



## Farmer's Perception of Rice Farming Insurance Program

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### Abstract

The purpose of this research is to examine the farmers perception of the insurance policy for rice farming in Kendal District, Kendal Regency and to find out the obstacles to these policies. This type of research is quantitative, using a non-probability method. Analysis of data using a Likert Scale based on the answer of 20 questions to measure the farmers perception of the rice farmers insurance program with total respondents as many as 96 people. In addition, the interview method is used to determine the barriers to farmers in participating in the rice farmers Insurance program. The results of the analysis show that farmers perception of the AOTP program in the Karang Sari Village, Kendal Sub-District were classified as poor. This is because farmers face obstacles during the program. The suggestion of this research is that special and periodic program socialization should be held. In addition, the government should form a special team to assist farmers. This assistant is tasked with helping farmers from the start to claim losses. This officer is appointed from the local region 'Gapoktan'.

**Keywords:** Insurance Policy, Perception, Rice Farmers Business

### Abstrak

Penelitian ini bertujuan mengkaji persepsi petani terhadap kebijakan asuransi usaha tani padi di Kecamatan Kendal, Kabupaten Kendal serta mengetahui hambatan-hambatan kebijakan tersebut. Jenis penelitian adalah kuantitatif, menggunakan metode non-probabilitas. Analisis data menggunakan Skala Likert yang didasarkan pada jawaban dari 20 pertanyaan untuk mengukur persepsi petani terhadap program AOTP dengan total responden sebanyak 96 orang. Selain itu, metode wawancara digunakan untuk mengetahui hambatan-hambatan petani dalam mengikuti program AOTP. Hasil penelitian menunjukkan bahwa persepsi petani terhadap program AOTP di Kelurahan Karang Sari, Kecamatan Kendal tergolong kurang baik. Hal ini disebabkan karena petani mengalami hambatan-hambatan selama mengikuti program. Berdasarkan hasil penelitian yang telah dilakukan, peneliti menyarankan agar diadakan sosialisasi program secara khusus dan berkala. Selain itu, pemerintah perlu membentuk tim khusus yang bertugas sebagai pendamping petani. Pendamping ini bertugas untuk membantu petani dari awal hingga klaim kerugian. Petugas ini ditunjuk dari gapoktan wilayah setempat.

**Kata Kunci:** Program Asuransi, Persepsi, Usaha Tani Padi

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## INTRODUCTION

The agricultural sector is one of the important sectors in the national economy because the agricultural sector is a sector that provides food sources for the community, national sources of income, and foreign exchange producers of the country when agricultural products are exported to other countries. Every year an average of 509,672 land-user farmers leave their professions (Central Bureau of Statistics, 2013).

One of the contributing factors is the economic factor of farmers who cannot maintain their business activities because income from the agricultural sector can no longer meet their daily needs. Not to mention the possibility of crop failure continues to threaten, especially due to uncertain season conditions. A farmer's livelihood is indeed a very risky profession. Rice is the most consumed food ingredient by the community compared to other foodstuffs (Central Bureau of Statistics, 2018).

On the other hand, farmers' welfare levels are often below the poverty line. The income of farming families is estimated at around 500,000 rupiahs per month, so farmer poverty is a crucial issue. In addition, farmers must also bear the risk of unstable climate change affecting agricultural production and the risk of natural disasters such as floods, droughts, and pest attacks that further weaken farmers' motivations.

Central Java is the province with the highest number of disaster events. The disasters in Central Java include floods, landslides and twisters (National Disaster Management Agency, 2019). On the other hand, Central Java is one of the highest rice-producing provinces in Indonesia. Thus, Central Java may have a

problem of crop failure due to disasters due to the condition of Central Java is the province with the highest level of disaster events. Of course, this should be the government's attention to provide a policy program to address this problem.

The government has issued many policies and plans to help the agricultural sector. However, the assistance is not enough to solve various problems in the agricultural sector, especially crop failure caused by natural conditions / natural factors. Therefore, the government must take other policy solutions to address this problem.

Rice Farming Insurance Program is a solution to the problems that have been presented above. At the end of 2015, the policy of providing Rice Farming Insurance (AUTP) came into force to protect against natural disasters, crop disturbances, biological attacks, infectious disease outbreaks, the impact of climate change and /or other types of risks to farmers. But until 2019, the realization of the target was never achieved (Ministry of Agriculture of the Republic of Indonesia, 2019).

**Table 1.** Target and Realization of Rice Farming Insurance (AUTP)

Year	Target (ha)	Realization (ha)
2015	1.000.000	233.499,55
2016	500.000	499.962,25
2017	1.000.000	997.666,53
2018	1.000.000	806.199,64

Source : Ministry of Agriculture, 2019

One of the obstacles of the Rice Farming Insurance program is the lack of interest from farmers to join this program, as happened in the Kendal Regency. Based on data from the

Agriculture Office of Kendal Regency, with a rice field area of 43,776 hectares, only one percent of farmers have participated in the Rice Farming Insurance (AUTP) program.

According to the Agriculture Office of Kendal Regency, farmers have the term " ngege mongso " which means that they seem to expect disaster by participating in this AUTP program. This means that farmers' perception is also one of the obstacles to the lack of success of the AUTP program in Kendal. Kendal Regency is prone to flooding, meaning Kendal farmers have a high risk of crop failure. It is noted that the number of rice paddy production in the Kendal Regency from 2015 to 2018 has a downward trend as in the following table.

**Table 2.** Area of Harvest area and Amount of Rice Production in Kendal Regency

Year	Area of Harvest Panen (Ha)	Production (Ton)
2015	43.288	287.925
2016	46.657	259.322
2017	45.314	240.423
2018	43.776	248.705

Source : Kendal District in Numbers, 2018

The condition of the decrease in the number of rice paddy production has a reason that one of them is due to crop failure. The failure of the harvest itself is caused by erratic weather or extreme weather. In addition to extreme weather, crop failure is also caused by flooding and drought. The drought itself is included in extreme weather. The flood disaster that occurred in Kendal Regency during 2019 is 58 times.

The Kendal sub-district that often experiences flood disasters is 23 times a year

(Kendal District Disaster Management Agency, 2019). This flood disaster certainly has an impact, one of which is crop failure for farmers. Farmers are at high risk, especially with natural uncertainties. Therefore, with this uncertainty, farmers must have the awareness to overcome risks, one of which is insurance. Because with this insurance, in case of crop failure, farmers can still get capital to produce back through coverage funds that can be claimed. However, the reality is that only less than one percent of farmers insure their land in the Rice Farming Insurance program.

Perception in Islamic view is the human process in understanding information both through the eye to see, the ear to hear, the nose for smell, the heart to feel that is channelled to the human mind and mind to become an understanding. Schiffman and Kanuk define perception as a process by which individuals choose, organize and interpret stimuli into something meaningful. (Syria, 2008). A precept process will be initiated by a stimulus that concerns our senses.

The Stimulus that give rise to perception can vary in shape, as long as something directly about our senses, such as everything that can be kissed, seen, heard, and touched. This stimulus will hit the organ referred to as the sensory receptor. The stimulus that hits the sensory receptor results in the individual responding. The direct or immediate response of the sensory receptor organ is called sensation. The level of sensitivity in sensations between individuals varies. In general, factors that play a role in perception include (Walgito, General Psychology, 1993).

While the perception process can be explained through some processes, such as the

physical process, which begins with the object giving rise to stimulus, and eventually, the stimulus hits the sensory apparatus or receptors. The physiological process, which is the stimulus received by the sensory apparatus, is continued by sensory nerves to the brain. And the psychological process, which is a process that occurs in the brain so that the individual can realize what they are receiving with that response as a result of the stimulus he receives.

According to Walgito (1993) absorption of excitatory or objects from outside the individual; understanding or understanding; and assessment or evaluation. Through the above theories, it can be suggested that perception is a process by which an individual obtains the assumption as a result of selective interpretation of the object he observes.

Perception is the response dynamics that occur in a person when receiving external stimuli through the five senses and is influenced by knowledge, experience, emotional, and personality aspects. Then the individual will determine the perception of whether an object is good or bad, useful or useless, important or less important. A person's perception will develop or change according to the new information he receives from his environment.

The Efforts of the Ministry of Agriculture to successfully achieve the goal of food self-sufficiency have become a commitment and must be successful. Related to this, starting in 2015, the government has carried out Special Operation of Rice Self-Sufficiency (UPSUS), with a rice production target of 84 million tons in 2019. However, due to the adverse impact of climate change on farmers, businesses in the agricultural sector, particularly the rice planting industry, face the risk of uncertainty.

To overcome farmers' losses, the government seeks agricultural protection in the form of agricultural insurance, as stated in the Farmer Protection and Empowerment Act No. 19 of 2013, and subsequently issued "Regulation of the Minister of Agriculture No. 40 on Agricultural Insurance". Agricultural insurance is very important for farmers to protect their farms. Agricultural insurance is a form of risk transfer, which can compensate for agricultural losses, thus ensuring the sustainability of agriculture.

Through rice, planting insurance can provide guarantees to prevent crop damage due to floods, droughts, and pest attacks or plant destruction organisms (OPT). Farmers will get compensation as sustainable working capital of agriculture. All matters relating to the implementation of auto program policy are stipulated in the Decree of the Minister of Agriculture of the Republic of Indonesia Number: 30/Kits/SR.210/B/12/2018 concerning Guidelines for Assistance of Rice Farming Insurance Premiums.

Research on the perception of farmers has been conducted by Tombulus, Sondakh, & Rumangit (2016), with the results showing that the total score of farmers' perception level of the role of agricultural extensionists is 3678 and is on the perception index of 81 percent, thus the perception of farmers is very good. Another study was conducted by Lybaws et al (2020), with the results showing that all factors of the rice production field have a real effect. While the widespread use of seed production factors, NPK fertilizer, urea fertilizer, labour and land area affects the risk of rice production.

On average, farmers' preferences become risk-takers; there is a real relationship between farmers as program participants and farmers

who face the risk of rice products. The research by Ardita et al (2017) with the results suggests that based on respondents' assessment, the average agricultural extension performance is in the high category.

Mustika et al (2019), with the results, found that the most important attributes according to farmers based on the level of interest are Field Agricultural Extension (PPL), the number of claims, direct socialization, chairman of farmer groups, and ease of obtaining information. Based on the data obtained by researchers on the participation of the AUTP program in the Kendal Regency, research is needed to examine perceptions and obstacles in the implementation of the AUTP program in the Kendal Regency.

## RESEARCH METHODS

The types of data used in this study are primary data and analysis used quantitatively by focusing on perception using a Likert scale. The data used are primary data obtained through questionnaires and interviews of farmers in the Kendal Subdistrict. Other supporting data are secondary data obtained from various sources such as the Central Bureau of Statistics, Ministry of Agriculture, Agriculture Office of Kendal Regency, etc.

The method used in this study is Perception Analysis. The measurement taken to measure farmers' perception of the AUTP program is a self-report method that can measure a person's attitude towards the object studied. Farmers' perception of a program is the assessment of respondents' statements about the program (Rogers, 1983).

The analysis to assess farmers' perception of the AUTP program can be categorized into

some perceptions. Perception of the introduction of AUTP program information, it's a farmers' perception of the information about the introduction of the AUTP program is about farmers' understanding of the AUTP program itself. Indicators of farmers' perception of the information on the introduction of the AUTP program in this study are seen from the implementation of the socialization of the AUTP program followed by farmers in Karang Sari Village, Kendal District, Kendal Regency.

Perception of motivation following AUTP program, it's a farmers' perception of the motivation of farmers in participating in the AUTP program is a motivation to follow the AUTP program as seen from the interest gained by farmers after participating in the socialization of the AUTP program in Karang Sari Subdistrict, Kendal Subdistrict, Kendal Regency.

Perception of Satisfaction Following the Program, farmers are satisfied with the satisfaction of participating in the AUTP program as seen from farmers' understanding of the AUTP program after participating in the socialization of the AUTP program in Karang Sari subdistrict, Kendal Subdistrict, Kendal Regency.

Perception of Benefits and Benefits of Joining the Program, it's a farmers' perception of the benefits and benefits obtained from the implementation of the AUTP program can be known from farmers' understanding of the risks of crop failure, the benefits or benefits obtained and useful assistance for farmers, especially to overcome the risk of crop failure due to natural disasters.

## RESULTS AND DISCUSSION

The Question item analysis determines which question items form an internally

consistent scale. Internally consistent is a measurement that statement items have the same construct. This measure illustrates that the items correlate with each other. This analysis provides information on how well each item relates to another item. This analysis is called the item-remainder coefficient.

The item-remainder coefficient is the correlation of each item to the total remaining items. There are several strategies for selecting items to choose from to measure constructs. If we decide that a construct should have the number of  $m$  items or indicators, then  $m$  items with a high correlation coefficient are selected. Another way items that correlate 0.40 will be chosen to form a good question item construct. (Ghozali & Kusumadewi, 2013).

The Reliability test can perform reliability tests by looking at the alpha coefficient value. The alpha coefficient was discovered by Cronbach (1951). This coefficient is used to measure the scale's internal consistency and is a direct function of the number of items and the magnitude of the correlation between items. An alpha coefficient compares variances of the total scale score (sum of all items) and variances of individual items.

Mathematically if the items are not correlated, then the variance of the total scale will be equal to the number of variances of each item. Nunnally (1978) gave a benchmark of 0.70 for a good internal consistency scale (Ghozali & Kusumadewi, 2013). The calculation of the Cronbach alpha value is done with the help of the SPSS 24 program.

The alpha coefficient value of the Program Information Recognition variables is 0.841 or greater than 0.70. This result indicates that the Variable Information Recognition Program item already has a good internal consistency. The

alpha coefficient value of the Following Program Motivation variable is 0.880; that value is more than 0.70. This result suggests that the variable item Motivation Following Program already has a good internal consistency.

The alpha coefficient value of the Program Following Satisfaction variables is 0.837; that value is more than 0.70. This result suggests that the Variable Satisfaction Following Programme item has good internal consistency. The alpha coefficient value of the Benefit and Benefits Following Program variables is 0.841; that value is more than 0.70. This result suggests that the benefits and benefits of following the Programme have a good internal consistency..

The validity test uses three techniques: cross-loading, convergent, and discriminant validity. Cross-loading is used to measure the correlation of items to the desired construct is greater than other constructs, so this indicates that the desired construct predicts better than other constructs. Cross-loading tests can be performed using factor analysis. Convergent validity is the magnitude of the correlation between the score of the question item and the total score of the constructor so-called loading factor.

The question item is valid if the loading factor is  $\geq 0.70$ . However, developing a construct measurement scale loading value of 0.50 to 0.60 is considered sufficient (Chin, 1998). Convergent validity tests can be performed by testing confirmatory factors with the Amos or Lisrel program; the researchers used the Amos 26 program.

For Discriminant Validity is comparing the square root value of average variance extracted (each construct with the correlation between the construct and other constructs in the model). If the square root value of each construct's AVE is

greater than the correlation value of the construction, then it can be said that the construct has a good discriminant validity value (Ghozali & Kusumadewi, 2013).

This cross-loading test is performed to determine if the items are valid to be continued to the next stage of testing. The value of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO MSA) showed a yield of 0.785. The value is already  $> 0.50$ . In addition, the value of Bartlett's Test of Sphericity is also significant. So it can be concluded that the next factor analysis test can be done.

This test was conducted with factor confirmation with the help of the AMOS 26 application. The value of standardized loading estimates each item as follows: Introduction of program information consists of B<sub>4</sub> of 0.648; B<sub>5</sub> of 0.618; B<sub>6</sub> of 0.618; B<sub>7</sub> of 0.807; B<sub>8</sub> of 0.753; and B<sub>9</sub> of 0.653. For motivational items following the program consists of, C<sub>1</sub> of 0.819; C<sub>2</sub> of 0.795; C<sub>3</sub> of 0.906; C<sub>4</sub> of 0.646; C<sub>5</sub> of 0.620; and C<sub>6</sub> of 0.637. For satisfaction items, the program consists of D<sub>3</sub> of 0.759, D<sub>4</sub> of 0.909, D<sub>5</sub> of 0.795, and D<sub>6</sub> of 0.538. For items Profitable and Benefits follow the program consists of E<sub>1</sub> of 0.557, E<sub>2</sub> of 0.803, E<sub>3</sub> of 0.802 and E<sub>4</sub> of 0.557. From the test results conducted, all the results are above 0.50, so it can be concluded that the question items meet convergent validity.

To calculate discriminant validity, it is necessary to calculate the value of Average Variance Extracted (AVE). All ave value calculation results for all variables are more than 0.50, meaning that each construct of each variable has good reliability. This AVE value can also calculate Composite Reliability or Construct reliability. It is also one of the indicators used to

calculate internal consistency and Cronbach Alpha, but composite reliability provides a much higher reliability value.

All results of calculating the composite reliability value of each variable show a yield of more than 0.70 so that the construct of each variable has good reliability. After ave calculation and composite reliability are then calculated to determine the value of Discriminant Validity. These calculations can be performed by comparing the square root value of each variable's AVE with the correlation between constructs—the calculation result of discriminant validity.

The program information recognition variable has a discriminant validity of 0.725. That value is greater than the correlation value between variables. The correlation value between the program information recognition variable and the motivation variable following the program was 0.716; correlation value between program information recognition variable and program follow satisfaction variable of 0.313; as for the correlation value between the program information recognition variable and the profit and benefit variable following the program of 0.303.

Furthermore, the motivation variable that follows the programme has a discriminant validity value of 0.745. This value is greater than the correlation value between the variables. The correlation value between the motivation variable following the program and the program information recognition variable is 0.716; the correlation value between the motivation variable following the program and the satisfaction variable following the program of 0.113; and the correlation value between the motivation variable following the program and

the profit and benefit variable following the program of 0.242.

Then the satisfaction variable follows the programme has a discriminant validity value of 0.762. The value is also greater than the correlation value between the variables. The correlation value between the satisfaction variable following the program and the program information recognition variable was 0.313; the correlation value between the satisfaction variable following the program and the motivation variable following the program of 0.113; and the correlation value between the satisfaction variable following the program and the profit and benefit variable following the program of 0.078.

Furthermore, the discriminant validity value of the profit and benefit variables follows the program by 0.776; the value is also greater than the correlation value between variables. The correlation value between the profit and benefit variables following the program with the program information recognition variable is 0.303; correlation values between variables benefits and benefits of joining the program with a motivation variable following the program of 0.242; and the correlation value between the profit and benefit variables following the program with the satisfaction variable following the program of 0.078. So it can be said that the constructs of each variable have a good discriminant validity value.

This is because the value of each variable's discriminant validity is greater than the correlation value between variables benefits and benefits of joining the program with a motivation variable following the program of 0.242; and the correlation value between the profit and benefit variables following the

program with the satisfaction variable following the program of 0.078.

So it can be said that the constructs of each variable have a good discriminant validity value. This is because each variable's discriminant validity value is greater than the correlation value between variables. Analysis of Farmers' Perception of AUDP Program Researchers used the Perception Analysis Method to measure the level of perception of farmers towards the AUDP program.

Based on the analysis of farmers' perception of the AUDP program in Kendal district, Kendal district shows that only one indicator is the motivation to follow the program that belongs to the good category. In contrast, the other three indicators are the introduction of program information, satisfaction in following the program, and the benefits and benefits of following the program fall into the category of poor.

This means that farmers' perception of the AUDP program in the Kendal sub-district has a negative perception. This negative perception led to the lack of success of the AUDP program in the Kendal Sub-district. Most farmers in Kendal sub-district are only motivated to participate in the program in the hope of the ease of the AUDP program process. In fact, for farmers, the process of the AUDP program, especially for claiming losses, is considered quite complicated. So farmers are only enrolled in the program but do not follow the claim process.

The lack of the AUDP program in the Kendal sub-district cannot be separated from the obstacles experienced by farmers. The obstacle is the absorption of less information. Less maximal socialization is the cause. One of the reasons for the lack of maximum socialization is the plan that is not held



specifically but only becomes an insert agenda. This affects the impression of farmers who become less good at the program.

Complex claim mechanisms become the next obstacle experienced by farmers. This mechanism requires good technological

awareness. Many farmers are still traditional, so they do not understand the technology applied in the program. Farmers expect the claim process to be done not to have difficulties. It is not good to use technology, and some farmers can be overcome it if the farmer group goes well.

**Table 3.** Results of Perception Analysis Calculation

No.	Statement	Total Score	Perception Index	Interpretation
1.	Socialization of AOTP program	259	53,96	Less Good
2.	The need to socialize autp program more often	270	56,25	Less Good
3.	Socialization impression of AOTP program	225	46,88	Less Good
4.	The socialization of AOTP program was held interestingly	240	50,00	Less Good
5.	The socialization of AOTP program is interesting	262	54,58	Less Good
6.	The duration of the AOTP program socialization event is appropriate	241	50,21	Less Good
7.	Socialization of AOTP program is useful	238	49,59	Less Good
8.	Participate in useful AOTP program	239	49,79	Less Good
9.	AOTP program helps farmers	225	46,88	Less Good
10.	Assistance is required when participating in the AOTP program	247	51,46	Less Good
11.	AOTP program is easy to understand	250	52,08	Less Good
12.	Understanding the disaster coverage of the AOTP program	246	51,25	Less Good
13.	Climate change knowledge	204	42,50	Less Good
14.	Knowledge of extreme weather changes	206	42,92	Less Good
15.	Tackling the risk of crop failure	205	42,71	Less Good
16.	Drafting a plan against crop failure	229	47,71	Less Good
17.	Clarity of AOTP program information	300	62,50	Good
18.	Desire to join AOTP program	302	62,92	Good
19.	Insurance premiums are burdensome	301	62,71	Good
20.	Confidence in the AOTP program	324	67,50	Good

Source : Processed from Primary Data, 2020

Another obstacle for farmers is the mindset of farmers. The mindset of farmers is indeed one of the main problems of Indonesia's

agricultural conditions. It is no secret that the condition of farmers in Indonesia is very limited and alarming. The education of farmers in

Indonesia is also generally low. Generally, farmers pursue formal education up to the elementary school level only. In Central Java, most farmers are only educated until the elementary school level, not a few who attend school.

This condition correlates with the location of residence and income earned. Generally, low-educated farmers also have low incomes. These farmers used to live in the village. Because of living in a village and low income, access to education is also low. These farmers also generally come from underprivileged families, so it is difficult to get a higher level of education..

## CONCLUSION

Based on the results of the analysis using the Likert scale, it is known that the total score of farmers' perception level in Karang Sari Subdistrict, Kendal Subdistrict regarding the Rice Farming Insurance (AOTP) program of 5010 and is in the perception index of 52.50%, so that the perception of farmers is relatively poor. Indicators of perception of farmers who are considered less good about the AOTP program, namely on the perception indicators of the introduction of program information, perception of benefits and benefits of the program, and perception of program satisfaction.

This is due to the socialization of the program held less optimally so that the absorption of program information by farmers is less. Poor absorption of information makes farmers follow the running of the program poorly. In contrast, the motivation perception indicators following the program fall into the good category. This is because farmers have more hope for the ease of joining the program so that farmers are motivated to register but do not follow the program as a whole.

The obstacles experienced during the Rice Farming Insurance (AOTP) program include; (1) The lack of absorption of information about the program, (2) The complexity of the program mechanisms, (3) The mindset of farmers that are difficult to change. These three obstacles greatly affect farmers in running the program, so that what happens in the farmer's field can not follow the course of the program well.

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