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## Indonesian navy post and social solidarity influence of *Puger* fisherman community resilience in facing covid-19 pandemic

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### ABSTRACT

The role of Indonesian Navy Post (Posal) Puger is very essential, not only as implementing policies to empower marine defense areas, during the Covid 19 pandemic, they were also actively involved in helping to overcome the impact of the Covid 19 pandemic. Covid 19 has an impact on various aspects of life and levels of society, including fishermen. Puger fishermen can survive in carrying out their role in the midst of the Covid 19 pandemic based on good social solidarity. Social solidarity is one of the identities of the fishing community, as well as strengthening resilience in the face of the Covid 19 pandemic. This study aims to analyze the significance of the role of Indonesian Navy Post and social solidarity on the community resilience of the Puger fishing community in dealing with Covid 19. The research approach used is quantitative with method of structural equation modeling (SEM) by testing confirmatory factor analysis and path analysis. The samples taken were 150 respondents from a total population of 10,329 people. The sampling technique used is simple random sampling. The results for each construct show that firstly, the role of Posal has a positive effect on fishermen's resilience ( $\beta=0.189$  p:  $0.067 > 0.05$ ), yet it is less significant due to limited personnel number. Secondly, fishermen social solidarity has a positive effect on fisherman resilience and significance ( $\beta=0.283$  p:  $0.011 < 0.05$ ) as they involve in various informal activities of fishermen in daily life who help each other in difficulties, care for fellow fishermen and exchange information as well as good cooperation to cope with the current critical conditions.



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### Introduction

Pandemic Covid 19 has terrible impact on various sectors of life including the fisheries sector (Suhana, 2020). Fishermen's catches are not optimally distributed, given the tightening of mobility between regions, such as the implementation of large-scale social restrictions, and even fish stocks are piling up due to limited market operations. For this reason, the price is lower than ever. Production and marketing of fishery products decreased by 10 to 20%. The decline in fish prices was felt by almost all types of fishermen (Online media Mongabay.co.id, 2020; Kusnadi, 2020; Ratri, 2020). Even the complexities of disturbances that interfere with carrying out their work, Puger fishermen can survive as well as develop in number. The Puger fisherman community based on data from the Jember Regency Fisheries Service in 2020 has the largest number of 10,329 people out of 14,970 people or 69% of all Jember fishermen. This large number, in addition to making an important contribution to meeting the fish needs of the community, also helps maintain the existence of Nusa

Barong Island as a nature reserve and one of the outermost points of the Indonesian territorial line (PP no 38 of 2002; Presidential Decree no 6 of 2017). The important role of Puger fishermen can still be carried out by the Puger fishing community in the midst of the Corona Virus Disease (Covid-19) pandemic. Puger area is also included in the green zone.<sup>6</sup> It means the number of confirmed covid 19 cases is low. They have showed the ability of resilience.

Resilience can be defined as the ability of individuals, group or communities to cope with diverse disturbances and proceed daily life (Longstaff et al., 2010; Bassett, 2012; Holling, 1973; Wardekker, 2018). The disturbances may be generated by political, social and environmental changes (Adger, 2000). the complexities of disturbances must be overcome with greater community capacity and improved relationship among all community elements (Noya and Clarence, 2009). The factor that encourages fishermen to have resilience as well as a characteristic of fishermen is high solidarity between fishermen. Kusnadi (2009) describes the inherent socio-cultural characteristics of the fishing community, including a high work ethic, optimal adaptation, openness and high social solidarity. The solidarity of the fishing community is classified as mechanical solidarity. They have their own values and norms that are continuously maintained with the culture they have (Saeful et al 2017). Other forms of solidarity of the fishing community are cooperation in catching fish and mutual cooperation in daily life such as repairing torn nets or repairing boats (Syah, 2016).

The high solidarity of fishermen is an internal strengthening factor for building resilience. The resilience of fishermen will be even stronger if it is supported by external factors. This is in accordance with (McCubbin, 2001) that the ability of resilience in dealing with problems is influenced by internal and external factors. Factors from outside the fishing community can be in the form of government institutions. Posal as an integral part of the Indonesian Navy is one of the government institutions that plays an active role in providing attention, protection and solving problems faced by the community in line with government policies. The role of Pos Indonesia Navy is also expected to strengthen the resilience of the fishing community.

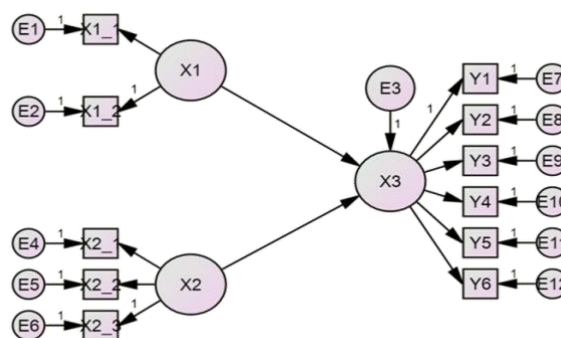
Some researchers have conducted study on the role of military related to emergency situation such as disaster and pandemic Covid 19 and support civil tasks (Noya and Clarence, 2009; Watterson and Kamradt-Scott, 2016; pond Gibson-Fall, 2021; Sari et al., 2020). These studies examine the involvement of military during disaster, pandemic notably outbreak Covid 19, support civil tasks and hand in hand with other institution. Meanwhile these studies have not discussed yet on how community get together to handle disaster. This theme has attracted researchers to analyze social solidarity during pandemic (Tomasini, 2020; Haryadi and Malitasari, 2020; Hlebova et al., 2021). These studies found social solidarity and cohesion of community is an essential factor to cope with crisis during pandemic. In short, there are two factors consisted of the role of military and social solidarity to handle pandemic Covid 19. The focus of this study is to analyze the significance of the role of Indonesian Navy Post as an external factor and social solidarity as an internal factor on the resilience of the Puger fishing community in dealing with Covid 19. The results of this study are expected to complement the resilience community study related to the fisherman's unit of analysis.

## Method

The place where the research location is Puger District, Jember Regency. This place was chosen because most of the people work as fishermen. Puger fishermen play an important role in providing the largest fish needs in Jember and its surroundings and also in maintaining Indonesia's sovereignty in the sea because it is close to Nusa Barong Island as the outermost point of the national boundary line. This study uses a survey method, namely research that takes samples from the existing population by distributing a list of questions (questionnaires) to fishermen. Implementation time 10 July 2020 to 22 September 2020. The design of this research is basically a framework of relationships between several concepts that want to be observed or measured through research conducted using an approach or method, namely: Structural Equation Modeling (SEM) method by conducting confirmatory factor analysis and path analysis.

Based on the conceptual framework of the study, a hypothesis can be taken that there is a significant influence of the role of the Indonesian Navy on the resilience of fishermen and a significant effect of Social Solidarity on the resilience of fishermen. Variable operational consists of exogenous and endogenous. The exogenous variables used in this study are knowledge the role of the Indonesian Navy (X1) and Social Solidarity (X2) with the following indicators: the role of the Indonesian Navy Post (X1) consists of calls for maintaining health protocols and conveying government policies(X1\_1) and assist in the preparation of health protocol facilities (X1\_2), Social solidarity (X2) comprise of caring for each other (X2\_1), help each other (X2\_2) and Cooperation (X2\_3). The endogenous variable is resilience (Y). Endogenous variables developed various indicators using Connor and Davidson Scale (CD-RISC) as follows personal competence, high standards and tenacity (Y1), trust in one's instincts, tolerance of negative affect, and strengthening the effect of

stress (Y2), positive acceptance of change and a secure relationship (Y3), control (Y4) and spirituality (Y5) and added Fulfillment of the necessities of life (Y6).



**Figure 1.** Research Conceptual Framework

The population in this study were fishermen in Puger District, Jember Regency totaling 10,329 people. The sample taken amounted to 150 respondents. Sampling technique by applying simple random sampling. Sampling is done randomly without regard to the existing strata in the population because it is considered homogeneous (Sugiyono, 2011). Data obtained directly from respondents through questionnaires became primary data, while primary data reinforcement in the form of books/report documents was used as secondary data.

The data collection method used is the distribution of questionnaires to respondents. The questionnaire contains a list of questions compiled based on research variables and indicators. Respondents were asked to fill out a questionnaire or a list of questions that had been provided with clarification by the researcher. Measurement of the questionnaire / respondent's answers using a Likert scale. The linkert scale is organized into five levels of respondents' agreement with the statements made. This data is an ordinal scale because the statement has levels in each of the answer choices for questions. This scale is sequential and cannot be said to be equivalent. Consideration of applying this scale because it is easier to arrange, more organized and respondents can read easily how to use the scale.

### Classical Assumption Test

In this SEM equation there are several assumptions that must be met: Number of samples : The number of samples (observation data) is at least five times the number of variables to be estimated or at least 100 (Hair, et al 1995). Normality: Evaluation or fulfillment of normality in the data is done by observing the sweness value of the data used. The statistical value to test the normality of the data is called the Z-score. If the Z-score is greater than the critical value, it can be determined based on the critical significance level, for example, if the calculated value is greater than 2.58, it means that the data distribution is not normal at the 1% significance level. In the AMOS program a normality test is available. Outliers: Outliers are observations that appear (data) that have unique characteristics that look very much different from other observations and appear in the form of extreme values for either a single variable or a combination variable. The estimation technique used in this study is the maximum likelihood estimation (ML) where this technique is in accordance with the sample size in the range of 100-150 (Hair, et al, 1998) to determine the criteria for Goodness of Fit, the researchers consider various assumptions in SEM, namely regarding sample size, normality, and outliers.

By understanding these factors, the suitability test and statistical test will be determined. If the assumptions have been met, then the model is tested through a suitability test and statistical tests which include: Chi Square Statistik ( $\chi^2$ ): It is the most basic test tool to test the difference between the population covariance matrix and the sample covariance matrix. The tested model is considered good and satisfactory if the chi-square value is low. The smaller the value of  $\chi^2$ , the better the model and is accepted based on the cut-off probability of  $P > 0.05$  or  $P > 0.10$  (Hulland, 1996 in Ferdinand, 2002) Significance probability: It is a significance test for the difference between the data cavariance matrix and the estimated cavariance matrix. If the significance probability value  $> 0.05$  indicates that the model is acceptable. Incremental Fit Index (IFI) : The measure of comparative suitability proposed by Bollen. The value is expected to be higher than 0.90. Comparative Fit Index (CFI): It is an index quantity to measure the level of acceptance of a model. The advantages of this index are that it is not influenced by sample size (Hulland, et al, 1996 in Ferdinand, 2002). The value range of this index is 0-1, where closer to 1 indicates the highest level of fit (Arbuckle, 1997 in Ferdinand, 2002). Tucker Lewis Index (TLI): It is an alternative incremental fit index that compares a tested model to the base line model (Baumgartner and Hamburg, 1996 in Ferdinand, 2002:59). If what is recommended as a reference for

the acceptance of a model is  $> 0.95$  and a value very close to 1 indicates a very good fit (Hair, et al, 1995; Arbuckle, 1997 in Ferdianand, 2002).

The research analysis was carried out by descriptive analysis and statistical analysis. This analysis is used to describe descriptively the results of research in the field, especially those related to research respondents. Previously, data analysis and validity and reliability tests were carried out on the measurement scale used. Statistical Analysis: This analysis is used to answer the problems that exist in this study. The statistical analysis tool used is SEM (Structural Equation Modeling) analysis. SEM is a set of statistical techniques that allow the simultaneous testing of a series of relative relationships. Research modeling through SEM allows a researcher to answer research questions that are both regression and dimensional, when researchers face research questions in the form of identifying the dimensions of a concept or construct and measuring the influence of the relationship between factors whose dimensions have been identified, SEM is a combination of analysis factor and multiple regression analysis.

Some of the conventions that apply in SEM are: (1) measured variables, also called observed variables, are variables whose data must be searched for through field research. Measurable variable indicators are drawn in the form of a rectangle, (b) an unmeasured variable called a latent variable is a variable that is formed, which is formed through the observed indicators. Latent variable indicators are drawn in the form of an oval.

The steps in Structural Equation Modeling (SEM) according to Hair, et al (1998) are: (1) develop a model based on theory, (2) develop a causal relationship flow chart, (3) convert flowcharts into a series of structural equations and measurement model specifications, (5) select the input matrix type and estimate the model, (6) assess problem identification, (6) evaluating goodness fit, (7) interpret and modify the model. This study aims to analyze the significance of the influence of the role of the Indonesian Navy and Solidarity on the resilience of fishermen. The subject of this research is the fishing community of Puger. The total number of questionnaires distributed to all samples was 150 questionnaires with a response rate of (100%).

## Results and Discussions

Data analysis in this study used descriptive analysis, statistical analysis, and discussion of research results. Based on the results of data collection carried out through collecting answers from respondents, an object description of the variables used in this study was obtained. To determine the average value of each evaluator's answer to the respondent on each statement item, it is done by adding up the value of the answer divided by each number. items or indicators in each variable. Meanwhile, to facilitate the assessment, an assessment category is made, where according to Sudjana (1996) the interval determination uses the following formula:

$$\text{Class interval} = \frac{\text{The Highest Score} - \text{Lowest Score}}{\text{Number of classes}} = \frac{5 - 1}{5} = 0,8$$

From the class interval, it can be seen the limit of the value of each class and after that the value of each respondent will be entered as Table 1.

**Table 1.** Mean Category Of Independent And Dependent Variables

Interval	Category	Score
4,20 < a =< 5,0	Strongly Agree	5
3,40 < a =< 4,20	Agree	4
2,60 < a =< 3,40	Neither agree nor disagree	3
1,80 < a =< 2,60	Disagree	2
1,00 < a =< 1,80	Strongly Disagree	1

### Analysis of the Role of the Indonesian Navy (X1)

The measurement of the Indonesian Navy's Role variable consists of an appeal to maintain health protocols and convey government policies (X1\_1) and assist in the preparation of health protocol facilities (X1\_2) indicators with a measurement scale of 1 to 5. Table 4.2 shows the results of respondents' responses to each variable dimension of the Indonesian Navy's Role .

Referring to figure 2, it can be seen that the range of respondents' answers to the dimensions of the Indonesian Navy's role lies in the preparation of health protocol facilities (X1\_2) with a mean of 2.9826 and a standard deviation of 0.29513. This means that respondents' answers tend to have a relatively high level of response to assisting the preparation of health protocol facilities in the sufficient category.

**Descriptive Statistics**

	N	Mean	Std.	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
X1_1	150	2.7441	.26633	-.268	.240
X1_2	150	2.9826	.29513	-.088	.240
Valid N (listwise)	150				

Source: SPP 12 processing result

**Figure 2.** Respondents' Responses to the Role of the Indonesian Navy**Analysis of Social Solidarity variables (X2)**

The measurement of the social solidarity variable consists of three dimensions, namely caring for each other (X2\_1), helping each other (X2\_2) and cooperation (X2\_3) with a measurement scale of 1 to 5. Figure 3 shows the results of respondents' responses to each dimension of the social solidarity variable.

**Descriptive Statistics**

	N	Mean	Std.	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
X2_1	150	3.5340	.24955	-.513	.240
X2_2	150	4.5292	.40071	.104	.240
X2_3	150	4.4633	.28762	.559	.240
Valid N (listwise)	150				

**Figure 3.** Respondents' Responses to Social Solidarity

Source: SPP 12 processing result

Based on figure 3, it can be seen that the range of respondents' answers for the dimensions of social solidarity lies in mutual assistance (X2\_2) with a mean of 4.5292 and a standard deviation of 0.40071. This means that respondents' answers tend to have a relatively high level of response to mutual assistance in the very good category, the lowest dimension is caring for each other (X2\_1) in the good category.

**Analysis of resilience variable (Y)**

The measurement of the resilience variable consists of six dimensions, namely personnel competence (Y\_1), calmness of action (Y\_2), ability to overcome difficulties (Y\_3), self-control ability (Y\_4), belief in God (Y\_5) and fulfillment of life needs (Y\_6) with a measurement scale 1 to 5. Table 4.4 shows the results of respondents' responses to each dimension of the resilience variable.

**Descriptive Statistics**

	N	Mean	Std.	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error
Y1	150	4.2464	.52080	.211	.240
Y2	150	4.3450	.47814	.278	.240
Y3	150	4.5269	.45450	.292	.240
Y4	150	4.4664	.29008	.071	.240
Y5	150	3.9371	1.83540	.094	.240
Y6	150	2.8418	.40725	.048	.240
Valid N (listwise)	150				

**Figure 4.** Respondents' Responses to Resilience

Source: SPP 12 processing result

Figure 4 describes the range of respondents' answers for the dimensions of Resilience lies in the ability to overcome difficulties (Y\_3) with a mean of 4.5269 and a standard deviation of 0.45450, this means that respondents' answers tend to have a relatively high level of response to the ability to overcome difficulties in the very good category, the lowest dimension is fulfillment necessities of life (Y\_6) in the sufficient category.

**Statistical Analysis****Path Analysis**

The first step in this test is to prove the hypothesis. Path analysis using Likelihood Estimation (ML) technique using a structural equation model (SEM) program is used in this study to examine a series of relationships between the role of the Indonesian Navy and social solidarity with the level of resilience of fishermen. The next discussion is to interpret the results of path analysis using the Likelihood Estimation (ML) technique. In this sub-chapter describes the steps that must be taken to carry out the analysis of the structural equation model are as follows: (1) Assumed number of samples: this study used one hundred and fifty (150) respondents. This amount has met the minimum number of samples for SEM testing, which is 100 samples (Hair et al 2006), (2) normality test: normality, evaluation or fulfillment of normality in the data is carried out with the p-value on the normality test using the Smirnov columnogorof test if the p-value > 0.05 then it means that the data distribution is normal (SPSS\_12) following figure 4 is the p-value for each variable.

One-Sample Kolmogorov-Smirnov Test

		X1_1	X1_2	X2_1	X2_2	X2_3
N		150	150	150	150	150
Normal Parameters <sup>a,b</sup>	Mean	2.7441	2.9826	3.5340	4.5292	4.4633
	Std. Deviation	.26633	.29513	.24955	.40071	.28762
Most Extreme Differences	Absolute	.059	.069	.074	.063	.060
	Positive	.042	.067	.049	.063	.060
	Negative	-.059	-.069	-.074	-.037	-.034
Kolmogorov-Smirnov Z		.590	.690	.748	.630	.600
Asymp. Sig. (2-tailed)		.878	.727	.631	.822	.864

a. Test distribution is Normal.

b. Calculated from data.

One-Sample Kolmogorov-Smirnov Test

		Y1	Y2	Y3	Y4	Y5	Y6
N		150	150	150	150	150	150
Normal Parameters <sup>a,b</sup>	Mean	4.2464	4.3450	4.5269	4.4664	3.9371	2.8418
	Std. Deviation	.52080	.47814	.45450	.29008	1.83540	.40725
Most Extreme Differences	Absolute	.096	.086	.088	.080	.053	.054
	Positive	.096	.086	.088	.048	.053	.054
	Negative	-.054	-.040	-.052	-.080	-.037	-.040
Kolmogorov-Smirnov Z		.960	.862	.885	.801	.536	.547
Asymp. Sig. (2-tailed)		.315	.448	.414	.542	.936	.926

a. Test distribution is Normal.

b. Calculated from data.

Figure 5. Normality Measurement

Source: SPSS 12 calculation result

Based on figure 5, it is known that univariately it is concluded that all constructs can pass the normality test or the data is normally distributed.

### Outlier test

After looking at the normal distribution of the data, then looking at the outlier values that were tested in two ways, namely univariate outliers and multivariate outliers, univariate was tested by paying attention to the Standard score (Z-score) which is the conversion data from the initial data value, the Rule of thumb the value of the Standard score (Z-score). score) is approximately three ( $\leq 3.3$ ). The following Table 2 is the result of the univariate outlier test of the research variables.

Based on Table 2, it is known that all constructs used in this study have a Z-score value, which is smaller than approximately three ( $\leq 3.3$ ) so that from this indication all constructs are declared free of multivariate outliers so that further tests can be carried out.

Table 2. Outlier Measurement

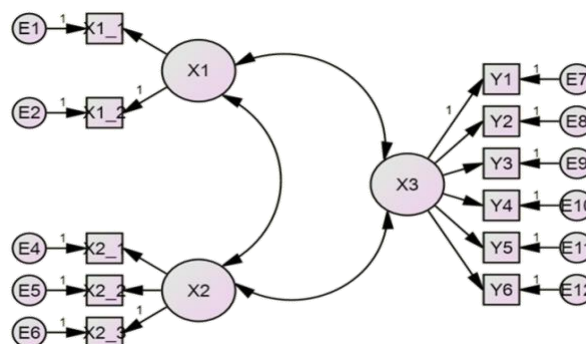
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
Zscore(X1_1)	150	-2.70397	2.18610	.0000000	1.00000000

Zscore(X1_2)	150	-2.13238	2.30317	.0000000	1.00000000
Zscore(X2_1)	150	-2.45152	1.69671	.0000000	1.00000000
Zscore(X2_2)	150	-2.04117	2.22708	.0000000	1.00000000
Zscore(X2_3)	150	-2.10962	3.17598	.0000000	1.00000000
Zscore(Y1)	150	-2.13721	2.46595	.0000000	1.00000000
Zscore(Y2)	150	-1.87910	2.50773	.0000000	1.00000000
Zscore(Y3)	150	-2.35545	2.63595	.0000000	1.00000000
Zscore(Y4)	150	-2.26271	2.90687	.0000000	1.00000000
Zscore(Y5)	150	-2.49260	2.65859	.0000000	1.00000000
Zscore(Y6)	150	-2.81953	2.91531	.0000000	1.00000000
Valid N (listwise)	150				

Source: SPSS 18 calculation result for SEM

### Test the confirmatory factor of the research model

Based on the theoretical review that has been made, the entire model is formed based on three variables, namely the role of the Indonesian Navy, social solidarity and resilience with twelve constructs, the following is a description of the test of the confirmatory factors of the indicators forming the model, the confirmatory test in this study was carried out by applying it to all models:



Source: Model Obtained on CFA with SPSS 18

**Figure 6.** Initial Model CFA Model

**Table 3.** Evaluation of Goodness Of-Fit . Criteria

Indeks	Early Model		
	Suitability	Result	Information
Cmin/df	<3.00	0.946	Fit
Prob Chi <sup>2</sup> /df	>0.05	0.940	Fit
RMSEA	<0.08	0.000	Fit
CFI	>0.9	1.000	Fit
TLI	>0.9	1.387	Fit

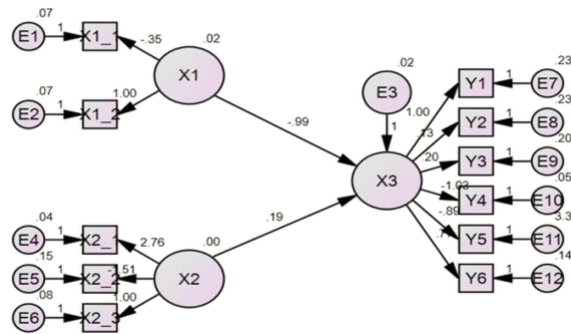
Source: SPSS 18 calculation result for SEM

Based on Table 3, it is known that the overall goodness-of-fit criteria are statistically appropriate and acceptable.

### Path analysis hypothesis test

Path analysis hypothesis test was conducted to test the research hypotheses and investigate the effect of the role of the Indonesian Navy and social solidarity on the resilience of fishing communities. This process is a direct transformation of the confirmatory test results of the final research model, by replacing the covariance relationship with the influence relationship. Based on the results of data processing through the AMOS program, it is shown in figure 7.





**Figure 7.** The results of the overall path analysis of the research model  
Source: Model Obtained on CFA with SPSS 18

**Table 4.** Evaluation of Goodness Of-Fit Criteria

Indeks	Final Model		
	Suitability	Result	Information
Cmin/df	<3.00	0.950	Fit
Prob Chi <sup>2</sup> /df	>0.05	0.950	Fit
RMSEA	<0.08	0.000	Fit
CFI	>0.9	1.000	Fit
TLI	>0.9	1.361	Fit

Source: SPSS 18 calculation result for SEM

Based on Table 4, it appears that the initial proposed model has a good level of statistical conformity (goodness-of-fit) so that the overall proposed model is categorized as a satisfactory model. After getting a good final model, the next step is to describe the results of path regression (Path analysis) of each variable used in this study. The complete results of the influence of each variable are shown in Table 5 below.

**Table 5.** Pathway Analysis Test Results

Influence Analysis		Estimate	P	Conclusion
<b>The Role of Pos Indonesia Navy</b>	→ Resilience	0.189	0.067	Less Significant
<b>Social Solidarity</b>	→ Resilience	0.283	0.011	Significant

Source: SPSS 18 calculation result for SEM

The results of the path analysis test show that the role of Posal is positively correlated with the resilience of fishermen. Posal Puger is one of the Indonesian Navy units as the spearhead in coastal areas which has an important role in addition to carrying out the empowerment of marine defense areas according to the mandate (Undang-Undang no 34, 2004 pasal 9) also helping to overcome the Covid 19 pandemic in accordance with government policies. Posal has been involved in every phase of the Covid-19 pandemic response, starting from calls for enforcement of health protocol campaigns, providing an understanding of large-scale social restrictions to various stages of adjusting to a new normal life with stake holders or local agencies. in accordance with government policies. The involvement of this active role received positive appreciation from the community. The role of Posal can be even more significant if it is supported by personnel number as Posal requirement and optimal synergies among local institutions or stakeholders in the maritime sector, especially those that are directly related to fishermen and coastal communities in general.

In addition to Posal's external role as resilience reinforcement, the fishing community is internally known to have high solidarity. The results of the path analysis test based on research data describe a strong level of significance and are directly proportional to solidarity with the level of resilience of fishermen, especially in facing difficult situations due to the Covid 19 pandemic. Various informal activities of fishermen in daily life who help each other in difficulties, care for fellow fishermen and various information on the situation at sea as well as good cooperation become a general description of the solidarity of fishermen. Difficulties in the midst of the Covid 19 pandemic encourage them to overcome by various ways. They were selling around the area because the market can only operate on a limited basis (Kusnadi, 2020).



The fishermen also changed their fishing gear strategy by selling large boats because the operating costs were quite large. The proceeds from the sale of the boat are used as capital to buy or build a smaller boat, namely Jukung (Kusnadi 2020). The number of Jukung ownership in Puger increased significantly as shown in Figure 8.



Source: Processed, BP3I Puger Year 2017

**Figure 8.** Number and Type of Fishing Facilities

This number is estimated to continue to increase until now in accordance with information from informants and the results of field observations along the river where many Jukung are moored. The use of Jukung for fishing is felt by the Puger Fishermen to be more effective and efficient. They can catch various types of fish such as Lemuru, Benur, Benggol and Layur. This type of fish is located in the waters near the coast which can only be caught using small boats such as Jukung. The operational cost of using Jukung is also cheaper. The capacity of the Jukung boat is only a maximum of two people. The catch is only divided by two people.

Puger fishermen's creativity arises from the current critical conditions such as strategies for changing fishing gear, sales systems and business diversification. The creativity appears basically as an adaptation effort and also their survival mechanism. Efforts to adjust to changing situations and utilize existing resources according to (Soekanto, 1990) are a form of social adaptation. Adaptation is part of the resilience of a community. (Norris et al., 2008) defines community resilience as a series of activities that connect the adaptive capacity network so that each part can perform its function to overcome disturbances or difficulties. Briefly, daily activities and intense communication among fishing communities build social solidarity tightly. This solidarity is the internal source of increasing the resilience of fishermen. The resilience ability of fishermen to be maintained and strong needs to be supported by collaborative roles of institutions/elements externally and internal solidarity of the fishing community.

## Conclusions

Indonesian Navy Post (Posal) Puger is one of the Indonesian Navy units as the spearhead in coastal areas which has an important role, in addition to bringing about the empowerment of marine defense areas according to the mandate of law concerning TNI and helping to overcome the Covid 19 pandemic in accordance with government policies. The role of Posal has a positive effect on fishermen's resilience ( $\beta=0.189$  p:  $0.067 > 0.05$ ), yet it is not quite significant because of limited personnel number. Then, the fishing community is internally known to have high solidarity. The results of the path analysis test based on research data describe a strong level of significance and are directly proportional to solidarity with the level of resilience of fishermen, especially in facing difficult situations due to the Covid 19 pandemic. The significance value is ( $\beta= 0.283$  p:  $0.011 < 0.05$ ). Puger fishermen get together to cope with the current critical conditions by various strategies survival mechanism and involving in diverse informal activities of fishermen in daily life. This study is limited to only analyzing the variables of the Indonesian Navy's Role (X1) as an external factor and Fishermen's Solidarity (X2) as an internal factor of the resilience of the Fisherman Community, for that it is necessary to carry out further research by analyzing the role of local stakeholders related to maritime affairs, especially fishermen, including fishing organizations. community organizations on the resilience capabilities of fishermen so that the results are more comprehensive and sustainable in research.

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