Rice farmers response to agricultural insurance programs

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Abstract. Agricultural insurance is an agreement between a farmer and an insurance company to commit themselves to farm risk cover. This study aims to: Explain the implementation of agricultural insurance programs and describe the characteristics of rice farmers who are participants of agricultural insurance in Matakali District, Polewali Mandar District, West Sulawesi Province. Objectives are analyzed descriptively. The research location was in Matakali District, Polewali Mandar Regency, West Sulawesi. The research result concluded that: The implementation of the agricultural insurance program was good because farmers already benefited from agricultural insurance, but the claim settlement procedure was considered complicated. In general, the characteristics of farmers include age in the range of 27-41 years, education at the high school level, income level is at Rp.10,500,000 and land area is at an area of 1 Ha.

1. Introduction

Indonesia as a developing country is an agricultural country that plays an important role in the production sector. The role of the agricultural sector is as a provider of food sources for the community, a source of national income, opening up employment opportunities, a source of investment, and a foreign exchange earner when agricultural products are exported to other countries. On the other hand, businesses in the agricultural sector are faced with a high degree of uncertainty, and farmers have borne the risk themselves [1].

Agriculture is one of the most vulnerable sectors to the negative impacts of climate change [2]. Increased risks and risks of flooding and reduce the escalation of crop damage. At the same time, environmental protection also results in suboptimal or damaged irrigation networks, farm roads, and other agricultural infrastructure. Thus, an increase in general and increased risk in farming increases. Thus, directly or indirectly, plants threatened with puso increase. The implication, the future of global food improvement is more advanced than bleak. The World Food and Agriculture Organization (FAO) estimates that some countries in the northern hemisphere are profitable, but most countries in the world (most developing countries in tropical climates) are expected to require higher priorities to meet their food needs.

Therefore, special and extensive efforts are needed to minimize the risk of loss due to threats that occur in the agricultural sector. Agricultural insurance is one alternative to minimize risks that are worth considering, especially to overcome losses due to climate change. Agricultural insurance is related to farm financing with third parties (private companies/institutions/government agencies) with a certain amount of premium financing [3].
In his article entitled "Planning for the Development and Operation of Agricultural Insurance Schemes", Mishra [4], discusses the conceptual framework of an agricultural insurance. Agricultural insurance is an economic institution to manage the risks faced by farmers. In general, the objectives are (1) To stabilize farmers' income through reducing the level of losses suffered by farmers due to yield losses; (2) To stimulate farmers to adopt farming technology that can increase production and use resources efficiently; and (3) To reduce the risks faced by agricultural credit institutions and improve farmers' access to credit institutions.

Basically the main purpose of agricultural insurance is to provide protection to farmers against economic losses caused by the risk of farming. There are several interpretations of risk, but in the context of farming a practical understanding of the terminology can refer to the opinion of Lee et al. [5], which states that an event is said to have a risk if the actual yield of the farm is lower than the results expected by the farmer as the manager of the farm.

Empirically, agricultural insurance in developed countries is more developed than in developing countries. In the United States, Japan, and several countries in the European Union, agricultural insurance for certain commodities has developed quite rapidly and effectively as a protection system for farmers. In several countries in Asia, the development of agricultural insurance varies greatly. Agricultural insurance is well developed in Taiwan, while in India, Bangladesh and the Philippines the development is slow, while in Thailand it is underdeveloped [6].

Agricultural insurance began to be implemented in Indonesia since 2012 and is a solution to tackle climate change that is difficult to predict. Farming insurance is not a new thing in the agricultural sector, several countries in India and Iran have implemented this program to protect farmers. In Indonesia, farm business insurance is better known as agricultural insurance which is regulated in Law Number 19 of 2013 concerning Farmer Protection and Empowerment (Law P3). This is solely for increasing productivity as a key in increasing farmers' incomes, therefore the rebuilding of research and assurance systems for additional farmers is crucial [7].

Agricultural insurance can not be allocated to the overall risk of farming [8]. This is related to difficulties in securing actual data or potential bankruptcy of insurance institutions due to the very high value of insurance that must be paid (for example due to crop failure in a very large area which is potentially very vulnerable to catastrophic natural disasters).

Matakali District is one of the districts that has great agricultural potential in Polewali Mandar Regency. However, in Matakali District, several obstacles faced by farmers, namely frequent crop failure, one of which is caused by pest attacks. As an effort to protect farmers from the risk of uncertainty, agricultural insurance is expected to have a positive impact on the lives of farmers because the benefits obtained can protect agricultural businesses. Considering that the agricultural insurance program is new, it is necessary to conduct an in-depth study of the implementation of this program and to remember that Matakali District is a district that has implemented an agricultural insurance program. Based on the previous description, The author sees that agricultural insurance is important in efforts to protect farmers and this research is the first study of farmers' responses to agricultural insurance located in Sulawesi so that it can be a reference in conducting further research, this can also be an aspect of assessment for readers in assessing agricultural insurance. Therefore the authors make a study with the title "Response of Rice Farmers To Agricultural Insurance in Matakali Sub-District, Polewali Mandar Regency, West Sulawesi Province". this can also be an aspect of assessment for readers in assessing agricultural insurance. Therefore the authors make a study with the title "Response of Rice Farmers To Agricultural Insurance in Matakali Sub-District, Polewali Mandar Regency, West Sulawesi Province". this can also be an aspect of assessment for readers in assessing agricultural insurance. Therefore the authors make a study with the title "Response of Rice Farmers To Agricultural Insurance in Matakali Sub-District, Polewali Mandar Regency, West Sulawesi Province".

2. Methods
The research method used in this research is descriptive qualitative and quantitative methods. This research was conducted in Matakali Sub-District, Polewali Mandar Regency, West Sulawesi. Data
collection techniques were carried out by interviewing and using a research instrument in the form of a questionnaire given to the research sample with a total of 35 people selected by sampling techniques saturated.

For this research is to know the implementation of agricultural insurance and the characteristics of rice farmers who apply for agricultural insurance in Matakali Diversity, Polewali Mandar Regency, by analyzing data descriptively by explaining the implementation of agricultural insurance programs and explaining the characteristics of farmers with a frequency table. One variable analysis using frequency tables aims to describe the characteristics of the study sample because each sample is usually selected from a wider population, analysis of one variable is also considered to explain the characteristics of the population [9].

3. Results and discussion

3.1. Implementation of Agricultural Insurance in Matakali Sub-District

Agricultural insurance is a risk transfer that can provide compensation due to farm losses so that the sustainability of farming can be guaranteed. Through rice farming insurance provides insurance against crop damage due to flooding, drought and pests and plant diseases or plant-disturbing organisms (OPT), so farmers will receive compensation as working capital for further farming.

3.1.1. Research informant. The informants entrusted as sources of information regarding the implementation of the agricultural insurance program, in the Matakali Sub-District, Polewali Mandar Regency, West Sulawesi Province, are as follows.

| No. | Name                  | Age | Profession                                                                 | Last Education |
|-----|-----------------------|-----|---------------------------------------------------------------------------|----------------|
| 1   | Tenri Ulang, S.P., M.Si | 42  | The head of the fertilizer, pesticides and agricultural equipment section, and as the coordinator of the management of agricultural insurance | Graduate       |
| 2   | Abdul Razak           | 39  | Head of the Lajampi P3A Farmers group                                      | High school    |

3.1.2. Program Socialization. Based on the results of an interview with Mrs. Andi Tenri as coordinator of agricultural insurance processors in the agricultural service of Polewali Mandar Regency, the application of agricultural insurance in Polewali Mandar Regency was carried out in 2016. The socialization process used a tiered model where the Ministry of Agriculture made a socialization schedule for each province in Indonesia which inviting agricultural service officers from each city district, after the provincial level socialization the city district level socialization was held which invited all the heads of farmer groups in the Polewali Mandar Regency, agricultural extension officers, and pest observers, however, the head of the farmer group did not socialize the results of the meeting because according to the head of the farmer group that in carrying out the socialization requires a substantial cost, the head of the farmer group chose to notify the results of the meeting directly or by word of mouth to the farmers.

This is by the explanation of Mrs. Andi Tenri as the coordinator of the management of agricultural insurance in the agriculture service.
also a socialization inviting the heads of farmer groups, agricultural extension workers and pest observers."

As well as the speech of Abdul Razak as the head of the P3A Lajampi farmer group:

"I am not doing socialization here so the story is that after I joined the socialization at the Department of Agriculture about agricultural insurance, I went to a resident who was near my house who was a member of the farmer group, I explained that there was agricultural insurance I explained about the premium and compensation received if the crop fails, after that, I ask if you want to take agricultural insurance or not? I did not do the socialization because it costs a lot and to determine the time is difficult. So farmers know it by word of mouth. "

3.1.3. Program Benefits. Based on Law No. 19 of 2013, it can be concluded that the purpose and benefits of agricultural insurance, namely to protect farmers in the form of working capital assistance in the event of crop damage or crop failure due to floods, drought and crop failure caused by pests plants, so that farmers can still do farming, that is replanting after crop failure occurs. By what Mr. Abdul Razak said as the head of the P3A Lajampi farmer group:

"The benefits are we can be given compensation money if the crop fails, we also feel protected if the crop fails."

3.1.4. Procedure for Participating in Agricultural Insurance. To become an agricultural insurance participant, the way farmers who are members of a farmer group fill out a registration form that will be accompanied by an agricultural officer. By the narrative of Mrs. Andi Tenri as the coordinator of agricultural insurance processors in the agriculture department.

"Farmers who want to register as participants of agricultural insurance must join a farmer group and fill out the form provided"

After being registered as an agricultural insurance participant, farmers must pay a premium. The total premium for agricultural insurance is Rp.180,000 / ha/planting season with assistance from the government of 80% of the premium paid by farmers. So farmers only pay 20% which is around Rp.36,000 / ha / growing season. The same thing was said by agricultural service officials:

"Farmers should have paid the premium of Rp.180,000, - but it was borne by the government by 80% so the remaining amount was Rp.36,000, - the amount of premiums that had to be paid by farmers”.

3.1.5. Submitting a Claim. After being registered as an agricultural insurance participant, farmers who later one day experience a disaster and are threatened with crop failure can submit a claim. The process of submitting a claim will be processed if it meets the provisions of submitting written notice, attaching photos of the land included an indication of damage no later than 7 calendar days after the damage is known, first the pest observers and agricultural extension officers directly inspect the land owned by farmers.

But the process of submitting the claim is considered difficult and complicated, as said by Mr. Abdul Razak as the head of the farmer group:

"Submitting a claim is difficult. I haven't taken care of it yet. The main point is not complicated if direct damage can be claimed, not as fast as that, we first send new photos to pest observers and agricultural instructors first, after that pest observers and agricultural extension officers monitor directly, whether the damage is more than 75% or not if more new may be claimed. "


With the explanation of Mr. Abdul Razak as the head of the farmer group can describe the assessment of farmers who take part in agricultural insurance and with the complexity of the management and settlement of these claims makes the interest of farmers who were initially enthusiastic to take part in agricultural insurance programs are now not interested. And this incident is unfortunate from the purpose of insurance to protect farmers, but the application is only a burden to farmers and adds to their disappointment with the programs provided by the government.

3.2. Characteristics
Walgito in Lailani [10] states that individuals receive a variety of stimuli that come from the environment. But not all stimuli will be considered or will be given a response. In line with this, the response given by someone to something the same stimulus, can be different, and conversely a person's response to different stimuli can be the same. These differences can be influenced by the individual characteristics of a person. The characteristics of each individual include age, education, income, and land area. As described below;

3.2.1. Age. Age is the life span of the respondent farmer at the time the study was conducted expressed in years. Analysis of the age variables of respondents in Wonomulyo District can be seen in Table 2 as follows:

| No. | Age   | Frequency | Percentage (%) |
|-----|-------|-----------|----------------|
| 1   | 27-41 | 20        | 57.1           |
| 2   | 42-55 | 15        | 42.9           |
|     | Amount| 35        | 100            |

A person's age can be influential in responding to or responding to something new. Besides, age also affects the physical condition that is owned, especially in conducting farming activities. Based on Table 2, it can be seen that the frequency distribution of respondents by age with the total number of respondents is 35 respondents with a frequency of 20 respondents in the age group of 27 - 41 years, and 15 respondents in the age category 42 - 55 years. Roestam [11] states that the productive age is between 15-55 years. In general, farmers at a productive age will have higher physical abilities than farmers at an unproductive age, have better memory, and are more willing to take risks in adopting an innovation. Farmers who are at a productive age are usually more active in socializing. The application of new technology is more dominated by young farmers who are responsive and dynamic. Younger farmers usually have a zeal for wanting a bigger and faster year in adopting useful innovations.

Farmers who are of productive age usually find it easier to adopt and respond to new things, so they can build and develop a farm that is being run. In conditions of age that are still productive, then most likely someone can work well and maximally. This is in line with Mardikanto's statement [12] which states that the older (over 50 years) a person is, the slower a person usually adopts innovation, and tends to only carry out activities that are commonly applied by local communities.

3.2.2. Level of education. The level of education is the length of education of the respondent farmers at school or formal education institutions when the research is conducted. Petanitentu education is one of the factors influencing the response of farmers to agricultural insurance and analysis of the education level of respondents in Matakali District can be seen in table 3 as follows:
Table 3. Education Level of Respondents Following Insurance in Matakali Sub-District, Polewali Mandar Regency

| No. | Education of Respondents | Frequency | Percentage (%) |
|-----|--------------------------|-----------|----------------|
| 1   | Low                      | 15        | 42.9           |
| 2   | High                     | 20        | 57.1           |

The education categories according to Arikunto are low education (SD-SMP) and higher education (SMA-Perguruan Tinggi). Table 3 indicates that none of the respondents had received tertiary education, this shows that the level of education of respondents was still relatively low. The number of respondents with low education shows that the importance of education is still lacking and there is a culture of absorbing family labor for farming activities which causes the opportunity to get an education also getting smaller. Referring to Soekartawi's opinion [13] a challenge for agricultural extension in developing learning that is interesting for farmers with relatively low levels of education so that it can implement adoption more quickly.

3.2.3. Income. Income is the total income received by respondent farmers from farming in one growing season expressed in rupiah. Farmer income is also one of the factors that can influence farmers' responses to agricultural insurance and analysis of respondents' income variables in the Matakali sub-district can be seen in table 4 as follows:

Table 4. Income of Seasonal Respondents Participating in Agricultural Insurance in Matakali Sub-District, Polewali Mandar Regency

| No. | Income (Rp) | Frequency | Percentage (%) |
|-----|-------------|-----------|----------------|
| 1   | 4,200,000 - 12,600,000 | 20        | 57.1           |
| 2   | 12,700,000 - 21,000,000 | 15        | 42.9           |
|     | amount      | 35        | 100            |

According to Hermanto [14], the amount of income earned by farmers from a farming activity depends on several factors that influence it such as land area, the level of production of the entrepreneur’s identity, planting, and the efficient use of labor. In conducting farming activities, farmers hope to increase their income so that their daily needs can be met.

3.2.4 Land Area. Land area is the area of land that is owned and cultivated by farmers. Farmer tenure area data can be seen in the following table 5:

Table 5. Land Size of Respondents Following Agricultural Insurance in Matakali District, Polewali Mandar Regency

| No. | Land Size (Ha) | Frequency | Percentage (%) |
|-----|----------------|-----------|----------------|
| 1   | 0.1 Ha - 1 Ha  | 17        | 48.6           |
| 2   | 1.1 Ha - 2 Ha  | 18        | 51.4           |
|     | Amount         | 35        | 100            |

Land area has no effect on farmers’ decisions in the participation of agricultural insurance because farmers who have both broad and narrow land have equal opportunities in participating in agricultural insurance programs. This is not in line with the opinion of Mardikanto [12] stating that the wider land tenure is usually the faster the ability of farmers to accept innovations because it has a good economy.
4. Conclusion
Based on the description of the results of this research discussion, it can be concluded that the implementation of the agricultural insurance program in the Matakali Sub-District of Polewali Mandar Regency has been classified as good because farmers have benefited from agricultural insurance, but on the other hand, the settlement of claims is still considered difficult for farmers due to complicated procedures. In general, the characteristics of farmers include age in the range of 27-41 years, education at the high school level, income level is at Rp.10,500,000 and land area is at an area of 1 Ha.

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