any results, besides the income of fisher who are in the Lovina Beach Area, Buleleng Regency is not only sourced from the catches but from the results of sending guests to see dolphins and fishing.

The lowest working hours are carried out by the fisherman for 48 hours, and the longest is 210 hours. The average fisherman goes fishing for 151 hours with a deviation of 39 hours. This shows that the narrow range of time between the shortest and longest working hours. If, on average, a month a fisher has working hours for 151 hours, then in a day has 6 hours working hours. It means that the working hours of fisher are less than 8 hours as per the standard working time determined by the government, but the working hours of this fisher vary depending on the natural weather and season conditions, when the fish season is high, many fisher can even increase the sea time to exceed 8 hours.
The least capital spent by fisher is in the amount of Rp. 1,000,000 and the most is in the amount of Rp. 19,000,000. On average, fishers spend the capital of Rp. 10,000,000 with a deviation of Rp 4,000,000. This shows that the narrowest stretch of capital is the smallest and most numerous. The fisher has the least work experience for ten years, and the longest has work experience of 38 years. The average experience of a fisherman is 28 years, with a deviation of 7 years. This shows that the narrow range between the least work experience and the longest.

The analytical model used in this study is multiple linear regression using statistical package for social science (SPSS) program tools. Multiple linear regression analysis is an analysis used to determine the effect of independent variables, namely, hours of work (X1), capital (X2), and work experience (X3) on the dependent variable, namely income of fisher in Lovina Beach, Buleleng Regency. These results then become the basis for describing the effect of independent variables on the dependent variable in this study. The summary results of multiple linear regression analysis can be seen in Table 2.

### Table 2.: Test Results of the Effect of Working Hours, Capital and Work Experience on Income

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
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<th>Sig.</th>
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<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
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<tr>
<td>1</td>
<td>(Constant)</td>
<td>.217</td>
<td>.575</td>
<td>.378</td>
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<tr>
<td></td>
<td>X1</td>
<td>.027</td>
<td>.003</td>
<td>9.310</td>
</tr>
<tr>
<td></td>
<td>X2</td>
<td>.160</td>
<td>.031</td>
<td>5.162</td>
</tr>
<tr>
<td></td>
<td>X3</td>
<td>.079</td>
<td>.018</td>
<td>4.376</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Y

Secondary Data, 2019

Based on these results, the regression model equation can be made as follows:

\[
Y = 0.217 + 0.027\ln X_1 + 0.160\ln X_2 + 0.079\ln X_3
\]

The constant value is 0.217. This means that if all independent variables are considered constant at zero (0), then the value of labor fisher income is Rp 217,000. The regression coefficient of the working hour variable is 0.027. This means that if working hours have increased by 1 hour and other variables are considered to be incapable, and there will be an increase in fisher income of Rp. 27,000. The capital variable regression coefficient is 0.160. This means that if the capital used by fisher increases by 1 million and other independent variables are considered constant, there will be an increase in fishing income of Rp 16,000. The regression coefficient of the work experience variable is 0.079. This means that if work experience has increased by one year and other independent variables are considered constant, there will be an increase in fishing income of Rp 79,000.

**Determination Coefficient Analysis (R²)**

Based on the SPSS output in the model summary section, it can be seen that the R-square (R²) is 0.626 or 62.6 percent. This value means that 62.6 percent of the variation in the increase or decrease in income of fisher in Lovina Beach, Buleleng Regency is influenced by working hours, capital, and work experience, while 37.4 percent is effect by other variables not contained in the equation or model research used.

**The Effect of Working Hours, Capital and Work Experience on the Income**

Based on the SPSS output, the results show that working hours, capital, and work experience simultaneously influence the income of fisher in Lovina Beach, Buleleng Regency. This can be seen by comparing the value of F-value of 74.820 which is greater than F-Table with a degree of freedom 2: 135 that is equal to 3.06 With a real level of 5 percent or can also be seen based on the significance level of F-value 0.000 which is smaller than 0.05. This means that the high or low level of income of fisher in Lovina Beach, Buleleng Regency, is jointly influenced by working hours, capital, and work experience. When the working hours expended by fisher to go to sea are low, besides that, the capital used is also small, and at the same time, the experience possessed by fisher is still small, the income earned by fisher will also be small.

**The Effect of Working Hours ThroughIncome**

The positive and significant relationship of working hours to the income of fisher in Lovina Beach, Buleleng Regency is in line with research conducted by Sukma Dewi and Surya (2013) which states that working hours have a positive and partially significant effect on the income of labor fisher in Muara Sungai Ijo Gading area Jembrana Regency. This means that if fisher increase the time devoted to fishing, the more income the fisherman will get. This is because the longer the time for fisher to search for fish, the more opportunities for fisher to catch fish.

**The Effect of Capital on Income**

The positive and significant relationship between capital variables and fisher's income is following the results of research conducted by Huazhang (2014), which states that capital has a positive effect on production results to
increase output and income in the future by saving a portion of income and reinvesting it. This means that if the capital used by the fisher to produce fish is added, the fisher's income will increase.

The Effect of Work Experience on Income
The positive and significant relationship of fisher's work experience in fishing to fisher's income is in line with the results of research conducted by Arifini and Dwi (2013) stating that the longer work experience or more work experience possessed by a person, the more skilled and faster in completing tasks that are it becomes his responsibility so that more output is generated and more income is expected to be obtained as well. Likewise, for fisher, when the experiences of the fisher are more numerous, the knowledge and skills possessed by fisher will be better in using fishing rods and catching fish.

IV. CONCLUSION
Based on the results of research on the factors that affect the income of fisher in Lovina Beach, Buleleng Regency, simultaneously or partially working hours, capital and work experience affect the income of fisher in Lovina Beach, Buleleng Regency. This means that fishers must focus on increasing the factors that can increase their income, either by increasing the time or hours of work used for fishing, capital that must be increased or experience that must be increased to improve skills in fishing. With the addition of capital, the fisher can buy machines, fishing equipment, and boats that are of better quality, which allows the fisher to be able to go to sea when the weather is bad, so that the time spent catching more fish and fisheries income will be higher. The implication of this research is related to how to increase the income of fisher and increase the knowledge or skills of fisher in developing Lovina Beach as a tourist area famous for its marine beauty and developing marine biota cultivation that can be developed in Lovina Beach. With this research, it is hoped that the government can help the fishing communities, which so far the fishing community is the majority of people who pocket the poverty of the country.

REFERENCES


