



Coastal fishermen's participation on fishermen's insurance program in Tanah Laut Regency, South Kalimantan Province

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Abstract. Fishermen face highly risky jobs since they have to deal with bad weather on the sea, such as wind storms and high waves that can, of course, cause accidents. The Government of Indonesian Republic issued Law numbered 7, 2016 concerning protection and empowerment of fishermen, fish farmers, and salt producers in order to prevent them from work accident. The Ministry of Marine Affairs and Fisheries (MMAF) has worked hard to realize prosperity for the major executors in marine and fisheries sector as one of the three major marine and fisheries development principles of Indonesia. One of the legal implementations is conducted through Fishermen's Insurance Premium Assistance (FIPA) program provided for one-year and the fishermen are expected to be involved in self-support fishermen's insurance (SSFI). Unfortunately, the fishermen's involvement in FIPA has not resulted in awareness of the insurance due to low fishermen's participation in SSFI. This study aims to analyze the fishermen's perception on fisheries insurance using Likert scale analysis, fishermen's participation level on SSFI using qualitative descriptive statistics, the correlation between perception and fishermen's participation in SSFI using logistic regression. Results showed that coastal fishermen had low perception on the fishermen's insurance with a total score of 3.458, and low participation level in SSFI, 38.24% in Tanah Laut Regency and 35.84% in the districts. The fishermen's perception on the SSFI and the benefit of FIPA significantly influenced the fishermen's participation in the insurance.

Key Words: FIPA, MMAF, perception, prosperity, self-support insurance.

Introduction. One of the coastal areas in South Kalimantan, Tanah Laut Regency, has 175.93 km coastline with the community's major livelihoods as fishermen. Fishing is a risky job due to possibly dealing with bad weather in the sea, such as high waves, that can cause sea accidents. According to Imron et al (2017), fishing profession has '3D' job characteristics, namely dangerous, dirty, and difficult. These characteristics are also added with high number of relatively small vessels sailing on high wave waters in bad weather condition so that the risk of fishing vessel accidents can rise. Interactions of human (captain and crews), machines (vessel and safety facilities) and environment (weather and fisheries resources management scheme) are factors determining the safety of the fishing vessel. When one of these components does not function, the work security will become the problem (Lincoln 2002).

Putra et al (2017) added that accidents in fishing vessel are sinking, running aground, fire, collision, and capsizing. Natural causes of the accidents cannot be avoided in fishing operation, but development of human resources and technical maintenance can minimize them.

To prevent the fishermen from work accident risks, the Government of Indonesian Republic issued Law numbered 7, 2016, concerning protection and empowerment of fishermen, fish farmers, and salt producers. Risk protection insurance program for fishermen, fish farmers, and salt producers has been established through the MMAF's regulation numbered 18/PERMEN-KP/2016 concerning risk protection of fishermen, fish farmers, and salt processors that covers risk protection, insurance provision facilitation, premium payment assistance beneficiary criteria, and insurance implementation.

The implementation of the regulation is carried out through fisheries insurance program under the regulation of Directorate General of Fisheries numbered 1/PER-

DJPT/2017, numbered 3/PER-DJPT/2018, and numbered 2/PER-DJPT/2019, which is called as Fishermen's Insurance Premium Assistance (FIPA) program. The target of FIPA program is small fishermen and traditional fishermen by insuring the death risk, permanent handicap, and treatment costs. FIPA is one of the security protection strategies for Indonesian fishermen conducted through social institutional strengthening (Azhar et al 2020).

In FIPA program implementation, the government works together with PT. Asuransi Jasa Indonesia (JASINDO). The assistance was granted in 2016, and there were 1,198,177 fishermen recorded in 2019 as assistance recipients with total amount of IDR 398,000,000,000. Based on Directorate General of Budgeting data, the Ministry of Finance has granted the insurance premium assistance to 20,415 fishermen of South Kalimantan during 2016-2018.

The FIPA program given by the Ministry of Marine Affairs and Fisheries (MMAF) lasts only for one-year, and then the beneficiaries are expected to be involved in the self-support fishermen insurance (SSFI). Unfortunately, only few of them are willing to participate in it. One of the causes is the fishermen understand less the benefit and the importance of the insurance.

Based on condition above, it is believed that fishermen have not considered the insurance as a necessity. Willingness to get involved in FIPA program is more based on free charge of insurance premium, but insurance is part of fishermen's protection from various risks and part of prosperity guarantee for the fishermen's households (Sukono et al 2021).

Rahmat et al (2019) mentioned that the need for fishermen's insurance is affected by number of family members, fishermen's age, and fishermen's working hours. The MMAF also plays good role in fishermen's participation in FIPA program, but Srimutia (2018) found that low FIPA program-related fishermen awareness results from unsatisfactory services and low responsibility of the MMAF of Sibolga to do their tasks and functions. This study aims to analyze the fishermen's perception on insurance program, fishermen's participation in SSFI program, and the correlation between fishermen's perception and participation level in insurance program.

Material and Method. This study was conducted in Panyipatan District, Takisung District, and Kintap District, and the coastal area of Tanah Laut Regency, for 8 months, from April to November 2020, with consideration that most residents in this regency work as fishermen using sufficiently varied fishing gears.

Respondents in this study were FIPA participants and SSFI program participants. Based on Food Security and Fisheries Services data of Tanah Laut Regency, there were 474 fishermen who continued to SSFI program, and 3,290 fishermen who did not get involved in the SSFI program. Number of samples was determined following Slovin's formula (Sekaran 1999):

$$n = \frac{N}{1 + (N \times e^2)}$$

where: n = number of samples; N = total population; e = error tolerance.

Using 10% error tolerance, 83 respondents were determined from 474 fishermen who continued to SSFI program and 98 respondents from 3,290 fishermen who did not get involved in the SSFI program.

Coastal fishermen's perception analysis on FIPA and SSFI programs. Coastal fishermen's perception on FIPA and SSFI programs was assessed using Likert scale and descriptive method for all variables measured. Likert scale was used to examine the fishermen's response to the questions under the following criteria (Chakrabartty 2014): 5 = highly agree; 4 = agree; 3 = neutral; 2 = disagree; 1 = highly disagree.

The questions concerning fishermen's perception on FIPA program and SSFI are: 1. knowledge on FIPA program; 2. benefit and profitability of the FIPA program; 3. FIPA

proposing procedure; 4. knowledge on SSFI program; 5. benefit and profitability of SSFI; 6. SSFI submission procedure.

Fishermen's participation analysis on SSFI. Fishermen's participation in SSFI was qualitatively descriptively analyzed. The assessments were done on the fishermen who were involved in SSFI compared with those benefitted with FIPA program. The criteria used are as follows:

1. high participation - 75-100% of FIPA program fishermen enroll in the SSFI program;
2. moderate participation - 50-<75% FIPA program fishermen enroll in the SSFI program;
3. low participation - 0-<50% FIPA program fishermen enroll in the SSFI program.

Analysis on perception influence on fishermen's participation in SSFI. This analysis employed logistic regression with the following equation:

$$\ln(p/1-p) = a + b_1X_1 + b_2X_2 + \dots + b_kX_k$$

where: $\ln(p/(1-p)) = \log \text{ odd (logit)}$. Natural logarithm of the odds; odds are probability ratio of an event to occur or not occur;

p = probability of dichotomous dependent variable occurrence; p is probability that $Y = 1$ (SSFI participant);

a = constant (intercept);

b_1, b_2, \dots, b_k = slope coefficient of the regression in which slope is change in mean Y variable as a result of change in X value;

$X_1, X_2 \dots X_k$ = predicted variables. Where predictor variables are: X_1 = fishermen's perception on FIPA program; X_2 = fishermen's perception on benefit and profit of FIPA program; X_3 = FIPA submission procedure; X_4 = knowledge on SSFI; X_5 = benefits and profits of SSFI program; X_6 = SSFI submission procedure.

The feasibility of the regression model was tested using Hosmer and Lemeshow test, and overall Model Fit test was done by comparing the value of -2 log likelihood at initial (block number = 0) with that of -2 log likelihood at the end (block number = 1). If there is subtraction of the initial -2 LL value with the end -2 LL, the model is consistent with the data (Ghozali 2011). The summary model was used to assess how strong the combination of independent variables can determine the dependent variables. Omnibus test was used to know if the independent variable simultaneously influences the dependent variable (fishermen's participation) and partial test to measure if each independent variable influences the dependent variable.

Logistic regression test was then used on fishermen's participation in SSFI as dependent variable and fishermen's perception (X_1, X_2, \dots, X_6) as independent variable.

Results and Discussion

Coastal fishermen's perception on fishermen insurance program. The fishermen's perception on the insurance program is presented in Figure 1. As many as 48.07% of the respondents knew about the fishermen's insurance and other premium assistance programs. The fishermen got the information from various sources, such as family, friends, extension, group leaders, and the Head of the village. The information was conveyed through meeting with the Food Security and Fisheries Service officer in the village hall. Program socialization was considered to be enough satisfactory for 70.17% of the respondents in addressing the information on the benefits and profits to get involved in fishermen's insurance program. Therefore, the fishermen are willing to follow fishermen's insurance, since it will give a sense of security for the family if the head of the family gets a work accident or dies. FIPA submission was also considered to be easy by 85.08% of respondents, because the submission process would be assisted by the Food Security and Fisheries Services of Tanah Laut Regency and the fisheries extension in each area, especially in FIPA document submission preparation.

However, the coastal fishermen's perception on the SSFI was still low due to their poor comprehension on the program (49.17%). The fishermen did not continue to SSFI,

because they, in general, did not know that fishermen's insurance could be proceeded and part of them thought that the insurance card is valid for good and no need to be renewed. As many as 88.95% of the respondents did not know about the benefits and profits of the SSFI.

As many as 52.49% of the respondents stated that they understood the submission procedure of SSFI program, because it was similar to that of FIPA program. Nevertheless, the fishermen do not participate in SSFI program, because the insurance office was very far from the residential area so that the management action needs a long time. It means that the fishermen have to leave their work to sea and have to ask for the help to friends/relatives who have time to do it.

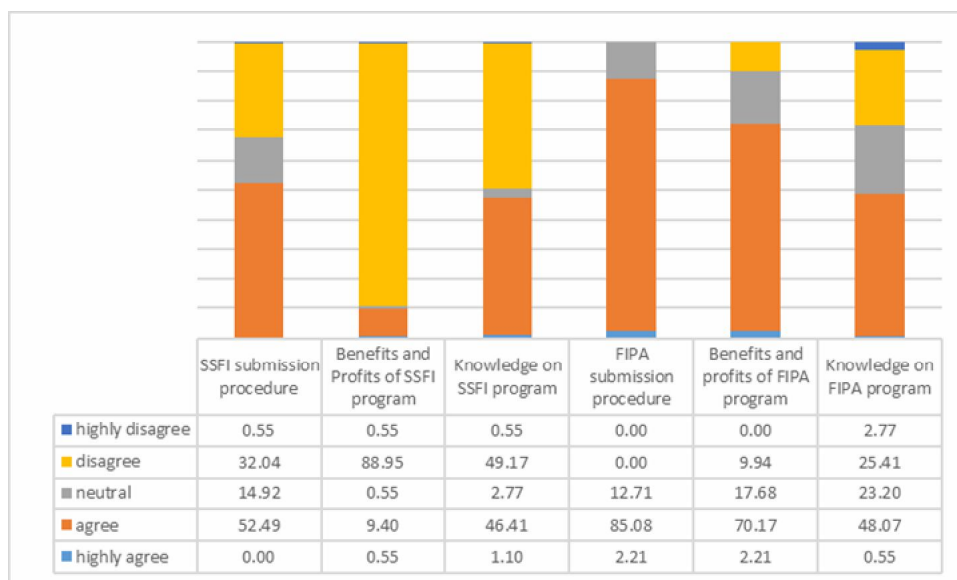


Figure 1. Distribution of fishermen's perception on insurance, 2020.

The fishermen's perception was in moderate category with a total score of 3,458 (Table 1). It means that the fishermen sufficiently comprehend the insurance, its benefits, profits, and submission procedure.

Table 1

Total score calculation of fishermen's perception

No.	Statement	Score	Mean	Category
1	Knowledge on FIPA program	576	3.18	Enough
2	Benefits and profits of FIPA program	660	3.65	Enough
3	FIPA submission procedure	705	3.90	Easy
4	Knowledge on self-supported fishermen's insurance (SSFI) program	540	2.98	Enough
5	Benefits and profits of SSFI program	399	2.20	Unknown
6	SSFI submission procedure	578	3.19	Enough familiar
Total		3,458		Moderate

Source: processed primary data, 2020.

There were several obstacles for the sustainability towards SSFI program, such as low comprehension on the benefit of the insurance, long distance for administrative arrangement, relatively long waiting time, so that the fishermen have to leave their fishing activities, and high cost of no fishing season. Furthermore, the program management in the study area was still better than several other areas in which the fishermen's comprehension on FIPA program was sufficient. Permatasari et al (2020) have found that problems in FIPA implementation in Puger, Jember Regency, are nearly 80% of the fishermen not recorded in KUSUKA and FIPA program, lack of socialization to

the fishermen, and low number of service officers. KUSUKA is an organization of business executors in the field of marine and fisheries, in which each member is KUSUKA card holder. This condition is in line with Syarif et al (2019) that the program implementation has not been well run yet as a result of low number of socialization from the MMAF of South Buton, low staff resources, limited budget, and no updated fishermen data.

Fishermen's participation level on SSFI. Fishermen's participation in SSFI program in the coastal area of Tanah Laut Regency was lower than that in FIPA program, only 38.24%, and 35.84% in the districts on study (Table 2).

Table 2

Fishermen's participation on SSFI

Year	Tanah Laut Regency			Panyipatan, Takisung, and Kintap districts		
	FIPA (pers.)	SSFI (pers.)	Participation level (%)	FIPA (pers.)	SSFI (pers.)	Participation level (%)
2018	275	180	65.45	155	98	63.23
2019	894	267	29.87	562	159	28.29
Total	1,169	447	38.24	717	257	35.84

Source: Processed data, 2020.

FIPA program has nationally achieved as much as 68.47% of the target for the period of 2016-2019 (Table 3), whereas the SSFI program achieved was very low, in which up to February 19th, 2020, only 42,560 fishermen or 3.55% of FIPA program participants got involved in Indonesia, and 2,042 people came from South Kalimantan Province.

Table 3

FIPA program achievement national level

Year	Target	Realization	Percent (%)
2016	600,000	409,498	68.25
2017	500,000	500,000	100.00
2018	150,000	150,000	100.00
2019	500,000	138,679	27.74
Total	1,750,000	1,198,177	68.47

Source: Directorate of Permit and Fishermanship, Directorate General of Fisheries, 2020.

The fishermen who continue to be involved in SSFI program realize that their work is highly risky and dependent upon the weather. Hence, just in case they get sea accident or die in fishing operations, the family could get the insurance claim to thrive. Nevertheless, the fishermen's involvement in the SSFI program is only to obtain financial support from the government.

The fishermen who did not know how to enroll the SSFI asked other people to do the FIPA registration, such as friends, or they were helped by MMAF officer or extension workers. The fishermen just prepared the requested documents and then the arrangement would be handled by friends, extension or MMAF officer until they received the insurance card.

Very long distance of the residential area to the capital of Tanah Laut Regency, Pelaihari, is another reason of the fishermen not to follow up the SSFI, especially those who conduct daily fishing activities. The fishermen also have to stop their work to manage the SSFI administration. The distance varies about 34.3 km or 46 minutes travelling time from Tanjung Dewa village to Pelaihari, about 37.3 km or 56 minutes travelling time from Tabanio village to Pelaihari, and to about 85.8 km or approximately 1 hour and 58 minutes travelling time from Muara Kintap village to Pelaihari. Remote insurance office position will certainly need travel costs to get there.

The fishermen had also problem to pay the document arrangement cost and the insurance premium. Besides, the amount of premium becomes the constraint even

though it is only paid once a year, because they usually do not have extra money for the payment. Sometimes the premium payment time is simultaneous with famine period so that some fishermen do not have money to pay the premium. Tietze & van Anrooy (2018) found that in Caribbean fisheries, only 20% fishermen have life insurance policy and 17% have health insurance, but most of them (83%) are ready to pay fisheries insurance if it can be afforded. Similar readiness is also reported in Oman (Zekri et al 2008) and Ghana (Agbekporknu et al 2016).

Low participation level of fishermen in insurance program could also be caused by low fishermen's comprehension on this program, low enthusiasm to attend the socialization (Permatasari et al 2020), and lack of insurance infrastructure (Khoirunnisa et al 2019), especially in Fisheries Port of Lempasing Coast, Lampung, besides access to administrative management. Hanif (2018) found less than 50% fishermen's participation level in FIPA program implementation in Tanggamus.regency, Bandar Lampung. Rona et al (2019) found the lowest score in socialization aspects. The present study found that fishermen did not know that insurance card needed to be renewed, so that they had to lose their insurance membership. The fishermen feel necessary to have even promotion and socialization activities because there are still many fishermen that have not known about the fishermen's insurance program.

All the findings above have recommended awareness intensification among the fishermen concerning the insurance scheme through various meeting forums between industries in designing the need of suitable insurance for the fishermen, the program socialization development, and improvement of program managing institutions.

Correlation between coastal fishermen's perception and participation level.

Correlation analysis on fishermen's perception and participation in SSFI using the logistic regression is presented in Table 4. The present analysis found Hosmer and Lemeshow Test (fit of model) value of 0.189 indicating that the model used is appropriate to the observation data or this logistic model is worthy to use in the next step. The -2 Log Likelihood test declines from step-0 (249.675) to step-1 (229.889) meaning that the model is consistent with the data. Nagelkerke R Square of 0.138 means that the independent variables could explain 13.8% of the dependent variables and the rest is explained by other factors that are not considered in the model. This finding is in agreement with Maulina (2012), Azwar et al (2016), and Wahyuningsih & Hasan (2019) that the people's perception influences their participation in a program.

Table 4

Logistic regression analysis

<i>Test</i>		<i>Value</i>
Hosmer and Lemeshow test		0.189
-2 Log Likelihood test		
Step-0		249.675
Step-1		229.889
Nagelkerke R Square		0.138
Omnibus tests		0.03
Variables in the equation (Wald test)	b (slope)	Significance
Knowledge on FIPA		0.509
FIPA benefits	(0.493)	0.054
FIPA procedure		0.673
Knowledge on self-support insurance	(0.590)	0.000
Self-support insurance benefits		0.571
Self-support insurance procedure		0.327
Constant		0.071

Source: processed primary data, 2020.

Moreover, Wald test found a coefficient of 0.590 ($p < 0.01$) indicating that the probability the fishermen involved in the program rises as much as 59%. The coefficient of

knowledge on FIPA benefits and profits is 0.493 indicating that 49.3% probability the fishermen become the participants of the SSFI ($p > 0.05$) (Table 4). The fishermen follow the SSFI since they believe that SSFI program could raise their prosperity and give protection or social guarantee to the fishermen to run their livelihood (Rafi et al 2020).

Nagelkerke R Square of 0.138 in the present study also indicates that besides perception, there are many other variables influencing people's participation in a program, either government's program or other development programs. People's participation in various development programs is affected by both internal and external programs (Nurbaiti & Bambang 2017).

According to Nazula (2018), low interest of the FIPA program beneficiary fishermen to enroll the SSFI program in Rembang Regency is affected by low comprehension on FIPA and SSFI, no awareness of insurance, unsatisfactory fisheries extension function, and weak coordination between counterpart team and extension. Nevertheless, FIPA program has advantages, such as lower premium than other health or life insurance, free premium provision from the government, good benefits, and availability of insurance supervising team. For this, the organization at the fishermen's level needs to be used in order to renew the data and information, to run a training on the fishermen's institutional management, to arrange KUSUKA card for the fishermen who have had no fishermen's card, and to encourage the ship owners to insure the crews.

Besides program socialization development, efforts to change the attitude to the benefit of insurance, the service development of the managing institution, and the trust to the stakeholders need also to be done. Similar condition is also addressed by Tietze & van Anrooy (2018) on fisheries program development efforts in Caribbean and Zheng et al (2020) in fishermen's insurance program development efforts in China. All these are in agreement with Parappurathu et al (2017) for fisheries insurance in India that development of innovative institutional mechanisms, confidence among stakeholders, and attitude need to be done in order to increase services and make the fishermen be aware of insurance benefit as safety net tool.

Conclusions. The perception of the coastal fishermen in Tanah Laut Regency, South Kalimantan, on the fishermen's insurance was categorized as moderate with a total score of 3,458. It means that the fishermen sufficiently know about the fishermen's insurance, its benefits and profits, and submission procedure. However, the fishermen's participation in the SSFI program was low at the regency level and in the village on study. The fishermen's perception on the SSFI information, the benefits and profits of FIPA program significantly influenced their participation to enroll the SSFI program.

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