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Submission date: 11-Aug-2022 08:31AM (UTC+0700)
Submission ID: 1881181191
File name: tionship_between_the_Knowledge_Level_of_Farmers_and_the.....pdf (767.18K)
Word count: 7529
Character count: 41426

International Journal of Social Science and Education Research Studies
ISSN(print): 2770-2782, ISSN(online): 2770-2790
Volume 02 Issue 07 July 2022
DOI: https://doi.org/10.55677/ijssers/V02I07Y2022-10, Impact Factor: 4.638
Page No : 298-307

The Relationship between the Knowledge Level of Farmers and the Effectiveness of the Rice-Farming Business Insurance Program (AUTP) in Pinrang Regency, South Sulawesi, Indonesia

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ABSTRACT

Several government policies have been made to overcome the risk of crop failure losses that threaten farmers every planting season. An example is the rice-farming business insurance program (AUTP) which still has problems in its implementation, especially at the farmer level. Therefore, this study aims to describe the implementation of the AUTP program and examine the relationship between farmers' knowledge levels and the effectiveness of the program in Pinrang Regency. This is a quantitative-correlational study conducted using a questionnaire as the main instrument. The samples were farmers selected using the proportionate random sampling method, while data were analyzed using the descriptive analysis and Spearman Rank correlation. The results showed that the majority of the farmers' knowledge was in the category of "do not know" and "not sure know" about the AUTP program. Meanwhile, the implementation of the AUTP program was in the "less effective" category, as indicated by the decreasing participation or being limited to only during the planting season. This implies that there is a significant relationship between farmers' knowledge level and the effectiveness of implementing the AUTP program.

*Published Online: 29 July 2022

Keywords:
AUTP, Effectiveness, Program Implementation, Knowledge.

INTRODUCTION

Indonesia is a country with rice as the main food and leading commodity (Dawe & Timmer, 2012; Hegde & Hegde, 2013; Mariyono, 2014). The strategic position of rice has made its farming a top priority in national development (Hidayat & Lesmana, 2011; Pasaribu, 2010; Rondhi et al., 2019). Rice farming is a type of business carried out by most agricultural households living in rural areas (Suryaningrat & Fianeka, 2017). One of the regions in Indonesia widely known as a high rice supplier is South Sulawesi Province. The data from the Central Statistics Agency (2018) show that from a total of 27,682,117 agricultural business households (RTUP), 13,155,108 RTUPs, or approximately 47.53% of them cultivate rice plants. A similar condition was observed in South Sulawesi, where out of a total 1,015,232 RTUP, 596,427 RTUP or about 58.75% cultivate rice plants.

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Cite this Article: Abdul Halim, Rusli Razak, dan Umar Nain (2022). The Relationship between the Knowledge Level of Farmers and the Effectiveness of the Rice-Farming Business Insurance Program (AUTP) in Pinrang Regency, South Sulawesi, Indonesia. International Journal of Social Science and Education Research Studies, 2(7), 298-307

Based on the commodity zoning program in South Sulawesi, several areas have been designated as centers for developing rice farming, including the Pinrang Regency. Rice production in this Regency in 2018 reached 629,909 tons of GKG harvested from an area of 105,726 ha or with productivity of 59.58 kw/ha (Suryani et al., 2020). With this production achievement, Pinrang Regency ranks third, below Bone, and Wajo as the main rice producer in South Sulawesi. This Regency is also one of the main national rice buffer areas based on this position.

As the main actors of rice farming, farmers often face the threat of loss due to crop failure, caused by either natural disasters including floods, droughts, and landslides or attacks by plant-disturbing organisms. The risk of business uncertainty faced by farmers in each planting season can affect the sustainability of national food, especially rice production. The government has made several efforts to protect rice farmers through agricultural insurance to overcome these problems. Law Number 19 of 2013 concerning Protection and Empowerment of Farmers has been followed up with the issuance of Agriculture Minister Regulation Number 40 of 2015 concerning Facilitation of

Agricultural Insurance, as well as the Decree of the Agriculture Minister Number 30 of 2018 concerning Guidelines Assistance for Rice Farming Insurance Premiums.

Hazell & Varangis (2020) argued that the protection of farmers through agricultural insurance is necessary for 3 main reasons, namely: (1) The majority are small farmers whose ability to cope with farming risks is inadequate; (2) farmers are the '*soko guru*' of the nation's food providers, hence, the state is morally and rationally obliged to protect them from risks to ensure the sustainability of national production; and (3) protection through insurance schemes allows the formation of risk sharing among farmers that synergize with the principle of strengthening social cohesion in farming communities.

Based on these considerations, the high target of rice production is a driving factor for achieving food sufficiency which is faced with the high risk due to natural disasters and attacks by plant-disturbing organisms, as well as the increasing impact of climate change. Therefore, agricultural insurance through the rice farming insurance program (AUTP) needs to be developed. The program is expected to be a risk transfer policy instrument to minimize the impact of losses faced by farmers (Pasaribu, 2010).

The AUTP program implementation began in 2016, but the development is still facing various problems, especially in relation to its sustainability (Fadhliani et al., 2019; Martadona & Elhakim, 2020). This condition indicates a threat of unsustainability for the farmers participating in AUTP, especially for those in non-endemic locations attacked by plant-disturbing organisms and areas that are relatively safe from natural disasters such as floods, as well as do not experience crop failure. Consequently, farmers in these locations feel that they do not benefit from participation in AUTP.

Previous studies showed that various factors influence farmer participation in a program, including AUTP. These factors are (1) the attitude of farmers (Primandita et al., 2018); (2) the knowledge and attitudes (Anak Agung Arista Satwikani et al., 2018); (3) the position of farmers in the organization, while the damage experienced does not affect their awareness to participate in AUTP (Azriani et al., 2018); (4) knowledge of agricultural insurance, previous insurance purchases, farmers' trust in insurance companies, the amount of risk, insurance premiums, the role of the government and the village head (Boyd et al., 2011); (5) the existence of government subsidies and the age of respondents (Ginder et al., 2009); as well as (6) education, land area, land ownership status and risk of damage (Marphy, 2018).

The relationship between farmers' knowledge level and the effectiveness of the AUTP program implementation in Pinrang Regency has not been studied and investigated in depth. Therefore, this study was conducted with the title: "The Relationship between Farmers' Knowledge Levels with the Effectiveness of the Rice Farming Insurance Programs in Pinrang Regency."

STUDY METHODS

Location, Population, Sample, and Measurement

This study was conducted in Pinrang Regency because farmers in this location are mostly involved and participated in the implementation of the rice farming insurance program. The population included all rice farmers who are officially registered in the Agricultural Extension Management Information System, specifically in Pinrang Regency, namely 54,957. Meanwhile, the technique used was proportionate random sampling which is carried out when the properties or elements in the population are not homogeneous and proportionally stratified (Creswell & Creswell, 2017).

The population of farmers for each sub-district based on the dominant factors causing crop losses or failures encountered in each planting season can be grouped into 2 categories, namely: (1) population of farmers facing the threat of attack by plant-disturbing organisms, including (a) Batulappa, (b) Cempa, (c) Lanrisang, (d) Paleteang, (e) Patampanua, (f) Suppa, and (g) Watang Sawitto District; as well as (2) the population of farmers facing the threat of attack by plant-disturbing organisms and flooding every planting season, including (a) Duampanua, (b) Lembang, (c) Mattiro Bulu, (d) Mattiro Sompe, and (e) Tiroang District.

From each of these categories, 2 districts were taken randomly, namely Paleteang and Patampanua, for the category of farmer population facing the threat of attack by plant-disturbing organisms, while Mattiro Sompe and Tiroang sub-districts were selected for the category of farmer population facing the threat of plant-disturbing organisms as well as flooding. Furthermore, from each district, 2 farmer groups were selected randomly, and from each group, 10 farmers were selected, hence, this study involved a total of 80 farmers as respondents.

Validity and Reliability Test

The study used construct validity by searching for concept definitions put forward by experts, including those in several applicable provisions relating to the problems being investigated. A clear and quite operational definition of the concept was then used to construct the statements in the questionnaire.

Meanwhile, for the reliability test, the re-measurement technique (test-retest) was used by asking the same respondent to answer all the statements in the questionnaire twice with a moderate interval. The first measurement results correlate with the Spearman Rank technique. When the number obtained exceeds the critical figure in the Spearman Rank table, then the correlation is significant, and it means that the measuring scale or questionnaire compiled is reliable.

DATA ANALYSIS

The data analysis technique used the SPSS for windows 20.0 application with coding and giving a score of the answers in the questionnaire. The Spearman rank correlation analysis was used (Martono, 2010) to analyze the relationship between the knowledge level of farmers and the effectiveness of the rice farming insurance program in Pinrang Regency, with the following formula:

$$\rho = 1 - \frac{6 \sum b}{n\,(n^2-1)}$$

Where:

ρ = Spearman Rank correlation value

b = the sum of the squares in the ranking difference of the variables x and y or RX-RY

n = number of samples.

The significance of the relationship between the two variables was tested using the Z test with the following formula:

$$Z_{count} = \frac{\rho}{\frac{\sqrt{1}}{(n-1)}}$$

When Z count > Z table, the relationship between x and y is significant, but when Z count < Z table, the relationship is not significant.

RESULTS AND DISCUSSION

Results

1. Characteristics of Respondent Farmers

The characteristics of respondents include age, education, rice farming experience, and several family dependents as shown in Table 1. The analysis results showed that most farmers involved in the rice farming insurance program (AUTP) have characteristics which tend to be similar to others in general, namely, aged 21-60 years, have a background of Elementary school education, more than 10 years of farming experience, and more than 2 family dependents.

Table 1. Characteristics of Respondent Farmers by Age, Education, Farming Experience, and Number of Family Dependents

No.	Category	Indicator	Number (people)	Percentage (%)
1.	Age	21 – 30	7	8.75
		31 – 40	15	18.75
		41 – 50	24	30.00
		51 – 60	23	28.75
		> 60	11	13.75
2.	Education	Elementary School	41	51.25
		Junior High School	19	23.75
		Senior High School	18	22.50
		Bachelor Degree	2	2.50
3.	Farming experience	1 – 10	16	20.00
		11 – 20	30	37.50
		> 20	34	42.50
4.	Number of family dependents	1 – 2	13	16.25
		3 – 4	54	67.50
		5 – 6	9	11.25
		> 6	4	5.00

Source: Primary Data (2021), processed

The age of the farmer is related to the effectiveness of the rice farming insurance program. Farmers with a productive age range namely 21-60 years tend to support the existence of a rice farming insurance program that can cover the risk of crop failure due to floods, droughts, and attacks by plant-disturbing organisms. In contrast, the elderly farmers tend to reject the program because they are not used to it and have not even been actively involved. The refusal can also be due to the potential additional costs in the form of premiums that must be paid aside from the claims provisions which are difficult to fulfill and understand by farmers regarding the technical implementation in the field.

The level of education affects the adoption or acceptance of an innovation, in this case, the higher the level of education, the more rational the pattern of thinking. In relation to the implementation of the rice farming insurance program, farmers with low education tend to have difficulty in understanding the available provisions, thereby requiring the assistance of agricultural extension workers and farmer group administrators. In contrast, those with a higher education level tend to adequately understand the basic principles of insurance.

The experience of rice farming affects the formation of farmers' attitudes regarding innovations or insurance programs. Based on the results, farmers with more

than 10 years of experience tend to disagree with the rice farming insurance program, which is considered convoluted. They prefer direct assistance in production facilities in the form of seeds, fertilizers, and pesticides. Meanwhile, those with less than 10 years of farming experience tend to support the insurance program. They are willing to try the advice of agricultural extension workers to register as participants. In general, even though they lack experience in managing farming businesses, these farmers have been participants in one of the insurance programs.

2. Implementation of the Rice Farming Business Insurance Program in Pinrang Regency

The rice farming business insurance program (AUTP) in Pinrang Regency was implemented from the planting season of October 2015 to March 2016. At the initial stage, the program was in the form of a pilot as well as socialization for farmers/farmer groups. At this stage, agricultural extension workers as officers of the Agriculture Department in the field have a very strategic role. They are expected to serve as companions and coaches to introduce the AUTP program to farmers in their respective working areas.

The socialization of the AUTP program is mainly for several purposes namely goals and objectives, benefits, procedures and requirements for registration as participants, rights and obligations, procedures and requirements for submitting claims, as well as utilization of claim funds for farming sustainability. Program socialization is carried out either through regular meetings with members of farmer groups during field visits to agricultural extension workers or through special meetings with administrators held by the Agriculture and Livestock Service Office of Pinrang Regency together with other relevant agencies.

The registration of farmers in the AUTP program for 5 planting seasons, starting from the planting season of October 2015 – March 2016 to the planting season of October 2017 – March 2018, is carried out manually. Subsequently, starting from the planting season of April – September 2018, the registration is then carried out online. The definitive participants for AUTP for the planting season period namely October 2015 – March 2016 to the planting season of October 2017 – March 2018 using manual registration is stated in the form of a Decree from the Head of the Agriculture and Livestock Service Office of Pinrang Regency as the Commitment Making Officer for each season.

However, since the online registration began in the April-September 2018 planting season, the Pinrang Regency Agriculture and Livestock Service, in turn, had a difficulty in compiling and monitoring the number of farmers officially registered as participants in the AUTP program. The data series used in this study is for farmers that participated for the planting season period of October 2015 – March 2016 to October 2017 – March 2018 totaling 5 planting seasons.

The number of farmers and the total area of the land insured in the AUTP program for the planting seasons in Pinrang Regency are shown in Table 2. The total area of rice fields insured during the planting season period of October 2015 – March 2016 to October 2017 – March 2018 was the highest at 2,417.89 ha. Meanwhile, the lowest occurred in the October 2015 – March 2016 planting season of 84.94 ha.

Table 2. Number of Farmer Groups, Farmers Participating in AUTP, Area of Insured Rice Fields, and Farmers Self-Help Premiums by Planting Season

Planting Season	Number of AUTP Participating Farmer Groups	Number of AUTP Participating Farmers (people)	Area of Insured Rice Fields (ha)	Amount of Farmer Self-Help Premium (IDR)
Oct 2015 – Mar 2016	39	94	84.94	3,057,840
Apr – Sep 2016	137	2.845*)	2.417.89	87,044,040
Oct 2016 – Mar 2017	31	528*)	448.98	16,163,280
Apr – Sep 2017	26	333	284.79	10,252,440
Oct 2017 – Mar 2018	19	440*)	374.11	13,467,960

Source: Primary Data (2021), processed

*) Estimated data based on insured rice field area.

The highest total area of insured rice fields is 2,417.89 ha compared to that of Pinrang Regency, which is up to 55,542 ha. Therefore, the area of insured rice fields is still relatively small, namely 4.35%, while the number of insured rice fields tends to decrease. The results show that in the planting season of October 2015 – March 2016, the area of fields insured was 84.94 ha, then from April – September 2016, it increased to 2,417.89 ha. In the following planting season, the area of the insured fields continued to decline successively, namely October 2016 – March 2017 covering 448.98 ha, April – September 2017 284.79 ha, and October 2017 – March 2018 374.11 ha. Almost a similar trend was observed in the number of individual and farmer groups that participated in the AUTP program.

Further examination revealed that most individual or farmer groups participating in the AUTP program only have one planting season. In other words, they only

participate once in the program as shown in Table 3. This phenomenon indicates a threat to the unsustainability of the farmers in participating in AUTP in the upcoming planting season, especially in the Pinrang Regency.

Table 3. Number of Farmer Groups who have been participants in the AUTP Program by number of planting seasons and districts in Pinrang Regency, 2020

No.	District	Total Farmer Groups	Number of Farmer Groups That Have Been Participants in AUTP				Number of Farmer Groups Never Participated in AUTP
			1 MT	2 MT	3 MT	4 MT	
1	Suppa	53	2	0	0	0	51
2	Mat. Sompe	165	2	1	1	0	158
3	Lanrisang	185	0	0	0	0	185
4	Mat. Bulu	232	12	1	0	0	218
5	Wt Sawitto	138	6	0	0	0	132
6	Paleteang	116	4	9	0	0	110
7	Tiroang	190	17	6	4	4	133
8	Patampanua	322	17	3	0	0	299
9	Cempa	141	8	0	0	0	133
10	Duampanua	381	18	1	0	0	361
11	Batulappa	167	21	0	0	0	146
12	Lembang	444	0	0	0	0	444
	Pinrang	**2.534**	**107**	**21**	**5**	**4**	**2.354**

Source: Primary Data (2021), processed

Farmers' knowledge level about the AUTP program is considered one of the factors causing this phenomenon. This is because farmers' knowledge will determine their attitudes and behavior in implementing the program.

3. Farmers' Knowledge of Rice Farming Insurance Program

Farmers' knowledge related to the rice farming insurance program (AUTP) is assessed based on their understanding covering several aspects, including objectives, insurance implementation organizations, participation, understanding premiums, and insurance claims, as well as aspects of understanding the benefits of being a participant. The level score of each farmer shows that only 10.00% have knowledge related to the AUTP program in the "know" category. The majority have a knowledge level in the "do not know" category namely 51.25% and "not sure know" 38.75% as shown in Table 4. This is because most farmers are not familiar with the program and have never been actively involved in insurance activities. Moreover, the program socialization activities have not been running effectively.

Table 4. Distribution of Respondents Based on Farmers' Knowledge of the AUTP Program

Respondent Knowledge Category	Total Score Range	Number (people)	Percentage (%)
Do not know	63 – 82	41	51.25
Not sure know	83 – 102	31	38.75
Know	103 – 121	8	10.00
Total		80	100.00

Source: Primary Data (2021), processed

Farmers are familiar with the AUTP program, especially through guidance and assistance from agricultural extension workers during field visits. Moreover, the socialization activities for this program were carried out by the Department of Agriculture and Animal Husbandry of Pinrang Regency. This activity was attended by relevant stakeholders, including several administrators of farmer groups and the Indonesian Service Insurance Company, as the party assigned with the task of facilitating the implementation of the AUTP program in the regions.

Further observation showed that there are several aspects related to insurance which are barely known to farmers, including objectives, implementation organizations, participation, understanding of premiums and claims, as well as the benefits of being a participant. Regarding the objectives aspect, some farmers are already familiar with the

purpose of insurance, but many still do not proper understanding. One of the objectives is to transfer losses due to the risk of flooding, drought, and attacks by plant-disturbing organisms to other parties through insurance coverage. This is because farmers/farmer groups do not pay attention and listen properly to the delivery of information from agricultural extension workers and related agencies during socialization or field visits.

Regarding the insurance implementation organization aspect, some farmers still do not understand that the insurance program is implemented with the cooperation and facilitation of several parties, including the local Agriculture Service along with all its staff, agricultural extension workers as assistants, Indonesian Service Insurance company as the insurer, and farmers/farmer groups as the insured. When farmers want to learn about insurance, they only relate and ask agricultural extension workers. Moreover, contacts and relationships with other parties are left to agricultural extension workers and farmer group administrators.

From the perspective of insurance participation, some farmers already understand the conditions required to become participants in the insurance program, starting from the registration mechanism, requirements, as well as participant and location criteria. However, the majority of farmers are still unfamiliar with the administrative, technical, and operational related aspects of insurance participation. This is because they fully give all authority to the management of farmer groups and agricultural extension workers to assist and facilitate in submitting applications to become insurance participants. Regarding insurance participation, farmer group members tend to be less aware, especially in terms of registration.

Based on the aspect of understanding insurance premiums, the majority of farmers are already aware that the insurance price is set at IDR 6,000,000 per hectare per planting season with a premium payment of IDR 36,000. However, most of these farmers do not know that for premium payments, they are qualified to receive assistance from the government in the form of a subsidy of IDR 144,000 per hectare per planting season.

Meanwhile, from the aspect of insurance claims, in general, farmers do not understand the terms of claims, both procedures, requirements, and calculation of the compensation amount for plant damage that can be submitted for a claim to the insurer, in this case, the Indonesian Service Insurance Company. The majority of farmers fully give the authority to submit these claims to the management of farmer groups and agricultural extension workers. Farmer group members are only limited to completing the claim requirements requested according to the instructions of the management and agricultural extension workers. The farmers are unbothered about the process, but rather how to quickly realize the proposed claims.

Furthermore, based on the benefits of being an insurance participant, the majority of farmers do not understand that they are entitled to certain benefits, including: (a) easier access to financing sources; (b) production inputs such as seeds, fertilizers, and pesticides according to good farming recommendations; and (c) assistance for production facilities from the government. However, the majority of farmers are aware that by becoming insurance participants, they can obtain financial compensation due to the risk of flooding, drought, and attacks by plant-disturbing organisms, which will be used as working capital for farming for the next crop.

4. The Effectiveness of the Rice Farming Business Insurance Program

The AUTP program implementation in Pinrang Regency, in general, has not been effective. This is demonstrated in several aspects, including farmers' willingness to participate in socialization activities, become participants, pay some premiums independently, submit claims according to the provisions, receive compensation based on the proportion of crop damage, and use claim funds for the next crop.

From the aspect of the socialization implementation, practically, there are some farmers who are not yet socialized. The socialization activities carried out by the Department of Agriculture, Insurance, and other relevant agencies are generally only limited to targeting the management of farmer groups. Meanwhile, for the members, the guidance is left to the farmer group managers and agricultural extension workers. Agricultural extension workers usually provide guidance and assistance to the members of farmer groups regarding insurance programs during field visits in their respective working areas.

Furthermore, most farmers are willing to become insurance participants, especially those in areas prone to floods, droughts, and attacks by plant-disturbing organisms. The willingness to become participants or not in the insurance program is based on the understanding that farmers are individuals who have the freedom to judge and then make their own choices.

From the aspect of willingness to pay insurance premiums, in principle, once farmers decide to join as participants, they have implicitly stated their willingness to pay part of the insurance premiums. The farmer's self-help insurance premium is IDR 36,000 per hectare per planting season. Those who have paid will be considered insurance participants as outlined in the Decree of the Head of Agriculture and Livestock Service Office in Pinrang Regency. Farmers who have been designated as participants in the insurance program are entitled to compensation when their crops are damaged due to floods, droughts, and or attacks by plant-disturbing organisms.

Regarding the aspect of claim submission and its realization, some farmers did not experience any obstacles

and accept the realization of the submitted claims. However, several farmers are also disappointed because the realization of claims is significantly lower than the proposed amount. Another factor that causes numerous dissatisfaction is that the claim process is considered convoluted, difficult, and the realization of claims is often received very late by farmers/farmer groups.

Based on the aspect of claim funds, some farmers have enjoyed the benefits, namely the provision of working capital for the next planting season, both for the procurement of seeds, fertilizers, and pesticides. With this claim fund, the risk of farmers' losses due to floods, droughts, and attacks by plant-disturbing organisms can be overcome. As previously stated, farmers who do not fully understand the basic principles of insurance are usually disappointed when they do not get claim funds because their crops are safe from floods, droughts, or attacks by plant-disturbing organisms. The reason is related to the additional expenditure in the form of a farmer's self-help premium of IDR 36,000 per hectare per planting season.

The results also show that the majority of farmers, namely 51.25%, received an effectiveness score in the "less effective" category, while 32.50% were in the "ineffective" category. Only a small proportion received an effectiveness score of "effective" namely 16.25%.

Table 5. Distribution of Respondents Based on the Effectiveness of AUTP Program Implementation

Respondent Effectiveness Category	Total Score Range	Number (people)	Percentage (%)
Ineffective	61 – 68	26	32.50
Less effective	69 – 76	41	51.25
Effective	77 – 84	13	16.25
Total		80	100.00

Source: Primary Data (2021), processed

Based on the results presented in Table 5, the implementation of the rice farming insurance program in Pinrang Regency, in general, has not been effective. This is influenced by the knowledge level of farmers about the AUTP program. Therefore, the implementation will be more effective when farmers have good and comprehensive knowledge.

5. The Relationship between Farmer Knowledge and the Effectiveness of the Rice Farming Business Insurance Program

As shown in Table 6, the Spearman Rank correlation test results between farmers' knowledge of the rice farming insurance program (AUTP) and its effectiveness show that the implementation in Pinrang Regency will be more effective when farmers have more comprehensive knowledge.

Table 6. Relationship between Farmer Knowledge Level and AUTP Program Effectiveness

Variable (X)	Effectiveness of AUTP Program Implementation (Y)	
	Correlation (r)	Sig. (2-tailed)
Farmer Knowledge Level	0.507**	0.000

Source: Primary Data (processed)

The results in Table 6 show that the value of the correlation coefficient (r) is 0.507, and the value of Sig (2-tailed) is 0.000. This means that there is a strong and very significant relationship between the knowledge level of farmers on the AUTP program and the effectiveness of its implementation. Consequently, it can be stated that the better and more comprehensive the farmers' knowledge, the more effective the program's implementation will be. A similar conclusion was made by Abidin et al. (2015), which stated that there is a positive relationship between aspects of knowledge and the achievement of extension goals. This means that the better the farmers' knowledge, the greater the achievement of extension objectives.

A better understanding regarding aspects of objectives, insurance implementation organizations, participation, premiums and claims, as well as benefits, will increase farmers' enthusiasm to become insurance participants. This is characterized by their willingness to pay insurance premiums of IDR 36,000 per hectare per planting season which in turn has implications for increasing the effectiveness of the AUTP program. Meanwhile, the lack of understanding makes farmers less aware and even unwilling to accept the program. Farmers are willing to participate in the insurance program, but initially only in the capacity of "trial."

When the results obtained from the "trial" process are felt to be good and useful, farmers' participation is usually likely to continue in the next planting season. However, when the results are not in line with expectations, the farmer might decide to stop. This condition is very important because it is related to the effectiveness of the AUTP program. The

majority of farmers in Pinrang Regency, only participate during the planting season and not consecutively.

Based on the results, the implementation of the AUTP program will be more effective when farmers have good and comprehensive knowledge. However, due to the minimal understanding of farmers, the program implementation in Pinrang Regency has not been effective.

ANALYSIS/DISCUSSION OF RESULTS

The results showed that most farmers in Pinrang Regency had minimal knowledge about the AUTP program. This indicates that the socialization of the program in the early stages of activities has not been effective. The socialization stage is key to the success and smoothness of the next stage of activities. According to Hidayati et al. (2019), several factors might prevent AUTP socialization from functioning effectively, including: (1) the lack of intensive socialization in the regions, especially in endemic/Puso-prone areas; (2) lack of financial support related to the operations of officers in the field; and (3) limited officers who play an active role in the implementation of guidance and assistance to farmers/farmer groups.

Based on the results of the guidance and socialization carried out by the Department of Agriculture, Agricultural Extension Workers, and other relevant agencies, some farmer groups have understood the purpose of the AUTP program. The purpose is to protect farmers in the event of crop failure due to the risk of flooding, drought, and attacks by plant-disturbing organisms, or in other words, transferring losses to other parties through insurance coverage.

The knowledge gained makes farmers realize the importance of insurance programs, hence, it is understandable that some farmers are interested in participating. The background of those interested in participating is that most have often experienced crop failure due to floods, droughts, and attacks by plant-disturbing organisms. However, the majority are not familiar with the program and have never been actively involved in insurance activities. This makes some farmers consider and then judge the pros and cons of participating in the insurance program.

Although socialization has been carried out, most of the farmer group members are still unwilling to participate in the insurance program due to a lack of understanding. Only a small number participated, following the advice of agricultural extension workers and farmer group administrators. Besides, most farmers participating were in the "trial" process to learn more about the insurance program. The "trial" process to learn more about the insurance program's implementation is in line with the views of experts (Nguyen & Jolly, 2019; Reyes et al., 2017; Yanuarti et al., 2019).

Nguyen & Jolly (2019) argued that the process to "know" within a person goes through several processes that occur sequentially, namely: (a) awareness of the existence and goodness of an object-concern; (b) interest or feeling interested and paying attention to the object of the stimulant; (c) evaluation, to assess the merits of the actions required by the object; and (d) trial, to determine and understand more about the object. The last stage of the series is: (e) adoption which involves taking an attitude towards the object.

Regarding the AUTP program, the adoption process begins when the farmer chooses to register or not as a participant. Popkin's theory of "rationality" applies in this condition. According to this theory, farmers are rational individuals, willing to take risks, and want to be rich when they are allowed to enter the market (Popkin, 2020). When farmers are free to make choices, they tend to choose things or activities that can benefit their farming.

The knowledge farmers have about AUTP will be beneficial when they register as participants. For farmers with good knowledge, the participation process starting from registration, premium payment, filing a claim, and utilizing claim funds can practically be followed according to applicable regulations. However, based on the results, most farmers do not fully understand the provisions related to insurance participation. They still depend on agricultural extension workers to assist and facilitate in the management related to the AUTP program. Farmers have been limited to preparing the required files or completeness according to the provisions, while the rest is handed over to agricultural extension workers in collaboration with farmer group administrators.

Aside from registration, farmers' understanding of insurance premiums is the most decisive point regarding participation in the AUTP program. For farmers with good knowledge, automatically paying insurance premiums is not a problem because they understand the basic principles. The outcome is different for farmers who do not understand the basic principles of insurance. This is presumably because the payment of premiums causes them to cancel their registration as a participant in the insurance program. This is understandable because the payment of insurance premiums means that farmers will bear an additional cost per hectare per planting season.

Most farmers do not understand that the government subsidizes part of the burden of the premium payment. With a total coverage of IDR 6,000,000 per hectare per planting season, the premium to be paid is IDR 180,000. To ease the burden on farmers, the government provides premium assistance through a subsidy of IDR 144,000 per hectare per planting season, hence, farmers only pay a premium of Rp. 36,000.

The participation of farmers in the insurance program is also determined by the claim submission process and its realization. Some farmers do not fully understand the provisions on compensation for crop damage due to floods, droughts, and attacks by plant-disturbing organisms. In particular, this compensation is given to farmers when the

crop is damaged with the intensity reaching > 75% in each natural plot area. This provision is difficult for farmers to understand, especially in the technical implementation in the field. The understanding of most farmers is that once there is a flood, drought, or attack by plant-disturbing organisms, the insurance company will provide compensation related to the risk of plant damage. The compensation has also been determined at IDR 6,000,000 according to the amount insured.

The insurance company uses a normative approach by conducting field inspections, measuring the intensity and area of crop damage, then calculating the amount of compensation proportionally according to crop damage. Farmers with a good understanding of insurance generally respond positively to the claim process and its realization, while those with minimal understanding tend to respond negatively. For farmers who have negative responses, they usually think that: (a) the process of submitting claims is complicated; (b) the number of claims realized is much lower than the one submitted, or even there is no realization at all; and (c) the time required to process claims is relatively long approximately 14 days.

The most basic understanding related to the AUTP program is when farmers' crops are in a safe condition from floods, droughts, and or attacks by plant-disturbing organisms. In such conditions, some farmers feel they do not get the benefits and advantages of joining insurance participants. Farmers feel at a loss because they have incurred additional costs in the form of premiums but do not get anything from the insurance.

This implies that a good understanding of insurance affects the effectiveness of the program implementation. Farmers will consciously adopt insurance programs when they acknowledge the benefits, but when there is no guaranteed benefit, the farmers tend to adopt other alternatives that are considered profitable for their farming. Therefore, it is understandable that some farmers after trying to become insurance participants are then faced with the choice of continuing or not in the next planting season. Farmers who recognize the benefits of insurance tend to continue their participation in the next planting season, compared to others.

Most farmers in Pinrang Regency choose only one planting season to become insurance participants. Only a few farmers/farmer groups participate for more than one planting season. This phenomenon directly or indirectly threatens the sustainability of the insurance program.

At least three efforts can be carried out to overcome the problem, first, the socialization of the program needs to be intensified to improve the understanding of farmers. Second, operational funding support for agricultural extension workers to help them play an active role as a companion to farmers in the field. Third, the insurance program in the regions is managed similarly to a natural disaster by the National Disaster Management Agency (BNPB). This will help in overcoming crop damage due to floods, droughts, and attacks by plant-disturbing organisms through the provision of production facilities assistance such as seeds, fertilizers, and pesticides to farmers who experience disasters.

When the solutions offered can be realized, farmers' understanding of the AUTP program will increase, especially on the benefits of participating. The implication is that farmers will become insurance participants for more than one planting season. Through a good and comprehensive understanding, it is expected that the farmers' participation in the AUTP program can be sustainable and the implementation will become more effective.

CONCLUSION

The majority of farmers in Pinrang Regency have a background level of knowledge in the category of "do not know" and "not sure know" about the rice-farming business insurance program (AUTP), including basic knowledge such as premium payments and claims. The program implementation is generally classified to be in the "less effective" category, marked by decreasing farmer participation, while the majority are still in the "trial" stage do not continue in the next planting season. Furthermore, there is a strong and significant relationship between the knowledge level of farmers and the effectiveness of the AUTP program implementation, with a correlation coefficient of 0.507. In this case, the implementation will run more effectively when farmers have good and comprehensive knowledge regarding the program.

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