

A Psychosocial and Needs-Based Analysis of Job Satisfaction among Small-Scale Fishermen in Pangandaran Regency, West Java

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ABSTRAK

Low job satisfaction among fisherman can be a leading indicator of fisheries production constraints and draws attention to the dire prospects for the future well-being of fishers and society as a whole. The research was conducted in Pangandaran Regency where fishermen have an important role in improving the performance of Capture Fisheries towards the development and sustainability of the Fisheries sector. This study involved 314 small-scale fishermen operating vessels below 5 GT, with the dominant fishing gears being gillnets and longlines. This study aims: (1) identifying fishermen's job satisfaction, (2) analyzing the factors affecting small-scale fishermen's job satisfaction, and (3) knowing the impact of job satisfaction on fishermen's job sustainability. The results of binary logistic regression show that the predictor variables that have a significant influence on the variable Job Satisfaction of Small-Scale Fishermen in Pangandaran Regency (Y) are Education Level (X3), Able to Fulfill Family Needs (X7), opportunities for skill actualization (X8), Opportunity to Socialize (X13), Opportunity to Travel Desire (X14), Mental Health (X15), Pleasure at Work (X17) and Job Security (X18). As many as 54% of Small Scale Fishermen in Pangandaran Regency are satisfied with their work. As much as 83% of Small Scale Fishermen in Pangandaran Regency would not suggest fishing jobs to the younger generation. Government policy recommendations are needed to improve job satisfaction among small-scale fishermen, focusing on programs to improve education and training, ensure family needs are met, and strengthen mental health and job safety. Furthermore, policies are urgently needed to promote fisher regeneration through business incentives, livelihood diversification, and the promotion of more attractive professions to ensure the sustainability of the fisheries sector.

Keyword: age of fishermen education; family dependants; income; job satisfaction; work experience

INTRODUCTION

The fisheries sector in Indonesia has the potential to support the food needs and security of the Indonesian people and to improve the economy, especially of coastal communities (Hakimah et al., 2019). According to Kusdiantoro et al. (2019) and Sari & Muslimah (2020), the fisheries sector plays a vital role in meeting the needs of the communities, and has the potential to become the prime mover of the Indonesian economy as a blue economy. This high potential of marine resources is generally utilized by coastal communities as a source of livelihood. However, the high marine resources have not yet reduced the poverty rate in Indonesia (Cahaya, 2015; Sugi, 2023). According to the World Bank (2021), Indonesia's poverty rate increased from 0.41% in March to September 2020, from the initial 9.78%. The coastal communities, mostly fishers household are those who consider to be the poor. This precarious situation is exacerbated by their significant vulnerability to external shocks. Academic research highlights that

coastal and fishing communities represent some of the poorer populations across Indonesia, with their livelihoods increasingly threatened by deleterious environmental impacts and overfishing (McWilliam et al., 2020). Based on data from the Indonesian Central Statistics Agency, in 2022, poverty in coastal areas reached 17.74 million people, with 3.9 million people categorized as extremely poor (BPS, 2022).

At least in Indonesia, fisher are a profession that is still associated with poverty. One of the reasons why fishers are considered the poorest in society is because they work longer hours but earn low income or rewards (Suroyya et al., 2017). This low income of fishers can have an impact on inadequate living conditions in fulfilling daily needs (Anwar, 2018). Fishers are synonymous with poverty, and the level of education among fishers is mostly low, where the majority of fishers only have primary education (Sarapil et al., 2020). Income is still the main problem faced by fishers because it depends on the catch and fluctuations in fish prices

(Nurlaisyah et al., 2019). In addition to poverty, the socio-economic aspect that is a problem is that most fishers use their time for fishing activities at sea, so the time to socialize with non-fishing communities is limited (Satria, 2015). Nurlaisyah et al. (2019) stated that the problems faced by fishers are generally related to socio-economic aspects.

One of the coastal regions in Indonesia that plays a significant role in the advancement of the fisheries sector is Pangandaran Regency. Besides its geographical location bordering the sea, the high potential of Pangandaran's sea has made most of its people work as fishers (Badan Pusat Statistik Kabupaten Pangandaran, 2020). The capture fishery sector is expected to support the growth and development of Pangandaran Regency in West Java Coastal area, due to its high potential for marine fish resources. The production of Pangandaran Regency's capture fishery sector has increased from 2017-2019, with the marine catch increasing to 3,438 tons in 2019 compared to 2,559.32 tons in 2018 (Kartika et al., 2020). However, according to Kartika et al., (2020), the contribution of the capture fishery sector to the GRDP (2014-2018) of Pangandaran Regency is still relatively low, at 0.97%. The increase in production value is due to fluctuations in fish prices. One important factor that affects the low productivity and sustainability of the fishery sector, especially capture fisheries, is job satisfaction (Partelow et al., 2020). According to Seara et al., (2017), job satisfaction is an important aspect for individuals and society, especially among fishers. A person can switch professions because they are not satisfied with their job, which can have an impact on the performance and sustainability of the fishery sector (Seara, Pollnac, & Poggie, 2017). This explains that job satisfaction among fishers plays an important role in increasing productivity and fisheries management (Durgun et al., 2021). Therefore, research on Job Satisfaction of Fishers in Pangandaran Regency needs to be conducted.

Job satisfaction is a cognitive action related to feelings or gaps between the rewards obtained and the expected rewards (Sunarta, 2019). In addition, job satisfaction is also related to job quality and the output obtained (Dhamija et al., 2019). Job satisfaction analysis is carried out to identify and analyze how a job can meet a person's living needs. The first study on job satisfaction showed that one of the factors that influence the high or low level of job satisfaction is income (Izvercian et al., 2016).

According to Limbong et al., (2017), the catch of fish is influenced by weather conditions and the range of the fishing fleet. This explains

why fishing as a profession has an uncertain income and is highly dependent on natural factors and catch results. According to Pollnac et al. (2012), job satisfaction is directly related to socio-demographic variables such as age, education level, work experience, and marital status. In addition to socio-demographic factors, the three levels of needs proposed by Maslow are used as a reference for job satisfaction, because when human needs are met, individual satisfaction can be achieved. This indicates that the hierarchy of needs consisting of basic needs, social needs, and self-actualization influences an individual's satisfaction with their work (Bavinck et al., 2012). As research on job satisfaction in the fisheries sector has evolved, job satisfaction is not only based on the three aspects of needs (basic needs, self-actualization needs, and social needs), but also on the work environment and health status, which also affect an individual's job satisfaction (Partelow et al., 2020).

The high-risk work environment also poses challenges for those who work as fishers. Fishing is the profession with the highest accident rate in the world (Jensen et al., 2014; Lincoln et al., 2021; Windle et al., 2008). The US Bureau of Labor Statistics (2020) reported that in 2019, commercial fishing had the highest fatal work injury rate compared to other occupations, with a value per 100,000 full-time equivalent workers (FTEs). Physical and mental health is a very important biological factor that underlies an individual's job satisfaction (Anna, 2019)

The uncertainty of income and the high risks of the job can affect the quantity and sustainability of the human resources that exploit marine resources (Sweke et al., 2016). This can impact the sustainability of the catch and the economic development of coastal areas. In this study, the predictor variables used are socio-demographic variables and items representing aspects of needs, work environment, and health status. Given the many issues still faced by fishers, research on their job satisfaction is needed. According to Pollnac et al., 2012 and Seara et al., (2017), low job satisfaction among fishers can be a primary indicator of production constraints in fisheries and draw attention to the poor prospects for the future welfare of fishers and the community as a whole. The research is conducted in Pangandaran Regency because most of its population works as fishers, and they play an important role in improving the performance of Capture Fisheries towards the development and sustainability of the Fisheries sector in Pangandaran Regency. According

to Sweke et al., (2016), research on job satisfaction is conducted to identify factors that influence job satisfaction of fishers in the relevant area, in order to improve the performance of the fisheries sector. This study focuses on small-scale fishermen in Pangandaran Regency. Based on the background that has been explained, this study aims to (1) identify job satisfaction among fishers, (2) analyze factors that affect the performance of fishers, and (3) understand the impact of job satisfaction on the sustainability of fishers's jobs.

RESEARCH METHODS

The study on job satisfaction of fishers used a survey method with a quantitative approach. The research process involved collecting data, organizing and coding the responses, and analyzing them statistically. The study employed structured questionnaires as the main instrument, supported by limited interviews and observations to strengthen data validity. The data were analyzed using logistic regression analysis to examine the influence of independent variables on the probability of job satisfaction among fishers and to identify the significant factors affecting the dependent variable.

Location and Time of Research

The research sample is a portion of the characteristics possessed by a population. The target respondents in this study were small-scale fishing communities in the coastal area of Pangandaran Regency, West Java. The sampling technique used in this research was accidental sampling.

Types and Methods of Data Collection

The research used both primary and secondary data. The primary data were obtained directly from the research location through interviews with the respondents using a questionnaire. Respondents were small-scale fishermen with fishing boat below 5 GT dominated by gillnets and longlines in the coastal area of Pangandaran Regency, West Java. The sampling technique used in this study was accidental sampling, with samples taken unintentionally or by chance. Based on data from the Pangandaran Regency PKPK Service in 2021, the number of fishermen in Pangandaran Regency was 5,335, with 1,958 fishermen under 5 GT. The number of 314 respondents was taken as large as possible and adjusted to time, costs, and resources in data collection so that it is expected to represent the population of fishermen in Pangandaran Regency. The primary data collected in this study consisted of 18 predictor variables representing

three components of hierarchical needs (basic needs, social needs, and self-actualization needs) and job characteristics. Secondary data were obtained from literature and government agencies such as the Ministry of Marine Affairs and Fisheries Statistics (KKP), the Central Statistics Agency (BPS), and the Regional Development Planning Agency (BAPPEDA). Job satisfaction research generally uses Maslow's hierarchy of needs. The components identified in this study on job satisfaction among fishers in Pangandaran Regency refer to the study by (Partelow et al., 2020), namely basic needs, social needs, self-actualization needs, and job characteristics. Based on Maslow's hierarchy of needs, the predictor variables used in this study can represent the four categories in Partelow et al.'s study.

Analysis Method

Job satisfaction is the dependent variable (Y_i), while , including fishermen's age (X_1), work experience (X_2), educational (X_3), number of dependents (X_4), income (X_5), marital status (X_6), ability to meet family needs (X_7), opportunities for skill actualization (X_8), opportunities for physical exercise (X_9), opportunities for worship (X_{10}), opportunities for leisure time (X_{11}), opportunities to gather with family (X_{12}), opportunities for socialization (X_{13}), opportunities to travel as desired (X_{14}), mental health well-being (X_{15}), opportunities for physical health (X_{16}), enjoyment in catching fish (X_{17}), and job security (X_{18}) are non-dummy independent variables. Data analysis used in this research includes binary logistic regression analysis (Estimation of binary logistic regression parameters, simultaneous tests, partial tests, and model suitability tests). Prior to the main analysis, the instrument was tested using a validity test based on the Pearson Product Moment (Corrected Item–Total Correlation) and a reliability test using Cronbach's Alpha to ensure the consistency and accuracy of the measurement. The data were then analyzed using logistic regression analysis to examine the influence of independent variables on the probability of job satisfaction among fishers and to identify the significant factors affecting the dependent variable.

RESULTS AND DISCUSSION

Results

Pangandaran located at West Java. The geographic location of Pangandaran Regency is at 108°08'00" – 108°50'00" East Longitude and 7°24'00" – 7°54'20" South Latitude. Geographically,

the northern part of Pangandaran Regency is bordered by Ciamis Regency, the eastern part is bordered by Cilacap Regency, the western part is bordered by Tasikmalaya Regency, and the southern part is directly adjacent to the Indian Ocean. In this research, data collection was carried out at five Fish Auction Places (TPI) consisting of Cikidang TPI, Pangandaran TPI, Bojong Salawe TPI, Batukaras TPI, and Madasari TPI.

The characteristics of fishers analyzed in this study are their demographic and socio-economic profiles. These characteristics include age, marital status, level of education, monthly income, number of family members, and work experience as fishers. Analysis of these characteristics was conducted to determine the respondents' conditions and aimed to fulfill the data needs to understand their influence on fishers' job satisfaction.

The average age of fishermen respondents is 37.2 years, with the oldest being 62 years old and the youngest being 19 years old. The median age of fishermen encountered during the study was 37 years. All the fishermen encountered during the study ranged in age from 19 to 62 years, indicating that the fishermen in Pangandaran Regency are predominantly in their productive age. This is consistent with the data from the Central Statistics Agency of Pangandaran Regency (2020), which

shows that the regency is dominated by a population in the productive age group. With a dominant composition of productive age among the fishermen, it should contribute to the increased productivity of the fisheries sector in the area. However, this is not the case as the fishery production in Pangandaran Regency has experienced a decline from 2017 to 2021.

Education is one of the socio-economic indicators used to assess the quality of life in a region. Based on the results obtained from the respondents, it is found that the highest level of education among fishermen in Pangandaran Regency is high school (SMA), while the lowest level is no formal education. The majority of fishermen in Pangandaran Regency have completed primary education (SD), with 180 respondents, followed by fishermen with junior high school (SMP) education, with 104 respondents. These results indicate that the education level of small-scale fishermen in Pangandaran Regency is still low. This is consistent with the study by Sarapil et al. (2020), which found that the education level of small-scale fishermen in general is dominated by primary school (SD) graduates.

The low level of education among fishermen is due to the perception that fishing is an inherited occupation. Additionally, the low level of education among fishermen is caused by the location and

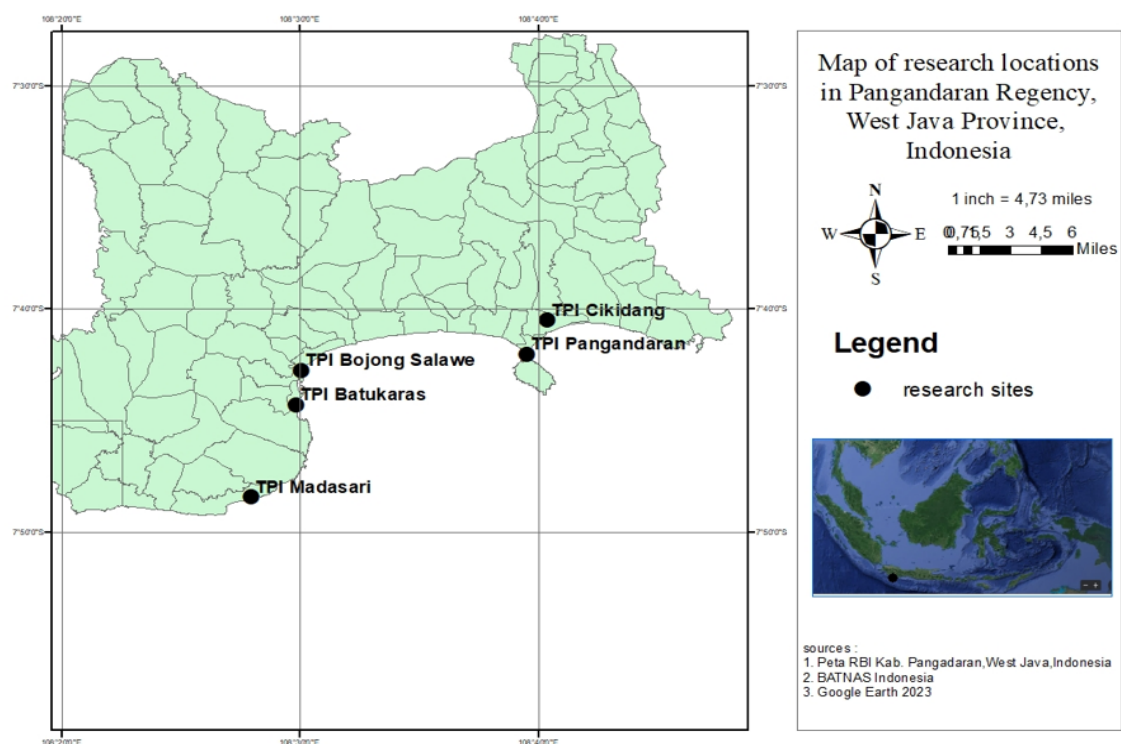


Figure 1. The map of Pangandaran.

Source: Data analysis results, 2025.

economic conditions of coastal communities, which force them to rely on marine resources. The unpredictable economic situation of small-scale fishermen makes formal education not a top priority, so from an early age, they are taught by their parents to go fishing at sea and earn money. These research findings are consistent with the statement by Khobir (2019) that the determining factors for education among fishing community families are environmental factors, economic factors, family upbringing or parental influence, and habitual factors.

Marriage is a socio-demographic factor related to an individual's happiness and well-being, and it has an impact on financial satisfaction and health (Anna et al., 2019). The research respondents indicate that the majority are married. Out of 314 respondents, a total of 258 fishermen are married.

Work experience is one of the indicators that can be used to measure someone's expertise or knowledge in their job (Konoralma et al., 2020). In this study, work experience refers to the length of time a small-scale fisherman has been working in Pangandaran Regency. On average, small-scale fishermen have a work experience of 21 years, while the most common work experience found is 30 years. Family dependency refers to the number of family members, including non-blood relatives, who live in the same household and are unable to support themselves (Purwanto & Taftazani, 2018). The number of family dependents can be categorized into three groups, according to the Central Statistics Agency's data on the number of family dependents. Income refers to the reward received after performing a job or business. The highest income

of small-scale fishermen in Pangandaran Regency during the research period was IDR. 9,000,000 per month, while the lowest income was IDR. 300,000 per month. The median income, obtained from the range of highest to lowest income, was Rp. 1,700,000. The average income of fishermen in Pangandaran Regency was Rp. 1,897,452, and the most common income among fishermen was Rp. 2,000,000. The income of fishermen in Pangandaran Regency is classified as low. This low income is due to the small catch, which is influenced by climatic factors. During the research period, from February to March, it was the west monsoon season. This is consistent with the statement by Limbong et al., (2017) that besides the fishing fleet's reach, climate and weather are the main factors influencing fish catches.

Job satisfaction includes several aspects, including the work environment and the job itself. Job satisfaction is an individual characteristic where individuals have their own satisfaction with the work they do (Selvia, 2019). According to Bavinck et al. (2012), the analysis of job satisfaction aims to determine whether an individual's needs are met or not. The analysis of job satisfaction among small-scale fishermen in this study was conducted to understand how satisfied they are with their work.

The research results on job satisfaction of small-scale fishermen in Pangandaran Regency can be seen in Figure 2. The data obtained shows that there are 169 fishermen or 54% of the total 314 respondents who are satisfied with their work, while 145 fishermen or 46% are not satisfied with their work. The main reasons for job dissatisfaction among small-scale fishermen are unpredictable

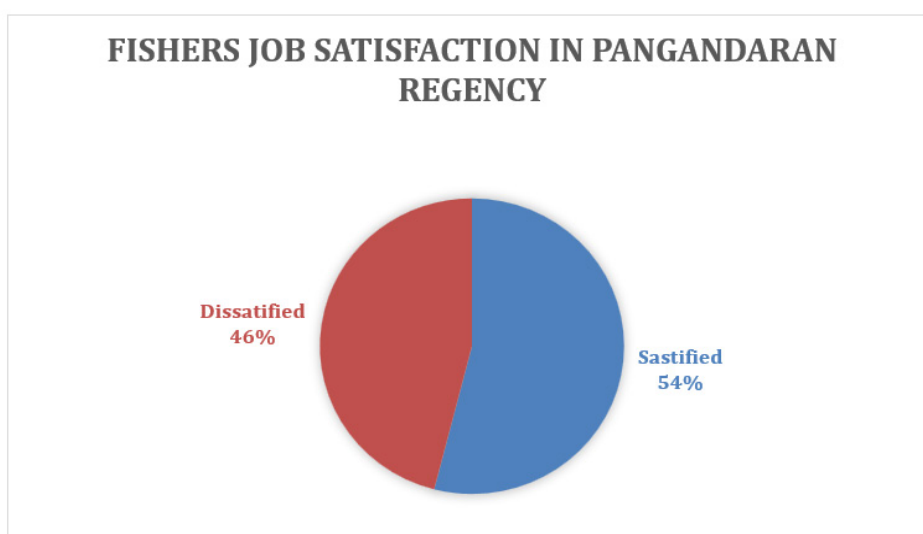


Figure 2. Frequency Distribution of Fishermen's Job Satisfaction.

Source: Data analysis results, 2025.

income and stress caused by low catch. Fishing is a job with unpredictable income (Anna et al., 2019). Fishermen who are satisfied with their work are mostly because fishing in the sea is their hobby and has been done since childhood. In addition, small-scale fishermen are satisfied with their work because fishing is a flexible job that is not bound by time, allowing them to manage their time according to their preferences. The challenging and non-monotonous working environment of fishermen is also a reason why small-scale fishermen in Pangandaran Regency feel satisfied with their work. This is in line with Durgun et al. (2021) and Seara et al. (2017), which state that fishing activities are part of the culture. Most large-scale and small-scale fishermen worldwide do not view fishing solely as a job. In this study, the positive perspective of small-scale fishermen towards job satisfaction is driven by non-monetary aspects.

The study found that fishermen in Pangandaran Regency are satisfied with their work, which is consistent with the study by Partelow et al. (2020) that indicates overall job satisfaction among fishermen in three regions of Costa Rica, Puerto Rico and the Dominican Republic. Job satisfaction in each region can vary, and this difference can be attributed to various factors, including socioeconomic and demographic factors (Partelow et al., 2020).

Logistic regression model was conducted in the study of fishermen's job satisfaction to identify the factors from independent variables that influence the dependent variable (Seara, Pollnac, Poggie, et al., 2017). In the analysis of fishermen's job satisfaction in Pangandaran Regency, a binary logistic regression model was used. This model is employed to determine the influence of independent variables on the dependent variable, which is dichotomous in nature.

The dependent variable (Y) in this study is job satisfaction, which consists of two categories: satisfied (1) and dissatisfied (0). As for the independent or predictor variables (X), there are 18 variables, including fishermen's age (X1), work experience (X2), educational (X3), number of dependents (X4), income (X5), marital status (X6), ability to meet family needs (X7), opportunities for skill actualization (X8), opportunities for physical exercise (X9), opportunities for worship (X10), opportunities for leisure time (X11), opportunities to gather with family (X12), opportunities for socialization (X13), opportunities to travel as desired (X14), mental health well-being (X15), opportunities for physical health (X16), enjoyment in catching fish (X17), and job security (X18). Binary logistic regression analysis in this study was conducted using SPSS software. The following are the results of the logistic regression analysis:

Table 1. Logistic Biner Regression Result.

	Variabel X _n	B	S.E.	Wald	Df	Sig.
Step 1 ^a	Age (X1)	-,068	,049	1,908	1	,167
	Work Experience (X2)	,024	,043	,309	1	,578
	Education (X3)	-,428	,124	11,841	1	,001
	Number of dependents (X4)	,040	,150	,070	1	,792
	Income (X5)	,000	,000	2,506	1	,113
	Marital status (X6)	-1,383	,718	3,705	1	,054
	Ability to meet family needs (X7)	3,853	,585	43,373	1	,000
	Opportunities to self-actualization (X8)	4,434	,854	26,977	1	,000
	Opportunities for physical exercise (X9)	,480	,604	,631	1	,427
	Opportunities for worship (X10)	-,924	,785	1,383	1	,240
	Opportunities for leisure time (X11)	,213	,560	,145	1	,704
	Opportunities to gather with family (X12)	-,751	,717	1,096	1	,295
	Opportunities for socialization (X13)	-3,315	,735	20,347	1	,000
	Opportunities to travel as desired (X14)	4,649	1,283	13,127	1	,000
	Mental health well-being (X15)	-2,165	,608	12,701	1	,000
	Physical health (X16)	-,235	,441	,283	1	,595
	Enjoyment of fishing (X17)	-4,979	1,018	23,930	1	,000
	Job security (X18)	-1,061	,451	5,546	1	,019
	Constant	5,632	2,699	4,354	1	,037

Source: Data analysis results, 2025.

The logistic regression analysis yielded the following logit equation:

$$\text{Job Satisfaction (Y)} = \frac{\ln p_i}{1-p_i} = 5,632 - 0,068 X_1 + 0,024 X_2 - 0,428 X_3 + 0,040 X_4 + 0,000 X_5 - 1,383 X_6 + 3,853 X_7 + 4,434 X_8 - 0,480 X_9 - 0,924 X_{10} + 0,213 X_{11} - 0,751 X_{12} - 3,315 X_{13} + 4,649 X_{14} - 2,165 X_{15} - 0,235 X_{16} - 4,979 X_{17} - 1,061 X_{18}$$

Hosmer and Lemeshow's Goodness of Fit Test is used to assess the suitability of the model by determining whether the observed data aligns with the model used. If the observed data and the data entered into the model meet the Goodness of Fit criteria, there is a correspondence between the observed data and the data entered into the model (Tampil et al., 2017). The results of the model's goodness of fit test in this study can be seen in Table 2.

Table 2. Hosmer and Lemeshow's Goodness of Fit Test.

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	223,480a	,448	,651

Source: Data analysis results, 2025.

The coefficient of determination test was conducted to identify the extent to which the dependent variable can explain the independent variables collectively. The results of the coefficient of determination test can be observed based on the Nagelkerke R Square value, which ranges from 0 to 1. A value approaching 1 indicates that the dependent variable can explain or provide information about the independent variables. The coefficient of determination results for the study on Job Satisfaction of Small-Scale Fishermen in Pangandaran Regency can be seen in Table 3.

Table 3. Determination Coefficient Test.

Step	Chi-square	df	Sig.
1	9,608	8	0,294

Source: Data analysis results, 2025.

Based on Table 3, the coefficient of determination test yields a Cox & Snell R Square value of 0.448, indicating that the effectiveness of variables X1 to X18 in explaining the fishermen's job

satisfaction is 44.8%. Furthermore, the Nagelkerke R Square or coefficient of determination in this binary logistic regression model is 0.651, indicating that 65.1% of the variance in variable Y can be explained by the independent variables, while the remaining variance is influenced by other factors.

The simultaneous test is conducted to identify the role of each independent variable (X) on the dependent variable (Y) collectively or simultaneously. According to (Hartati et al., 2021), the simultaneous test aims to determine the significance value of the parameter of the response variable as a whole. To test the parameters of the model simultaneously in logistic regression, the G-test can be used. The hypothesis tested in this study is as follows:

H_1 = At least some small-scale fishermen are satisfied with their job (1)

H_0 = All small-scale fishermen are not satisfied with their job (0)

The results of the simultaneous test for the study on Job Satisfaction of Small-Scale Fishermen in Pangandaran Regency, West Java, can be seen in Table 4.

Table 4. Chi-Square Test.

		Chi-square	Df	Sig.
Step 1	Step	59,486	18	,000
	Block	59,486	18	,000
	Model	59,486	18	,000

Source: Data analysis results, 2025.

Based on the results in Table 10, it is known that the Chi-square value of the model is 59.486 with a significance value of $0.000 < 0.05$, which means that the variables X1 to X18 collectively or simultaneously have a significant influence on the job satisfaction of fishermen (Y). Based on the results in Table 10, the Chi-square value of the model is 59.486 with a significance value of $0.000 < 0.05$, which means that variables X1 to X18 simultaneously have a significant effect on the dependent variable, job satisfaction of fishermen (Y).

Table 5. Results of the Simultaneous Test for Job Satisfaction of Fishermen.

	Observed	Predicted Job_Satisfaction_Y	Percentage Correct	
			Dissatisfied	Satisfied
Step 1	Job_Satisfaction_Y	Dissatisfied	114	31
		Satisfied	17	152
	Overall Percentage			84,7

Source: Data analysis results, 2025.

Model Prediction Strength Based on Table 5:

The logistic regression model's strength in predicting the likelihood of the "Satisfied" (1) category is 89.9%. This indicates that, using the regression model, 152 fishermen (89.9%) were predicted to be satisfied (1) out of the total of 169 respondents in the "satisfied" category. Conversely, the model's predictive strength for respondents categorized as "Not Satisfied" (0) is 78.6%, meaning that 114 fishermen (78.6%) were predicted to be dissatisfied (0) out of the total 145 respondents in this group. Therefore, it can be concluded that the predictive accuracy or classification power of the logistic regression model in categorizing its observations is 85.0%. The Wald test, also known as the partial test, is conducted to identify the effect of each independent variable in the model on the dependent variable. In this test, the significance value of each variable is analyzed, and the criteria for the Wald Test are as follows:

- If the significance value (W) is < 0.05 or 5%, the independent variable partially or significantly affects the dependent variable.
- If the significance value (W) is > 0.05 or 5%, the independent variable does not significantly affect the dependent variable.

The analysis of the Wald Test regarding the Job Satisfaction of Small-Scale Fishermen in Pangandaran Regency can be seen in Table 1. The results of the Wald test, as presented in Table 1, indicate that the independent variables with a significance level < 0.05 , which significantly impact the job satisfaction of small-scale fishermen, include Education Level (X3) with a significance of 0.001, Ability to Meet Family Needs (X7) at 0.000, Opportunity for Self-Actualization (X8) at 0.000, Time for Social Interaction (X13) at 0.000, Opportunity to Travel as Desired (X14) at 0.000, Mental Health (X15) at 0.000, Enjoyment at Work (X17) at 0.000, and Job Security (X18) at 0.019. Thus, it can be concluded that these eight variables have a significant influence on the job satisfaction of small-scale fishermen in Pangandaran Regency.

Discussion

The binary logistic regression results indicate that several predictor variables significantly influence Job Satisfaction among Small-Scale Fishermen in Pangandaran Regency (Y). These key predictors include Education Level (X3), Able to Fulfill Family Needs (X7), opportunities for skill actualization (X8), Opportunity to Socialize (X13), Opportunity to Travel Desire (X14), Mental

Health (X15), Pleasure at Work (X17) and Job Security (X18). **Education Level (X3)** has a significant influence on fishermen's job satisfaction, with a p-value of 0.017 (< 0.05). This aligns with the findings of Fernandes (2012), which suggest that educated and skilled fishermen tend to have higher job satisfaction compared to those with lower education levels. Ilies et al. (2019) further support this, asserting that education and skill levels allow individuals to pursue jobs that match their skills and aspirations, thereby enhancing job satisfaction. Based on field observations, the primary learning resources for fishermen with very low education and productive age (average 37 years) come from experiential learning (passed down from generation to generation) and peer-to-peer learning among fellow fishermen, rather than from formal institutions. This phenomenon is reinforced by the results of binary logistic regression on Pangandaran fishermen, which shows that although education level (X3) has a significant effect on job satisfaction ($p=0.017$), fishermen of productive age (37 years) but with low education still have alternative learning resources. Two variables that proved significant, namely socializing opportunities (X13) and travel opportunities (X14), indicate that learning takes place through social interaction and mobility—rather than through formal channels. Fishermen obtain information about technology, fishing locations, and market prices from fellow fishermen. In addition, fulfilling family needs (X7) and mental health (X15) are also significant, which means that economic pressure and psychological conditions also influence their readiness to adopt technology. Another interesting finding is that income has no significant effect, while work interest (X17) is very dominant (92% of fishermen enjoy their work). This confirms that non-monetary factors are more important than income in driving job satisfaction and technology adoption. These three findings align with previous literature. Gilbert & Yeo (2014) explain that technology in small-scale fisheries is skill-diluting, so education is not an absolute barrier because fishers can learn from their social environment—as evidenced by the significance of X13 and X14. Dwi et al. (2024) assert that access to technology (the internet) can improve fishers' welfare by improving market access, regardless of formal education level. Kpanou et al. (2021) reinforce that fishers' job satisfaction is more determined by non-financial aspects (self-actualization, social relations, mental health) than income—as reflected in the insignificance of income and the significance of X7, X13, X15, and X17 in your regression model.

Ability to Meet Family Needs (X7)

significantly impacts fishermen's job satisfaction. According to the study, 54% of respondents felt capable of supporting their families, suggesting that financial management in fishing households affects perceived satisfaction. An individual's ability to meet their household needs reflects their job satisfaction (Bavinck et al., 2012). **Opportunities for skill actualization (X8)** also plays a critical role in job satisfaction. According to Smith & Clay (2010), self-actualization involves an individual's drive to reach their potential, with adventure and challenge forming components of job satisfaction (R. B. Pollnac & Poggie, 2006). The study found that fishermen exhibit courage, perseverance, calmness, and a sense of freedom, largely stemming from the adventurous nature of fishing. Preparing fishing gear, venturing into the sea, and facing occupational risks contribute to a sense of self-fulfillment, which increases their job satisfaction. This finding echoes Pollnac et al. (2012), who noted that education enhances both self-actualization and job satisfaction. **Socialization Opportunities (X13)** also have a significant effect on job satisfaction. This study defines social needs as the fishermen's ability to interact with friends and family. Fishermen in Pangandaran feel that their work schedule—either 3 AM to 11 AM or 6 PM to midnight—allows ample social time. This is consistent with (Monnereau & Pollnac, 2010) who found that fishermen in the Caribbean valued the opportunity to balance work and social life, enhancing job satisfaction. **Mental Health (X15)** has a significant influence on fishermen's job satisfaction. Fishermen who are satisfied with their work tend to have better mental health. For some, fishing provides a mental escape, and the study even found that some fishermen feel stressed if they are not out at sea. Dissatisfied fishermen, on the other hand, often report stress and envy due to lower catch rates. Pollnac & Poggie (2006) noted that mental health and job satisfaction are interconnected, with mental well-being often benefiting from physical activities like fishing. **Enjoyment of Fishing (X17)** also significantly impacts job satisfaction among fishermen. This variable falls under psychological health needs, and 92% of the fishermen in this study reported enjoying their time at sea. They derive pleasure from the fresh sea environment and the excitement of hauling in fish-laden nets. Anna et al. (2019) highlight that fishermen's happiness often stems from unique aspects like the environment and daily activities. Interestingly, **Income** does not significantly influence job satisfaction for small-scale fishermen in Pangandaran. This contrasts with the findings of Sweke et al. (2016), which showed income as a significant factor. The average monthly

income of fishermen in Pangandaran is around Rp. 1,897,452, with minimal variation. Differences in factors affecting fishermen's job satisfaction are common. For instance, Partelow et al. (2020) found diverse results in a comparative study on small-scale fishermen's job satisfaction across three regions. Such differences may reflect the demographic influences of specific areas.

The findings align with Monnereau & Pollnac (2010), who identified three needs hierarchies—psychological, self-actualization, and esteem—that influence job satisfaction. Non-monetary aspects significantly impact fishermen's job satisfaction, supporting Bavinck et al. (2012) and Durgun et al. (2021), who highlighted the importance of non-monetary factors for small-scale fishermen's job satisfaction. **Job Security (X18)** also significantly influences job satisfaction. According to Finnis et al. (2019), capture fishing is high-risk due to natural elements, with small-scale fishermen especially vulnerable to dangerous conditions. Enhancing safety programs could help mitigate the risks of injuries or fatalities in capture fishing (Jensen et al., 2014).

The findings of this study further indicate that job satisfaction contributes substantially to the sustainability of fishermen's occupations. Although 83% of respondents stated that they would not encourage the younger generation to become fishermen because of the occupation's high risk, uncertain income, and physically demanding nature, 76% expressed no intention of leaving the profession even when presented with alternative employment opportunities. This apparent contradiction suggests that occupational sustainability among small-scale fishermen is not solely determined by economic returns but is strongly influenced by intrinsic satisfaction derived from the occupation itself. The significant effects of self-actualization, enjoyment of fishing, mental health, and social relationships demonstrate that fishermen remain committed to their profession because it fulfills important psychological and social needs beyond financial rewards. These findings support the argument of (Anna et al., 2019) that fishing provides unique forms of fulfillment that cannot easily be substituted by other occupations.

The persistence of fishermen in their occupation also reflects the multidimensional nature of job sustainability. The insignificant effect of income on job satisfaction, combined with the strong influence of non-monetary factors, indicates that occupational continuity is primarily driven by psychological attachment rather than economic

incentives. Many respondents described fishing as an integral part of their identity, inherited from previous generations and closely connected to their lifestyle and cultural values. Similar findings were reported by Marshall et al., 2007, who emphasized that occupational attachment and family traditions strengthen fishers' adaptive capacity and willingness to remain in the fisheries sector despite economic uncertainty. Likewise, (Muallil et al., 2011) found that most Filipino fishers preferred to continue fishing even under declining income scenarios because the occupation provided social identity and personal fulfillment that alternative jobs could not replace.

Nevertheless, the long-term sustainability of the small-scale fisheries workforce faces an important challenge. While current fishermen demonstrate high occupational commitment, the reluctance to recommend fishing to younger generations may threaten intergenerational succession and the future availability of fishing labor. This finding suggests that sustaining small-scale fisheries requires policies that not only improve fishermen's income but also enhance occupational attractiveness through better safety standards, social protection, access to education and technology, and improved mental well-being. Strengthening these dimensions would preserve the non-monetary sources of job satisfaction while reducing the risks associated with fishing, thereby increasing the likelihood that younger generations perceive fishing as a viable and sustainable livelihood. Consequently, improving job satisfaction should be viewed as an essential strategy for promoting the long-term sustainability and resilience of small-scale fisheries.

Analysis of Willingness to Work as a Fisherman

In this study, fishermen were asked if they would recommend fishing to the younger generation or switch jobs if given the opportunity. The results show that 83% would not recommend fishing to younger generations, mainly due to the inherent difficulties, inconsistent income, and high risk. Anna et al., (2019) also note that fishing is among the riskiest jobs with unpredictable earnings. However, those who would recommend fishing argue that the profession must have successors to ensure a sustainable seafood supply and maintain Indonesia's competitive edge in fisheries. When asked if they would leave the profession if presented with a better opportunity, 76% of respondents stated they would stay, despite the unstable income. Most fishermen felt a strong connection to the profession due to their upbringing and the enjoyment they derive

from fishing, even with its challenges. This is consistent with Muallil et al. (2011), who found that most fishermen in the Philippines would not leave the profession, even if their income dropped by 15%. Similarly, Sweke et al. (2016) reported that over 60% of fishermen in Akkeshi, Japan, took pride in their work, with 90% expressing no desire to switch professions. These findings suggest that fishermen's reluctance to switch professions stems from strong social ties and a deep-rooted family tradition (Marshall et al., 2007). Overall, fishermen's job satisfaction often comes from unique sources of fulfillment, and the willingness to switch jobs may only arise if an alternative offers similar satisfaction to what fishing provides (Anna et al., 2019).

CONCLUSIONS AND POLICY RECOMMENDATION

Conclusion

Based on the research findings, it can be concluded that slightly more than half (54%) of small-scale fishermen in Pangandaran Regency are satisfied with their jobs. The final binary logistic regression model indicates that job satisfaction is significantly influenced by education level, ability to meet family needs, self-actualization, opportunities for social interaction, mental health, enjoyment in catching fish, and job security. These findings suggest that job satisfaction among small-scale fishermen is shaped not only by economic conditions but also by psychological, social, and occupational factors.

Despite the relatively moderate level of job satisfaction, 83% of fishermen would not recommend the profession to younger generations because of unstable income and high occupational risks. Nevertheless, 76% would choose to remain fishermen even if alternative employment opportunities were available, reflecting a strong occupational attachment and the intrinsic value they associate with their work. Based on these empirical findings, policies aimed at improving the sustainability of small-scale fisheries should prioritize interventions that strengthen the significant determinants of job satisfaction. These include expanding access to education and skills development, improving fishermen's capacity to meet household needs through more stable livelihoods, creating opportunities for self-actualization and stronger social relationships within fishing communities, promoting mental health and psychosocial well-being, maintaining the intrinsic enjoyment of fishing through participatory fisheries management, and enhancing occupational

safety through improved safety equipment, training, and risk reduction measures. By addressing these empirically supported factors, policymakers can enhance fishermen's job satisfaction, strengthen workforce retention, and promote the long-term sustainability of coastal livelihoods.

Policy Recommendations

First, the local government needs to develop policies based on improving the quality of human resources among fishermen through ongoing education and training programs, including financial literacy, fisheries business diversification, and job safety skills improvement. These capacity-building programs not only improve technical competence but also support fishermen's self-actualization and self-confidence. Furthermore, strengthening social protection and insurance schemes for fishermen needs to be expanded to increase their sense of job security, given that job security has been shown to significantly influence job satisfaction.

Second, fisheries development policies need to integrate psychosocial well-being and generational sustainability approaches. Facilitating social spaces, strengthening fishermen's cooperatives, and providing community-based mental health support can maintain job satisfaction and social resilience among fishermen. To attract the younger generation, innovation in fisheries business models should begin with strengthening fishers' capacity as prospective business entities, including institutional development, training, and systematic mentoring. These preparatory efforts are essential before gradually introducing more modern, safe, and value-adding approaches—such as improving market access and, in the longer term, digitalizing catch marketing and developing the fisheries value chain—so that the fishing profession remains competitive and sustainable in the future.

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AUTHOR CONTRIBUTION STATEMENT

We hereby declare that the contributions of each author to the creation of this paper are as follows: Zuzy Anna as the primary contributor for the research idea and concept and the main author; Muhamad Fitra Ramadha as the coordinator for primary and secondary data collection and data analysis; Rizky Maulana as data verification and

validation and writing; and Purna Hindayani as writing and editing. The author declares that a statement of author contributions has been attached.

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