Original Research Article

Analysis of Factors Affecting Fishermen's Income in Darmaraja District, Sumedang Regency

ABSTRACT

This study aims to analyze the income of Jatigede reservoir fishermen in Darmaraja District and to analyze the factors affecting the income of Jatigede reservoir fishermen in Darmaraja District. This research was conducted in Darmaraja District, Sumedang Regency. This research is a descriptive quantitative with a survey method. The sampling technique is purposive sampling, where data collection using a questionnaire technique, and data analysis technique uses multiple linear regression analysis. The samples that were used were 82 fishermen. The result showed that the percentage of the largest number of respondents was the fishermen in the amount of income IDR.18.000.000 – IDR.23.999.000 per year. Partially, the experience, capital, fish prices, and catches variables have a significant effect on fishermen's income in Darmaraja District. Simultaneously, the experience and capital variables have no significant effect on fishermen's income, while the fish prices and catches have a significant effect on fishermen's income in Darmaraja District.

Keywords: Capital, Catches, Experience, Fish prices, Fishermen, Income

1. INTRODUCTION

Fishery is the sector that can improve the economy and welfare of the Indonesian people. Indonesia's water resources are certainly promising. Fish resources can come from inland waters or sea waters, one of the inland waters that are often found in West Java and is rich in fishery resources is reservoirs. Reservoirs are artificial waters in the form of water reservoirs from rivers [17]. The well-known reservoirs in West Java are Cirata, Saguling and Jatiluhur. However, there is one reservoir that is relatively new and has high development potential, that reservoir is the Jatigede reservoir.

Jatigede reservoir is a reservoir located in Sumedang Regency, West Java Province. According to [2], the construction of the Jatigede reservoir is one of the government's efforts to provide solutions to droughts that occur during the dry season and solutions to floods during the rainy season. In the Jatigede reservoir, there is a ban on the use of floating net cages because their use can have an adverse impact on the Jatigede reservoir, one of which is contamination from leftover feed waste from the floating net cages. This prohibition is regulated in the Regional Regulation of Sumedang Regency No. 4 of 2018 concerning the Sumedang Regency Spatial Plan for 2018 - 2038 which was stipulated and took effect on November 29, 2018. The main activity in the Jatigede reservoir, especially in the fisheries sector, is focused on fishing activities, therefore, many local people choose to become fishermen.

Darmaraja district, with its high population and the largest area inundated by the Jatigede reservoir compared to other districts, makes this district have the majority of the population with the largest number of fishermen as professions. Fishermen are people whose main source of income is fishing, with this activity being their source of livelihood. Fishermen's income is an accumulation of the results of fishermen's businesses which do not stand alone, but are influenced by various factors [6]. The income of traditional fishermen comes from the productivity of fishermen and the selling price of fish caught. If the productivity of fishermen is high and the selling price and the amount of fish sold increases, of course, the income of fishermen will be higher. The number of catches also directly affects the amount of income received, so that fishermen are able to meet their daily needs. Fishermen's income is the difference between revenue and fishing costs that are actually incurred both per trip and per year [6]. Meanwhile, according to [7] fishermen's income in terms of the number of fish caught after carrying out fishing operations. [19] revealed that income is the value of money obtained from the sale of fish production which is influenced by the large number of fish caught and the price formed when they are landed. According to [1], the economic conditions of fishing communities will be influenced by the amount of income, the greater the income earned by the community, the economy will increase, conversely if the income of the community is low, the economy in the community will not increase. As a result of the inundation in 2015, many agricultural lands were inundated, many people switched professions from farmers to fishermen, also became construction workers or traded around the reservoir. They do this as a way to survive. From the results of the preliminary test, it was found that most of the people in Darmaraja district were affected by the inundation of the Jatigede reservoir and the community's economy was also affected because of course many had not been able to adjust to the condition of their professional land which had turned into water. The uncertainty of the fishermen's income in the Jatigede reservoir is due to various conditions that occur such as the condition of fish stocks that affect the amount of catch, the experience of fishermen from switching professions, the limited amount of capital they have, and the dynamics of fluctuations in fish prices. Based on the background of these problems, it is necessary to conduct research on the factors that affect the income of fishermen from the Jatigede reservoir in the Darmaraja district, Sumedang regency.

2. METHODOLOGY

The research was conducted in a quantitative descriptive using a survey method. The survey method is used to determine the effect of these factors on fishermen's income. The survey method is a research method used to obtain data, where the data occurred in the past or present, which includes opinions, characteristics, behavior related variables, data collection techniques by observing questionnaires, then the research results tend to be generalized [15].

2.1 Data Collection Method

The data collected in this study are primary data and secondary data, with the collection method using a questionnaire. Primary data obtained directly from the object under study through data collection with a questionnaire. According to [16], data collection using a questionnaire is a data collection technique that is carried out by giving written questions to respondents to answer. Questionnaires were given to fishermen who were respondents in Darmaraja district, Sumedang regency. The primary data is in the form of data regarding fishermen's income which includes data regarding total revenue from the catch as well as data regarding total costs consisting of fixed costs and variable costs. Then to determine the effect of these factors on fishermen's income the data used is in the form of data on experience, capital, fish prices, catches and additional information for respondent profiles such as education and ownership status of the fleet and fishing gear. Secondary data is data

obtained from various sources such as published journals, books, data from the Central Bureau of Statistics, as well as the Fisheries and Livestock Service Office of Sumedang Regency. Secondary data collection includes data on fishery production, data on the distribution of the Jatigede Reservoir area, and other supporting data.

2.2 Sampling Technique

The sampling technique used in this study was purposive sampling, namely sampling not random but based on certain considerations and criteria. According to [15], purposive sampling is a sampling technique by determining certain criteria, in this study, the criteria are: the respondent is a full-fledged fisherman; fishermen who are local residents domiciled in Darmaraja district; willing to be a respondent; then have been fishermen for at least 1 year, where this criterion is based on the experience of fishermen who are considered quite experienced and understand the situation and conditions.

In this technique, the number of samples or respondents is not determined in advance. Based on the opinion of [16], an appropriate sample size for research is between 30 and 500. The researcher directly collected data from the sampling unit encountered at the research location.

2.3 Data Analysis

Analysis of fishermen's income data on economic improvement using a quantitative descriptive method. According to [9], the quantitative method will obtain the significance of group differences or the significance of the relationship between the variables studied. The data analysis method used in this study is the analysis of multiple linear regression models. Multiple linear regression equations are regression equations that involve two or more independent variables and one dependent variable in the study. The multiple regression equation shows the relationship between the independent variables, which in this study are catches, work experience, education, skills, and ownership status of the fleet and fishing gear and the dependent variable in this study is fishermen's income, used to determine the factors that affect income Jatigede reservoir fishermen. Multiple linear regression analysis was performed with the help of the Statistical Package for the Social Sciences (SPSS) program.

2.3.1 Income Analysis

Analysis of fishermen's income is used to find out how much fishermen's income is, namely from the results of the difference between fishermen's monthly income and the fishermen's total monthly costs. Total cost or total cost (TC) is the sum of fixed costs or fixed costs (FC) with variable costs or variable costs (VC). Fishermen's income or total revenue (TR) is the multiplication of the production obtained/caught by the selling price. The formula used in the analysis of fishermen's income according to [5] are as follows.

1. Total revenue

$$Total\ Revenue\ (TR) = P \times Q$$

2. Total cost

$$Total\ Cost\ (TC) = Fixed\ Cost\ (FC) + Variable\ Cost\ (VC)$$

3. Income

$$Income\ (\pi) = Total\ revenue\ (TR) - Total\ cost\ (TC)$$

2.3.2 Classic Assumption Test

The classical assumption test was carried out with the aim that the model obtained had met the assumptions underlying the regression. The classical assumption test is needed to

produce an unbiased linear estimator with minimum variance [3]. The following are some classic assumption tests that must be met by the regression model.

a. Normality Test

The normality test is a test for the normality of data distribution. Calculations used with Kolmogorov-Smirnov [20]. This test is used if the researcher wants to know whether or not there are differences in the proportions of subjects, objects, and others [13]. The normality test is used to test whether the standardized residual values in the regression model are normally distributed or not. The significance level normality test used is 5% which means that if it is significant > 0.05 then the variable is normally distributed and vice versa if it is significant <0.05 then the variable is not normally distributed.

b. Heteroscedasticity Test

The heteroscedasticity test aims to test whether a regression model has variance discomfort from one observation residual. A good regression model is a model that does not have heteroscedasticity [4]. To see heteroscedasticity is on the scatterplot graph, where if there is no specific pattern and nothing spreads above or below zero on the Y axis, then there is no heteroscedasticity.

c. Multicollinearity Test

The multicollinearity test is used to detect correlation symptoms between one independent variable and other variables [11]. To find out if a regression model produced has multicollinearity, it can be seen from the Variance Inflation Factor (VIF) value. If the tolerance value is > 0.1 and the resulting VIF value is < 10, then multicollinearity does not occur and vice versa if the VIF value is > 10, then multicollinearity occurs.

2.3.3 Statistics Test

a. Coefficient Determination (R^2)

The Coefficient of Determination test is used to determine the influence of the independent variables on the dependent variable. If the value of the coefficient of determination (R^2) is small and or close to zero, then the ability of the independent variable (X) to explain the dependent variable (Y) is very limited. If the value of the coefficient of determination (R^2) is close to one, the independent variable (X) explains all the information needed to predict the dependent variable (Y).

Table 1. Correlation between variables (Coefficient Determination)

R^2 Value	Information
0	No correlation
>0 – 0,25	Weak
>0,25 – 0,50	Sufficient
>0,50 – 0,75	Strong
>0,75 – 0,99	Very strong
1	Perfect correlation

Source: [10]

b. F test

The F test aims to determine whether the independent variables (experience, capital, fish prices, and catches) have a joint effect on the dependent variable (fisherman's income). According to [8] this test uses the criterion that if the p-value < the specified level of significance, the independent variables jointly affect the dependent variable or can be seen from the calculated F value > F table, the independent variables simultaneously affect the dependent variable.

c. t test

The t test shows how far the influence of the independent variable (X) individually explains the variation of the dependent variable (Y). Testing through the t test is by comparing t-count

with t-table with a significance level of α = 0.05. The t-test has a positive and significant effect if the results of the calculation of t-count > t-table with an error probability of less than 5% (P <0.05).

2.3.4 Multiple Linear Regression

In this study, to determine the factors that affect fishermen's income, multiple linear regression analysis was used [14]. Multiple regression analysis is an analysis that uses the state of the dependent variable if there are two or more independent variables [12]. Simple linear regression is expressed in the form of the following equation.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Where:

Y = Fishermen's income
a = Constant
b = Coefficient of multiple regression
X_1 = Experience
X_2 = Capital
X_3 = Fish prices
X_4 = Catch
e = Standard error

3. RESULTS AND DISCUSSION

3.1 General Description of Jatigede Reservoir

The general description describes the general description of the research location related to the research object, namely Jatigede reservoir. The matters that will be discussed in this section consist of geographical conditions and demographic conditions.

3.1.1 Geographic Situation

Jatigede reservoir is located in Sumedang regency, West Java Province. Jatigede reservoir inundated an area of 4,891.13 ha covering five districts which are Darmaraja, Wado, Cisitu, Jatigede and Jatinunggal districts. The construction of the Jatigede reservoir is intended as a flood controller for the Indramayu region and as an irrigation regulator for the Indramayu, Cirebon and surrounding areas as well as a tourism destination in Sumedang district [18]. The northern boundary of the Jatigede reservoir is Cisitu district and Jatigede district, the eastern boundary is Jatigede district and Majalengka regency, the southern boundary is Wado district and Jatinunggal district, and the western boundary is Cisitu district. Jatigede reservoir technical data can be seen in the following table.

3.1.2 Demographic Situation

The demographic situation of Darmaraja District is indicated by the population by age group and gender, presented in Table 2 below.

Table 2. Total Population by Age Group and Gender in Darmaraja District, 2020

Age Group	Gender		
	Male	Female	Total
0 – 14	4.022	3.772	7.794
15 – 64	12.206	11.979	24.185
65 +	1.805	2.076	3.881
	18.033	17.827	35.860

Source: Population Administration Data and Population Census 2020 Central Bureau of Statistics

Table 2 shows that the population in Darmaraja district is 18,033 males and 17,827 females, where the age group with the highest population is in the 15 – 64 year group.

3.2 Respondent Characteristics

Respondents were selected by purposive sampling method. In taking this sampling technique, respondents were taken based on certain criteria that had been set by the researcher. The criteria include: (1) being a full-time fisherman; (2) domiciled in Darmaraja sub-district; (3) willing to be a respondent; and (4) have been fishermen for at least 1 year.

The total number of respondents obtained in this study were 82 people, where the selected respondents were in accordance with the criteria. Based on the research results, the respondents obtained varied both in terms of age, education, and gender. Analysis of the characteristics of the respondents was obtained based on the data obtained from interviews using a questionnaire. The characteristics of fishermen in the Jatigede reservoir are as follows.

3.2.1 Age

Based on the distribution of research questionnaires, the age distribution of fishermen in the Jatigede Reservoir is as follows.

Table 3. Age Distribution of Fishermen

Age	Total	Percentage
34-38	4	5%
39-43	12	15%
44-48	35	43%
49-53	21	26%
54-58	10	12%
Total	82	100%

Source: Primary data processed (2023)

Based on Table 3 above, it is known that the highest age group of fishermen in the Jatigede reservoir is 44-48 with a percentage of 43% and the lowest percentage is the age group 34-38 with a percentage of 5%. The second largest age group is 49-53 with a percentage of 26%. This indicates that the age of fishermen in the Jatigede reservoir still supports fishing activities.

3.2.2 Level of Education

The level of education can affect the level of proficiency in decision making and problem solving. Based on the research results, the educational level of fishermen in the Jatigede Reservoir can be seen in Table 4.

Tabel 4. Level of Education

Education	Total	Percentage
Elementary School	8	10%
Junior High School	51	62%
Senior High School	23	28%
College	0	0%
Total	82	100%

Source: Primary data processed (2023)

Based on Table 4, it is known that the education of fishermen respondents in the Jatigede Reservoir is mostly at the junior high school level of 62%. It was also found that fishermen who only had education up to elementary school with a percentage of 10% and fishermen who continued their education up to high school were 28%. Based on the questionnaire, it was found that fishermen were only able to pursue higher education due to limited funds and interest.

3.2.3 Gender

Data regarding the gender of fisherman respondents in the Jatigede Reservoir are presented in the form of Table 5 as follows.

Tabel 5. Gender

Gender	Total	Percentage
Male	82	100%
Female	0	0%
Total	82	100%

Source: Primary data processed (2023)

Based on Table 5 above, all fishermen respondents in the Jatigede reservoir are male with a percentage of 100%, while the majority of women choose to become traders to sell around the Jatigede reservoir.

3.3 Income Analysis

The amount of income earned by fishermen respondents in the Jatigede reservoir is obtained from the difference between fishermen's income in a period of one month with the total cost consisting of fixed costs and variable costs incurred by fishermen.

Net income is the gain obtained from the total revenue minus the total costs incurred (Berlia et al. 2017). The income analyzed is the total income earned by fishermen for one year. The income distribution of fisherman respondents in the Jatigede reservoir is presented in Table 6 below.

Table 6. Income of Fishermen in Jatigede Reservoir

Income	Total	Percentage
IDR.6.000.000 – IDR.11.999.000	20	24%
IDR.12.000.000 – IDR.17.999.000	23	28%
IDR.18.000.000 – IDR.23.999.000	31	38%
> IDR.24.000.000	8	10%
Total	82	100%

Source: Primary data processed (2023)

Based on Table 6, the value of income with the highest number of respondents is IDR.18,000,000 – IDR.23,999,000 per year with a total of 38%, followed by income of IDR.12,000,000 – IDR.17,999,000 per year is 28%, then the income is IDR.6,000,000 – IDR.11,999,000 per year with a total of 24%, and for the highest income value of more than IDR.24,000,000 per year, only 10%.

3.4 Classic Assumption Test

3.4.1 Normality Test

The normality test is used to test whether the resulting data is normally distributed or not. The normality test was carried out using the Kolmogorov-Smirnov (K-S) test.

Table 7. Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		82
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	1,87782868
Most Extreme Differences	Absolute	,046
	Positive	,046
	Negative	-,038
Test Statistic		,046
Asymp. Sig. (2-tailed)		,200[c,d]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Source: Primary data processed (2023)

Based on SPSS testing, it can be seen that the Asymp. Sig. (2-tailed) is 0.200 > 0.05, it can be concluded that in this study the data is normally distributed.

3.4.2 Heteroscedasticity Test

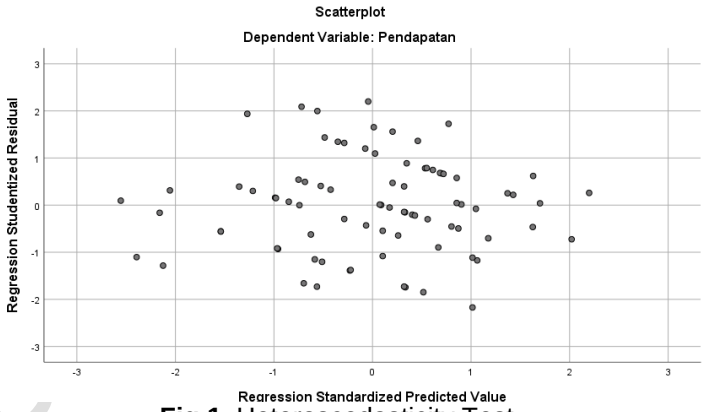

Fig 1. Heteroscedasticity Test

Based on the figure 1, the results of the heteroscedasticity test show that there are no dots that form a pattern, and spread above and below the number 0, so based on the graphical method, the data does not occur heteroscedasticity.

3.4.3 Multicollinearity Test

Multicollinearity aims to test the regression model which obtained a correlation between the independent variables. A good regression model should not have a correlation between the independent variables. Multicollinearity can be seen from the tolerance value and its opposite Varian Inflation Factor (VIF) with the Kologor test. If the Tolerance value is > 0.10 and the VIF value is < 10.00, multicollinearity does not occur and vice versa if the Tolerance value is < 0.10 and VIF value is > 10.00, multicollinearity occurs. The following presents the acquisition of output from SPSS as follows.

Table 8. Multicollinearity test

Variable	VIF	Tolerance	Conclusion

Experience (X1)	1,817	0,550	Multicollinearity does not occur
Capital (X2)	1,347	0,742	Multicollinearity does not occur
Fish prices (X3)	1,270	0,788	Multicollinearity does not occur
Catches (X4)	1,785	0,560	Multicollinearity does not occur

Source: Primary data processed (2023)

In Table 8 the results of the multicollinearity test above show that there is no multicollinearity of the variables being analyzed, where the Tolerance value of the experience variable (X1) is 0.550 > 0.10, the Tolerance value of the capital variable (X2) is 0.742 > 0.10, the Tolerance value of the fish prices variable (X3) is 0.788 > 0.10, and the Tolerance value of the catches variable (X4) is 0.560 > 0.10. While the VIF value of the experience variable (X1) is 1.817 < 10.00, the capital variable (X2) is 1.347 < 10.00, the fish prices variable (X3) is 1.270 > 10.00, and for the catches variable (X4) it is 1.785 > 10.00. So according to the decision criteria in the multicollinearity test it can be concluded that there is no multicollinearity in the regression model.

3.5 Statictics Test

3.5.1 Coefficient Determination (R^2)

The coefficient of determination test is used to see the influence of the independent variable on the dependent variable. Based on the results of multiple linear analysis using SPSS, the coefficient of determination is obtained as follows.

Table 9. Coeffiecient determination

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,838[a]	,690	,553	1531,926

a. Predictors: (Constant), Catches, Fish prices, Capital, Experience

Source: Primary data processed (2023)

Table 9 shows that to find out how big the relationship is in the use of income factors on variables, the coefficient of determination (R^2) is used. The R^2 value of 0.690 indicates that experience, capital, fish price and catches can affect income by 69.0% while the remaining 31.0% is explained by other factors that are not related to this study.

3.5.2 F Test

The F test was carried out to see the effect of the independent variables tested jointly on the dependent variable. The SPSS output results are presented in Table 10 below.

Table 10. F test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116,387	4	29,097	7,844	,000[b]
	Residual	285,625	77	3,709		
	Total	402,012	81			

a. Dependent Variable: Income

b. Predictors: (Constant), Catches, Fish prices, Capital, Experience

Source: Primary data processed (2023)

Based on the SPSS processing results, Table 10 above shows that the F-count value is 7.844, the significance value is 0.000, and the F-table value is 2.490. These results indicate that the F-count value is 7.844 > F-table 2.490 and a significance value of 0.000 < 0.05, the independent variables affect the dependent variable in simultaneous testing.

3.5.3 t Test

Partial test criteria (t test) compare t-count with t-table based on a significant level of 0.05, with degrees of freedom df = N-k-1 where N is the amount of data, k is the number of independent variables. So based on this research df = 82-4-1=77, so the t-table obtained based on the statistical table is 1.66488. The results of SPSS output data analysis are presented in the following table.

Table 11. t test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,429	1,089		3,147	,002
	Experience (X1)	-,161	,152	-,137	-1,061	,292
	Capital (X2)	-,192	,129	-,167	-1,497	,139
	Fish prices (X3)	,437	,111	,428	3,952	,000
	Catches (X4)	,473	,150	,405	3,159	,002

a. Dependent Variable: Income

Based on Table 11 it can be concluded that the experience variable (X1) has t-count < t-table (-1.061 < 1.66488) and a significance level of 0.292 > 0.05. This result shows that the experience variable has no significant effect on the income of fishermen in the Jatigede reservoir. Then the capital variable (X2) also has t-count < t-table (-1.497 < 1.66488) and a significance level of 0.139 > 0.05. This shows that the capital variable has no significant effect on the income of fishermen in the Jatigede reservoir.

While the fish prices variable (X3) has t-count > t-table (3.952 > 1.66488) and a significance level of 0.000 < 0.05. This result shows that the fish prices variable has a significant effect on the income of fishermen in the Jatigede reservoir. Then also for the catches variable (X4) it has t-count > t-table (3.159 > 1.66488) and a significance level of 0.002 < 0.05. This value indicates that the catch variable has a significant effect on the income of fishermen in the Jatigede reservoir

Based on Table 10, it can be seen that the value of the regression coefficient is where the constant value is 3.429, while the value for the experience variable is -0.161, then for the capital variable -0.192, the fish prices variable is 0.437, and for the catches variable is 0.473. Based on these results, the multiple regression equation model can be formulated as follows.

$$Y = 3{,}429 - 0{,}161\ X1 - 0{,}192\ X2 + 0{,}437\ X3 + 0{,}473\ X4 + e$$

The regression equation explains several things, including the following.

1. The constant value (a) is 3.429, meaning that if all the variables experience (X1), capital (X2), fish prices (X3), and catches (X4) have a value of 0, then the average income of fishermen is Rp. 3,429.

2. The coefficient X1 (b1) is -0.161, meaning that if experience increases by one year, fishermen's income will decrease by Rp.0.161.
4. The coefficient X2 (b2) is -0.192, meaning that if capital increases by Rp.1, then fishermen's income will decrease by Rp.0.192.
5. The coefficient X3 (b3) is 0.437, meaning that if the price of fish increases by Rp.1, then fishermen's income will increase by Rp.0.437.
6. The coefficient X4 (b4) is 0.473, meaning that if the catch increases by 1 kg, the fishermen's income will increase by Rp.0.473.

The results of this study indicate that the independent variables (experience, capital, fish prices, and catch) have an effect on the dependent variable (income) according to the results of the analysis in the ANOVA table in SPSS. Partially testing, the experience variable (X1) has no significant effect on the income of fishermen in the Jatigede reservoir based on a significance value of 0.292 > 0.05. Then the capital variable (X2) shows a significance level of 0.139 > 0.05, so that the capital variable has no significant effect on the income of fishermen in the Jatigede reservoir. Whereas the fish prices variable (X3) shows a significant effect on fishermen's income in the Jatigede Reservoir with a significance value of 0.000 < 0.05, so does the catches variable (X4) which shows a significance value of 0.002 < 0.05, which means that the catches has a significant effect on the income of fishermen in the Jatigede Reservoir.

4. CONCLUSION

Based on the results of the research that has been carried out, it can be concluded that:

1. Income of IDR 18,000,000 – IDR 23,999,000 per year is obtained by 38% of respondents, followed by income of IDR 12,000,000 – IDR 17,999,000 per year obtained by 28% of respondents, then income of IDR 6,000,000 – Rp.11,999,000 per year is obtained by 24% of respondents, and income of more than Rp.24,000,000 per year is obtained by 10% of respondents.
2. The simultaneous test (F test) shows that experience, capital, fish prices, and catches affect the income of fishermen in the Jatigede Reservoir with an Fcount of 7.844 > Ftable of 2.490 and a significance value of 0.000 <0.05. The partial test (t test) of the experience variable (X1) and capital (X2) has no significant effect on the income of fishermen in the Jatigede Reservoir, while the fish price variable (X3) and catch (X4) have a significant effect on the income of fishermen in the Jatigede Reservoir. The coefficient of determination (R-Square) of 0.690 indicates that experience, capital, fish prices and catches can affect income by 69.0% while the remaining 31.0% is explained by other factors not included in this study.

REFERENCES

1. Bastian, T. 2012. The Effect of Fishermen's Income on Increasing the Community's Economy in Tihu Village, Bonepantai District, Bone Bolango Regency. Journal of Economics, Management, Business, and Accounting, Vol. 2 (2).
2. Fadli, R., Noor, T. I., & Isyanto, A. Y. 2019. The Socio-Economic Impact of Jatigede Reservoir Development on Farming Communities in Sumedang Regency. Agroinfo Galuh Student Scientific Journal, *6*(3), 552–563.
3. Ghozali, I. 2005. Multivariate Analysis Application with SPSS. Semarang.
4. Ghozali, I. 2016. Multivariate Analysis Application with IBM SPSS 23 Program (Edition 8). Semarang.
5. Indara, S., Bembah, I., Boekoesoe, Y. 2017. Factors Influencing Fisherman's Income in Bongo Village, Batudaa Pantai District, Gorontalo Regency. Agnesia, Vol. 2 (1).
6. Kholis, M. N., Fraternesi, & Wahidin, L. O. 2020. Prediction of the Impact of Covid-19 on the Income of Gill Net Fishermen in Bengkulu City. ALBACORE Journal of

Marine Fisheries Researcht, *4*(1), 001–011. https://doi.org/10.29244/core.4.1.001-011
7. Kholis, M. N., Wahju, R. I., & Mustaruddin, M. 2017. Performance of the Technical Aspects of the Kurau Fishing Technology Unit at the Coastal Mine, Bengkalis Regency, Riau Province. Journal of Fisheries and Marine Technology, 8(1). hal 67-79.
8. Madingo, R., Moonti, U., Hafid, R., Bumolo, F., Mahmud, M. 2023. Analysis of Factors Influencing Fishermen's Income. Journal of Economic and Business Education., Vol. 1 (1).
9. Saifudin, A. 2012. Reliability and Validity. Yogyakarta: Student Library.
10. Sarwono, J. 2006. Quantitative and Qualitative Research Methods. Yogyakarta: Graha Ilmu.
11. Sofiana, N dan Yanto. 2017. Factors Affecting Fishermen's Income in Mlonggo District, Jepara Regency (Study of Customers of PT. Bank Tabungan Pensiunan Nasional Syari'ah Tbk). Journal of Accounting Recognition, Vol. 1 (1).
12. Subagyo, Joko. 1991. Research Methods in Theory and Practice. Jakarta: PT. Rineka Cipta.
13. Sudjana. 2005. Statistical Method. Bandung: Tarsito.
14. Sugiyanto. 2004. Social Statistics Analysis. Malang: Bayu Media Anggota IKAPI Jatim.
15. Sugiyono. 2008. Quantitative Research Methods, Qualitative and R&D, Bandung : Alfabeta.
16. Sugiyono. 2012. Understanding Qualitative Research. Bandung: Alfabeta.
17. Umayektinisa, Ajeng, N., Suharyanto, Pranoto, S. 2016. The Effect of Sedimentation on the Operational Performance of the Wonogiri Multipurpose Reservoir. Journal of Civil Engineering Works, Vol. 5 (1).
18. Wijayanto, V., Suwartapradja, O., S. dan Hermawati, R. 2017. Changes in Livelihoods and the Adaptation Process of Residents Affected by the Construction of the Jatigede Reservoir. Indonesian Journal of Antropology, Vol. 2(2): 66-77.
19. Wismaningrum KEP, Ismail, Fitri ADP. 2013. Financial Analysis of One Day Fishing Business with Multigear Fishing Gear at Tawang Beach Fishing Port (PPP), Kendal Regency. Journal of Fisheries Resources Utilization Management and Technology. 2(3): 263-272.
20. Wulansari, A, D. 2012. Educational Research: A Practical Approach Using SPSS. Ponorogo: STAIN Po Press.