

Farmers' Perception and Interest Towards Cattle Insurance in Sumbawa Regency

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Abstract—Cattle Insurance is an effort to protect cattle farmers from business losses caused by livestock death or loss so that farmers can continue their business. The purpose of this study was to determine farmers' perceptions and interests in cattle insurance in Sumbawa Regency. The method of determining the sample/respondent in this study uses quota sampling to obtain a total of 45 respondents with details of 30 farmers who already have polish and 15 farmers who do not have polish. Sources of data in this study are primary and secondary data, while data collection techniques are carried out by means of; survey, interview, observation and documentation. The results showed that farmers' perceptions of cattle insurance are not good (by 11%), meaning that the farmer is still lacking knowledge about livestock insurance and socialization is still lacking in the community regarding cattle business insurance programs. While the interest of farmers in cattle insurance is very high (by 85%).

Keywords—Perception, Interest, Cattle Insurance

I. INTRODUCTION

Sumbawa Regency is a potential area for developing cattle in Indonesia. Sumbawa has a production of livestock breeds and beef cattle that have long been sent out of the region. Cow population in Sumbawa Regency in the last five years has always been increasing. In 2013 there were 206,923 cattle; in 2014 there were 211,677 cattle; in 2015 there were 222,153 cattle; in 2016 there were 228,042 cattle, and in 2017 there were 228,814 cattle [1].

The dominant livestock raising system in Sumbawa is extensive method, that is, cattle are grazing in grazing land. This takes place during the dry season, which is approximately six to seven months. In addition, the grazing system is also controlled three to four times per month. Then during the rainy season or planting season, cattle are put in a communal stable for four to five months. During this time, animal feed has been provided from agricultural waste, purchased feed or fermented feed. With this maintenance system, livestock loss and death often occur. The phenomenon of loss of farmers is often the reason for the application of insurance in a region or country [2].

These risks have also been responded to by the government through Law No. 19 of 2013 concerning Protection and Empowerment of Farmers [3] and

Regulation of the Minister of Agriculture No. 40 / Permentan / SR.230 / 7/2015 concerning Agricultural Insurance Facilitation, so as to protect farmers cattle/buffalo from these risks, livestock insurance is needed [4]. In China, dairy cattle insurance was tested in 2007 [5].

Cattle insurance generally guarantees several risks such as deaths due to illness, deaths due to disasters and accidents, and loss [6]. The insured cow is a healthy and productive female cow. The maximum number of cows registered is 15 for small-scale cattle farmers. Farmers pay a self-help premium of 20% of the value of the premium. The insurance period of one year is calculated from the premium payment. The price of coverage is set at Rp. 10,000,000 per cow per year with a premium of 2% of the sum insured. The insurance premium is subsidized by 80% by the government [7].

Within the 24 sub-districts in Sumbawa Regency, only 25% of the sub-districts have implemented cattle insurance, including Labangka, Unter Iwes, Lopok, Lape, North Moyo, and Empang [1]. Thus, there are still many areas of Cattle Farming in Sumbawa Regency that have not yet participated in Cow Insurance. As a cattle breeding area, it is necessary to know the responses and interests of farmers towards insurance, so a study entitled "Farmers' Perceptions and Interests in Cattle Insurance in Sumbawa Regency" is needed. By knowing the farmers' perceptions and interests, it can become the government's basis for determining policies related to livestock insurance programs.

II. RESEARCH METHODS

A. Data Types and Sources

The type of data in this study are qualitative and quantitative data. The qualitative data serves to describe and explain cattle insurance in Labangka, Lape and Unter Iwes Districts, Sumbawa Regency. While quantitative data are in the form of cattle insurance costs in Labangka, Lape and Unter Iwes Districts, Sumbawa Regency. The data source in this study is primary data sourced from the results of questionnaires and direct interviews with farmers and cattle

entrepreneurs and secondary data obtained by collecting written sources or documents from the Animal Husbandry and Veterinary Office of Sumbawa Regency.

B. Data Collection Techniques and Data Analysis

Data from research results obtained through: surveys, interviews with farmers and entrepreneurs, direct observation of the research location and documentation through recording data or photographs so as to produce important records relating to the problem under study. Determination of the area in this study using the Purposive Sampling method in order to obtain Labangka, Lape and Unter Iwes Districts of Sumbawa Regency on consideration of the level of insured number of animals starting from the smallest, medium and the most. The determination of the sample using the Quota Sampling method, in order to obtain 45 cattle farmers as samples. The data obtained were then analyzed using Validity Test [8], Multiple Regression Test, Determination Coefficient Test (R Square) and Regression Coefficient Test (F Test).

III. RESULTS AND DISCUSSION

A. Farmer Responses to Perception, Interest and Insurance

From the questions on the questionnaire that have been submitted to respondents obtained a variety of responses from the variables of farmers' perceptions of cattle insurance, cattle farmers' interest in cattle insurance and responses about cattle insurance. Data from these respondents can be presented as follows:

Farmers' Perceptions of Cattle Insurance

Based on data obtained from breeders through questionnaires that have been distributed, obtained data descriptions regarding the perceptions of farmers towards cattle insurance as follows:

TABLE I. FARMERS' PERCEPTIONS OF CATTLE INSURANCE

No	Questions about Farmers' Perception of Cattle Insurance (X1)	Answer Choice (%)			
		SA	A	LA	DA
1	Cattle insurance implemented by the government can provide protection to farmers.	89	11	0	0
2	By providing protection to farmers, cattle insurance can eliminate the concern of farmers, because livestock that die or have lost are guaranteed.	78	22	0	0
3	The environmental conditions around the breeder business provide comfort when carrying out activities in the livestock business.	67	22	5	0
4	Around the livestock business, environmental conditions are very good and other communities are not disturbed by the livestock business.	56	33	5	0
5	The cattle business insurance program is a concern of the government towards farmers.	67	33	0	0
6	Cattle insurance is applied by the government so that livestock are guaranteed if they die or lost.	56	44	0	0

Source: Questionnaire Data Processing Results, 2019
 Description : SA = Strongly Agree; A = Agree; LA = Less Agree; DA = Disagree

Based on table 1. above, the highest first question item states that cattle insurance applied by the government can provide protection for farmers by 89%, the second question item states by providing protection to farmers, cattle insurance can eliminate livestock concern, because livestock those who experienced death or loss were guaranteed a life of 78%. Meanwhile, the fourth and sixth question items were the lowest at only 56%.

A group of researchers tried to compare perceptions between farmers who participated and did not participate in livestock breeding, the result was that 57% of farmers who took part in insurance said that livestock insurance was positive and 42% said negative. Whereas farmers who are not incorporated in animal insurance 47% said that livestock insurance was positive and 52% considered it negative [9]. The consideration of a livestock insurance should not only be to protect livestock farmers from death and loss of livestock, but livestock insurance should also

guarantee the certainty of the sale price of livestock which is often detrimental to farmers [10].

Interests of Farmers towards Cattle Insurance

Based on the data obtained, the description of the data regarding the breeder's interest in cattle insurance is as follows:

TABLE II. FARMER RESPONSES ABOUT FARMER INTEREST IN CATTLE INSURANCE

No	Questions about Farmers' Interest of Cattle Insurance (X2)	Answer Choice (%)			
		ST	T	F	SF
1	By knowing information about cattle insurance, namely the protection of cattle farmers from business losses due to death or loss so that farmers can continue their business, so you make business plans to follow cattle insurance.	67	33	0	0
2	Before owning a cattle business, get information or counseling from the government about cattle business insurance, that insurance guarantees the protection of cattle farmers from business losses caused by death or loss so that farmers can continue their business.	56	44	0	0
3	By following counseling about cattle insurance, namely from the terms and procedures of insurance it takes a long time to learn the material for cattle insurance.	56	44	0	0
4	Studying livestock insurance, it takes a long time so that there is no doubt in the belief to take part in insurance so that you can become a participant in cattle business insurance.	44	56	0	0
5	Following the cattle business insurance can provide peace in livestock business, because the cattle farmer is protected from business losses due to death or loss so that the farmer can continue his business.	67	33	0	0
6	Following cattle business insurance can provide convenience in business, if the livestock dies or is lost. Because breeders can continue their business.	67	33	0	0

Source: Questionnaire Data Processing Results, 2019
 Description: ST = Strongly True; T = True; F = False; SF = Strongly False

Based on table 2. above shows that the question items 1, 5 and 6 get a value of 67%. While question number 4 is only 44%. According to [11,12], one of the most important elements to increase public interest in participating in livestock insurance is to simplify insurance procedures and services. In addition, government involvement is also very important because it gives more comfort and confidence to the certainty of the insurance. According to [13,14], there are several factors that influence the level of adoption of livestock insurance among farmers including; age of the

farmer, maintenance capacity, education of the farmer, experience of the farmer, number of dependents in the family and gender.

Responses about Cattle Insurance

Based on data obtained from breeders through questionnaires that have been distributed, obtained data description regarding cattle insurance as follows:

TABLE III. FARMERS' RESPONSES ABOUT CATTLE INSURANCE

No	Questions about Cattle Insurance (Y)	Answer Choice (%)			
		ST	T	F	SF
1	Cattle insurance provides protection for cattle farmers from business losses caused by death or loss so that farmers can continue their business. Therefore insurance attracts you to take cattle insurance.	56	44	0	0
2	With the presence of cattle insurance that guarantees livestock from the risk of death from disease, calving and accidents or loss due to theft, so you want to know about cattle insurance.	67	33	0	0
3	The presence of cattle insurance that guarantees livestock from the risk of death from disease, childbirth and accidents or loss due to theft, can encourage your desire to learn and join livestock farmer groups, due to participate in cattle insurance.	56	44	0	0

Source: Questionnaire Data Processing Results, 2019
 Description: ST = Strongly True; T = True; F = False; SF = Strongly False

Based on table 3. above, the second question item has the highest percentage of 67%. While the first and third question items are only 56%. The sense of security and comfort provided by insurance providers will have a very positive effect on the public interest to take part in cattle insurance. To realize this, there needs to be a match between the implementation plan and its application in the field [15].

B. Simultaneous Test with F-Test (Anova)

TABLE IV. F-TEST RESULT

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.037	2	3.519	36.273	.000 ^a
	Residual	4.074	42	.097		
	Total	11.111	44			

a. Predictors: (Constant), MINAT (X2), PERSEPSI (X1)
 b. Dependent Variable: ASURANSI (Y)

Based on table 4. the above can be explained by using a significance level of 0.05, a significant value of $0.000 < 0.05$ means that people's perceptions and interests are very strong towards cattle insurance. The value obtained by F count is 36.273 with the F table value of 3.22, the F table value is obtained from the df value that is the value 2 as a numerator and the value 42 as the denominator in the F table distribution. Thus the value of $F \text{ count} > F \text{ table}$ ($36.273 > 3.22$), then H_0 is rejected, meaning that there is a significant influence between perception and interest together towards insurance. So this case can be concluded that the perception and interest together influence the insurance of cattle in Sumbawa Regency.

C. Test of the coefficient of determination

TABLE V. TEST RESULTS FOR THE DETERMINATION COEFFICIENT TEST (R SQUARE)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.796 ^a	.633	.616	.311

a. Predictors: (Constant), MINAT (X2), PERSEPSI (X1)

From table 5. it can be seen that the value of R ranges from 0 to 1. If the value is getting closer to 1 means the relationship is getting stronger, on the contrary if the value is getting closer to 0 then the relationship is getting weaker. The multiple correlation value (R) obtained by the letter R was 0.796. this shows that there is a very strong relationship between perception and interest in cattle insurance in Sumbawa Regency.

It can be seen that the value obtained R2 (R square) is 0.633 or (63.3%). This shows that the percentage

TABLE VI. EQUATION OF LINEAR REGRESSION

Model	Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	.296	.420	.706	.484
	PERSEPSI (X1)	.111	.114	.093	.334
	MINAT (X2)	.852	.100	.808	.000

a. Dependent Variable: ASURANSI (Y)

Based on data analysis using the SPSS 16.0 program, the following regression equation is obtained:

$$Y = 0.296 + 0.111X1 + 0.852X2 + e$$

From the equation that the value of farmers' perceptions of cattle insurance is still lacking knowledge about insurance, and the interest of farmers towards insurance is high desire of farmers and a lot of knowledge of farmers about livestock insurance, with constraints farmers are still unsure because there is still lack of counseling about cattle insurance.

Regression coefficient of perception variable is 11%, meaning that for perception because the value is negative then every 1% of the perception value will decrease insurance value by 0.111. Positive coefficient means that there is a positive relationship between perception and insurance, meaning that the public is still lacking knowledge about livestock insurance and socialization is still lacking in the community about the cattle business insurance program. So that the public perception of livestock insurance by 11%.

Interest variable regression coefficient of 85%, meaning that every 1% value of interest will add a value of perception that is equal to 0.852. The positive value coefficient means that there is a positive relationship between interest and insurance, meaning that the community's desire is high and there is a lot of public knowledge about livestock insurance, with the community still doubtful because there is still lack of counseling about cattle insurance and the value of public interest in livestock insurance is 85%. Significant perception is 0.334, meaning that farmers' perceptions are

contribution of the influence of the independent variable (perception and interest) to the dependent variable (insurance). While the remaining 36.7% is influenced or explained by other variables not included in this research model.

Adjusted R Square is the adjusted R Square value, the adjusted R square value is 0.616 and this value is always smaller than the R square value and the R square value is greater than 0.633. The Standard Error of the Estimate value obtained is 0.311 (insurance), this means that the number of errors in insurance predictions is 0.311. As a guideline if the standard error of the estimate is less than the standard deviation of Y, then the regression model is better at predicting the value of Y.

D. Equation of Linear Regression

Based on the results of data processing with the help of SPSS 16.0, a summary of empirical results of the research can be seen as follows:

low on livestock insurance and interest is 0,000, meaning that farmers' interests are very strong on livestock insurance.

IV. CONCLUSION

The results showed that farmers' perceptions of cattle insurance are not good (by 11%), meaning that the public is still lacking knowledge about livestock insurance and socialization is still lacking in the community regarding cattle business insurance programs. While the interest of farmers in cattle insurance is very high (by 85%).

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