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## FACTORS INFLUENCING CATTLE FARMERS' RESPONSE TO LIVESTOCK INSURANCE PROGRAMS FOR CATTLE AND BUFFALO (AUTSK) IN TANAH LAUT REGENCY

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### ABSTRACT

This study aims to analyze the response of cattle/buffalo farmers and the factors influencing the participation of cattle/buffalo farmers in the Livestock Insurance Program for Cattle and Buffalo in Tanah Laut Regency. This research was conducted in Tanah Laut Regency. The study was planned to be carried out from February to April 2023. The analytical tool used was simple tabulation analysis (univariate analysis) presented descriptively, as well as *binary logistic* regression analysis. The research findings indicate that the average score of farmers' response to the Livestock Insurance Program for Cattle and Buffalo in Pelaihari District, Tanah Laut Regency, falls within the good category, with a percentage of 69%. The factors of farmers' education duration, ease of livestock insurance claim procedures for cattle and buffalo, and ease of registration procedures for livestock insurance for cattle and buffalo significantly influence the farmers' response and participation in the Livestock Insurance Program for Cattle and Buffalo in Pelaihari District, Tanah Laut Regency, on the other hand, factors such as farmers' participation in farmer groups, the number of livestock managed, the duration of cattle farming experience, participation in livestock insurance awareness campaigns, the risk of cattle mortality, the level of engagement by officers/extension workers in conducting livestock insurance awareness campaigns, and farmers' participation regardless of the existence of the Livestock Insurance Program for Cattle and Buffalo do not have a significant influence.

### KEY WORDS

Farmers' response, livestock insurance, cattle, buffalo.

Livestock Insurance for Cattle and Buffalo is an insurance that provides protection to farmers in the event of cattle/buffalo mortality due to disease, calving, accidents, and/or loss. With insurance coverage, farmers can purchase livestock again in the event of business risks (death and loss), thus ensuring the continuity of their business.

Based on the fluctuating mortality rate of cattle and buffalo in Tanah Laut Regency from 2017 to 2020, the percentage of cattle mortality was less than 2% and buffalo mortality was less than 1%. The average cattle mortality rate is 1,125 heads per year, while the average buffalo mortality rate is 31 heads per year (Department of Animal Husbandry and Plantation, Tanah Laut Regency, 2017-2020).

In South Kalimantan, the Livestock Insurance Program for Cattle and Buffalo has been running for 5 (five) years from 2016 until now. The cattle registered to participate in the Livestock Insurance Program for Cattle and Buffalo are female cattle. Based on the target set for the Livestock Insurance Program for Cattle and Buffalo in South Kalimantan Province in 2022, the goal was to insure 1,000 heads of cattle or buffalo, with an actual realization of 1,181 heads. However, compared to the realization in 2021, there was a decrease of 177 heads. This indicates that the awareness of cattle/buffalo farmers in South Kalimantan to participate in the Livestock Insurance Program for Cattle and Buffalo is still low. In Tanah Laut Regency, the target for the Livestock Insurance Program for Cattle and Buffalo in South Kalimantan Province, which is 100 heads of cattle or buffalo, has been achieved with a realization of 108 heads in 2020. However, the realization in 2021-2022 for those participating in the Livestock Insurance Program for Cattle and Buffalo was very low. This



indicates a decreasing number of farmers participating in the Livestock Insurance Program for Cattle and Buffalo in Tanah Laut Regency (PT. Jasa Asuransi Indonesia, Banjarmasin Branch, 2018-2022).

Based on the data on claims for the Livestock Insurance Program for Cattle and Buffalo in South Kalimantan from 2018 to 2020, in the year 2020, there were 959 heads of cattle or buffalo that participated in the program, but only 26 heads of livestock were claimed. For Tanah Laut Regency, in the year 2020, there were 108 heads of cattle or buffalo that participated in the Livestock Insurance Program, but only 1 head of livestock was claimed (Department of Animal Husbandry and Plantation, Tanah Laut Regency, 2017-2020).

The objective of this research is to:

- Analyze the response of cattle/buffalo farmers to the Livestock Insurance Program (AUTSK) in Tanah Laut Regency;
- Analyze the factors influencing the participation response of cattle/buffalo farmers in the AUTSK program in Tanah Laut Regency.

## METHODS OF RESEARCH

This research utilizes a survey method. The study was conducted in Pelaihari District, Tanah Laut Regency, considering that Pelaihari District has the highest population of cattle farmers compared to other districts in Tanah Laut Regency. The research was conducted from February to April 2023.

In this study, primary data is utilized. Primary data is obtained through direct observation at the research location and conducting direct interviews with cattle farmers using a prepared questionnaire aligned with the research objectives.

Analyzing the response of cattle/buffalo farmers to the Livestock Insurance Program for Cattle/ Buffalo is conducted using the method of simple tabulation analysis (univariate analysis) and presented descriptively. The analysis involves assessing several indicators using a *Likert scale*, where the responses in this study are categorized as either positive (good) or negative (poor) towards the Livestock Insurance Program for Cattle/ Buffalo. The total score obtained from each respondent is calculated by summing up the scores of each prepared or arranged questionnaire item before the field research is conducted. The calculation method used is *Likert's summated rating scale*. To determine the farmers' response to the Livestock Insurance Program for Cattle/ Buffalo, the following formula is used:

$$TRP = \frac{S_r D}{S_r I} \times 100\%$$

where: TRP - farmers' response level; SrD - obtained score; Srl - ideal score.

Drawing conclusions on the level of farmers' response in participating in the Livestock Insurance Program for Cattle/ Buffalo is based on the assessment using decision-making criteria:

- TRP (farmers' response level) is considered very good if  $TRP \geq 84\%$ ;
- TRP is considered good if  $68\% \leq TRP < 84\%$ ;
- TRP is considered moderate if  $52\% \leq TRP < 68\%$ ;
- TRP is considered poor if  $36\% \leq TRP < 52\%$ ;
- TRP is considered very poor if  $TRP < 36\%$ .

Analyzing the factors influencing the response of cattle farmers to the Livestock Insurance Program for Cattle/ Buffalo using logistic regression analysis.

$$\text{Logit} [\pi(x)] = \text{Ln} \left[ \frac{P}{1-P} \right] = g(x)$$

$$g(x) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10}$$



Where:  $g(x)$  - probability of farmers' response to the Livestock Insurance Program for Cattle/Buffalo (good response = 1, poor response = 0);  $\alpha$  - intercept;  $\beta$  - logistic coefficients ( $\beta_1$  to  $\beta_{10}$ );  $X_1$  - duration of formal education (in years);  $X_2$  - level of participation in farmer groups (frequency);  $X_3$  - number of livestock raised (in head);  $X_4$  - experience in cattle farming (in years);  $X_5$  - level of participation in Livestock Insurance Program socialization activities (frequency);  $X_6$  - risk of cattle mortality (%);  $X_7$  - level of involvement of officers/educators in conducting Livestock Insurance Program socialization activities (active/inactive);  $X_8$  - ease of claim procedures for Livestock Insurance Program (easy/difficult);  $X_9$  - ease of registration procedures for Livestock Insurance Program (easy/difficult);  $X_{10}$  - participation of farmers in the presence/absence of Livestock Insurance Program (participate/do not participate).

According to Hosmer & Lemeshow (2000), for testing the overall simultaneous influence of independent variables through the G-test statistic. The G-test is formulated as follows:

$$G = -2 \ln \left[ \frac{L_0}{L_1} \right]$$

Where:  $G$  - *maximum likelihood ratio* test;  $L_0$  - likelihood without explanatory variables (model consisting of only the constant);  $L_1$  - likelihood with explanatory variables (model consisting of all variables).

With the hypotheses used:

- $H_0: \beta_i = 0$ ;
- $H_1: \beta_i \neq 0$ .

The G-test follows a chi-square ( $X^2$ ) distribution with degrees of freedom  $p$ . Therefore, the testing procedure utilizes the statistical hypotheses:

- $H_0$  is rejected if the  $G_{\text{calculated}} < X_{k(p)}^2$ ;
- $H_1$  is rejected if the  $G_{\text{calculated}} \geq X_{k(p)}^2$ .

Meanwhile, for the partial test, the Wald test is used with the formula:

$$W_i = \frac{\beta_i}{SE_i}$$

Where:  $W$  - Wald test (partial);  $\beta_i$  - logistic regression coefficient value for variable  $i$ ;  $SE_i$  - standard error value for variable  $i$ .

With the hypotheses used:

- $H_0: \beta_i = 0$ ;
- $H_1: \beta_i \neq 0$ .

The Wald test follows a standard normal distribution, so the decision rule is as follows:

- $H_0$  is rejected if the  $|W_{\text{calculated}}| > Z_{\frac{\alpha}{2}}$ ;
- $H_1$  is rejected if the  $|W_{\text{calculated}}| \leq Z_{\frac{\alpha}{2}}$ .

The interpretation of the coefficients is based on the *odds ratio* (tendency ratio) coefficients defined as follows:

$$P_i = \frac{\text{Odds } 1}{\text{Odds } 2} = \frac{\frac{P_1}{1-P_1}}{\frac{P_2}{1-P_2}}$$

Where: Odds - the ratio of the tendency for an event to occur;  $P_i$  - the probability of occurrence ( $Y = 1$ );  $1-P_i$  - the probability of non-occurrence ( $Y = 0$ ).

## RESULTS AND DISCUSSION

Response can be interpreted as the result or impression obtained in responding to the



stages of someone's behavior in making a decision, drawing conclusions from information, and interpreting a message. According to Siswadi and Syakir (2016), the response given by farmers can serve as a reference for policymakers, particularly in developing programs for improvement. The response provided by farmers towards the implementation of the Livestock Insurance Program can be assessed based on several attributes inherent in the program. The farmers' response to the Livestock Insurance Program can be seen in Table 1.

Table 1 – Farmers' response to the Livestock Insurance Program for Cattle/Buffalo

Category	Percentage Range	Number of Respondents	Percentage (%)
Excellent	≥ 84	10	12
Good	68-83	35	45
Fair	52-67	13	16
Poor	36-51	22	27
Very Poor	≤ 35	0	0
Total		80	100
Average	69		

Source: Primary data processing, 2023.

Based on Table 1, the response of farmers to the Livestock Insurance Program for Cattle/Buffalo is predominantly categorized as "good," with 35 respondents (45%) falling into this category. The average response score of farmers towards the Livestock Insurance Program for Cattle/Buffalo is considered "good" with a percentage of 69%. The attributes inherent in the Livestock Insurance Program for Cattle/Buffalo refer to the guidelines of the program in 2021. Therefore, the response of farmers to the Livestock Insurance Program for Cattle/Buffalo in Pelaihari District is assessed using 15 indicators. The farmer's response based on the attributes inherent in the Livestock Insurance Program for Cattle/Buffalo can be seen in Table 2.

Table 2 – Farmer's Response Based on Indicators to the Livestock Insurance Program for Cattle/Buffalo

Indicator	Mean score	TRP (%)	Percentage of respondents in each category (%)	
			Baik	Tidak baik
Knowing about the Livestock Insurance Program for Cattle/Buffalo	4,21	84	80	20
Knowing the requirements to participate in the Livestock Insurance Program for Cattle/Buffalo	3,81	76	64	36
Knowing the procedures for obtaining the Livestock Insurance Program for Cattle/Buffalo	3,78	76	64	36
Knowing the process for claiming the Livestock Insurance Program for Cattle/Buffalo	3,75	75	51	49
Extension officers or agricultural field workers disseminate information about the Livestock Insurance Program for Cattle/Buffalo to farmers.	2,90	58	51	49
Ease of obtaining information about Livestock Insurance Program for Cattle/Buffalo	3,51	70	56	44
Ease of meeting the requirements to participate in Livestock Insurance Program for Cattle/Buffalo	3,38	68	56	44
Ease of the procedures for managing Livestock Insurance Program for Cattle/Buffalo	3,21	64	56	44
Ease of service provided by the officers in Livestock Insurance Program for Cattle/Buffalo	3,13	63	55	45
Ease of claiming compensation for livestock mortality	3,29	66	56	44
Ease of obtaining information about Livestock Insurance Program for Cattle/Buffalo	3,39	68	56	44
Ease of meeting the requirements to participate in Livestock Insurance Program for Cattle/Buffalo	4,09	82	76	24
Ease of the procedures for managing Livestock Insurance Program for Cattle/Buffalo	4,01	80	60	40
Ease of service provided by the officers in Livestock Insurance Program for Cattle/Buffalo	2,46	49	5	95
Ease of claiming compensation for livestock mortality	3,08	62	34	66

Source: Primary data processing, 2023.



The positive response of farmers in Kecamatan Pelaihari, Tanah Laut Regency towards the Livestock Insurance Program for Cattle/Buffalo (Asuransi Usaha Ternak Sapi/Kerbau) is driven by several factors. According to Table 2, one of the factors contributing to the positive response is the farmers' good perspective and knowledge regarding the program, specifically regarding the information about the program, the requirements to participate in the program, the procedures for managing the program, and the process of filing claims under the Livestock Insurance Program for Cattle/Buffalo.

Based on the research findings, the average score for the indicator "knowledge about the Livestock Insurance Program for Cattle/Buffalo" is 4.21, with a farmer response rate of 84%, indicating a good category. This is because nearly 80% of the respondent farmers have knowledge about the Livestock Insurance Program for Cattle/Buffalo, while only 20% of the respondent farmers have limited knowledge about the program. For the indicator "knowledge about the requirements to participate in the Livestock Insurance Program for Cattle/Buffalo," the average score is 3.81, with a farmer response rate of 76%, also indicating a good category. This is because 64% of the respondent farmers are aware of the requirements to participate in the Livestock Insurance Program for Cattle/Buffalo, while only 44% of the respondent farmers have limited knowledge about these requirements. Furthermore, for the indicator "knowledge about the procedures for managing the Livestock Insurance Program for Cattle/Buffalo," the average score is 3.78, with a farmer response rate of 76%, indicating a good category. This is because 64% of the respondent farmers are aware of the procedures for managing the program, while only 44% of the respondent farmers have limited knowledge about these procedures. For the indicator "knowledge about the procedures for claiming the Livestock Insurance Program for Cattle/Buffalo," the average score is 3.75, with a farmer response rate of 75%, indicating a good category. This is because only 51% of the respondent farmers are aware of the procedures for claiming the program, while nearly 49% of the respondent farmers have limited knowledge about these procedures.

The farmers' lack of knowledge about the Livestock Insurance Program for Cattle/Buffalo is due to their inadequate participation in the program's socialization activities conducted by extension officers or agricultural workers. As a result, farmers have limited understanding of important aspects such as program information, eligibility requirements, procedures for enrollment, and claiming processes related to the Livestock Insurance Program for Cattle/Buffalo.

Another contributing factor is the role of field facilitators or agricultural workers who actively carry out the socialization of the Livestock Insurance Program for Cattle/Buffalo. Based on the research findings, this indicator has an average score of 2.90 with a farmer response rate of 58%, indicating a suboptimal category. This is because only 51% of the respondent farmers believe that field facilitators or agricultural workers actively fulfill their role in conducting the socialization activities related to the Livestock Insurance Program for Cattle/Buffalo. As a result, farmers find it easy to obtain information related to the Livestock Insurance Program for Cattle/Buffalo. According to some farmers, active facilitators provide information about insurance and the benefits of the Livestock Insurance Program for Cattle/Buffalo, which helps farmers understand the program. As it is widely known, many farmers are unfamiliar with the concept of insurance and may even have negative perceptions towards it.

However, based on the research findings, nearly 49% of the respondent farmers mentioned the lack of active role from field facilitators or agricultural extension workers in conducting socialization activities related to the Livestock Insurance Program for Cattle/Buffalo. This is attributed to farmers not actively participating in the socialization events organized by the facilitators or extension workers, leading them to perceive that the facilitators are not actively promoting the Livestock Insurance Program for Cattle/Buffalo.

For other indicators such as ease of obtaining information about Livestock Insurance for Cattle/Buffalo and ease of meeting the requirements for participating in the program, the level of response from farmers falls under the good category. This is because the average score for the indicator of ease of obtaining information about Livestock Insurance for





Cattle/Buffalo is 3.51, with a response rate of 70% from farmers. This is because 56% of the respondent farmers consider it easy to obtain information about Livestock Insurance for Cattle/Buffalo, while 44% of the respondent farmers find it somewhat difficult to obtain information about Livestock Insurance for Cattle/Buffalo. The process of meeting the requirements is assisted by the group leader, the farmer group management committee, and field facilitators from the previous year's Livestock Insurance for Cattle/Buffalo program. Furthermore, for the indicator of ease of meeting the requirements for Livestock Insurance for Cattle/Buffalo, it has an average score of 3.38 with a farmer response rate of 68%. This is because 56% of the respondent farmers consider it easy to meet the requirements for Livestock Insurance for Cattle/Buffalo, while 44% of the respondent farmers find it somewhat difficult to meet the requirements for Livestock Insurance for Cattle/Buffalo.

For other indicators such as the ease of the procedure for managing Livestock Insurance for Cattle/Buffalo, the ease of service provided by the officers for Livestock Insurance for Cattle/Buffalo, and the ease of claiming compensation in the event of livestock death, the farmer response rate falls under the category of not good. This is because the average score for the indicator of ease of the procedure for managing Livestock Insurance for Cattle/Buffalo is 3.21, with a farmer response rate of 64%. This is because 56% of the surveyed farmers perceive the procedure for managing Livestock Insurance for Cattle/Buffalo as moderately easy, while 44% of the respondents find it somewhat difficult. The fulfillment of these requirements is facilitated by the chairman of the farmer group, the management of the farmer group (Gapoktan), and field extension workers involved in the previous year's Livestock Insurance for Cattle/Buffalo program. Additionally, for the indicator of ease of service provided by the officers for Livestock Insurance for Cattle/Buffalo, the average score is 3.13, with a farmer response rate of 63%. This is because 55% of the surveyed farmers perceive the ease of service provided by officers for Livestock Insurance for Cattle/Buffalo as moderately easy, while 45% of the respondents find it somewhat difficult. Regarding the indicator of ease of filing claims for compensation in the event of livestock death, the average score is 3.29, with a farmer response rate of 66%. This is because 56% of the surveyed farmers consider the process of filing claims for compensation in the event of livestock death to be moderately easy, while 44% of the respondents find it somewhat difficult.

The Livestock Insurance for Cattle/Buffalo indicator, which protects farmers from the risk of livestock death, supports national food security, and is perceived as beneficial for cattle/buffalo farming, falls under the category of good response rates. This is because the average score for the Livestock Insurance for Cattle/Buffalo indicator, which protects farmers from the risk of livestock death, is 3.39, with a farmer response rate of 68%. This is because 56% of the responding farmers believe that Livestock Insurance for Cattle/Buffalo protects farmers from the risk of livestock death, while 44% of the responding farmers say that the Livestock Insurance for Cattle/Buffalo program does not protect farmers from the risk of livestock death. Additionally, the indicator of Livestock Insurance for Cattle/Buffalo supporting national food security has an average score of 4.09, with a farmer response rate of 82%. This is because 76% of the responding farmers believe that the Livestock Insurance for Cattle/Buffalo program supports national food security, while 24% of the responding farmers say that the program does not support national food security. Additionally, the indicator of the Livestock Insurance for Cattle/Buffalo being perceived as beneficial for cattle/buffalo farming has an average score of 4.01, with a farmer response rate of 80%. This is because 60% of the responding farmers believe that the Livestock Insurance for Cattle/Buffalo program is beneficial for cattle/buffalo farming, while 40% of the responding farmers say that the program is not beneficial for cattle/buffalo farming. Almost all of the respondent farmers perceive the Livestock Insurance for Cattle/Buffalo program as beneficial because it aims to protect farmers from the risks associated with cattle mortality.

This is because the average score for the indicator of the Livestock Insurance for Cattle/Buffalo program's quick benefit acquisition period is 2.46, with a response rate of 49% from farmers, indicating that their interest in participating in the program continuously is categorized as not good. This is because 95% of the respondent farmers believe that, in terms of the speed of obtaining benefits from the Livestock Insurance for Cattle/Buffalo



program, almost all farmers consider it to be unaffordable. This is due to the lengthy process of filing claims for compensation in the event of livestock death, as well as the delayed payment of claims, which leads farmers to perceive the benefit acquisition process as inaccessible. Meanwhile, 5% of the respondent farmers stated that the Livestock Insurance for Cattle/Buffalo program has a very fast benefit acquisition period. In addition, for the indicator of interest in participating in the Livestock Insurance for Cattle/Buffalo program continuously, it has an average score of 3.08 with a response rate of 62% from the farmers. This is because 34% of the respondent farmers believe that their interest in participating in the Livestock Insurance for Cattle/Buffalo program continuously depends on the availability of the program from the Department of Agriculture, while 66% of the respondent farmers state that their interest in participating in the Livestock Insurance for Cattle/Buffalo program continuously is contingent on the existence of the program provided by the Department of Agriculture.

Based on the binary logistic regression analysis, the equation for the response to the Livestock Insurance for Cattle/Buffalo program in Pelaihari District, Tanah Laut Regency is obtained as follows:

$$\text{Logit } [P] = \ln \left[ \frac{P}{1-P} \right] = -6,404 + 0,246 X_1 + 0,490 X_2 + 0,183 X_3 + 0,071 X_4 + 1,005 X_5 + 0,448 X_6 + 0,713 X_7 + 1,572 X_8 + 2,405 X_9 + 0,132 X_{10}$$

The value of Y or the dependent factor in the above logit model indicates the response of farmers as either good or bad towards the Livestock Insurance for Cattle/Buffalo program, where 0 represents a negative response from farmers and 1 represents a positive response from farmers towards the program. The total sample size in this study is 80 individuals, consisting of 51 farmers who responded positively to the Livestock Insurance for Cattle/Buffalo program and 29 farmers who responded negatively to the program. The analysis of Logit for Farmers' Response to the Livestock Insurance for Cattle/Buffalo program in Pelaihari District, Tanah Laut Regency, can be seen in Table 3.

Table 3. The results of the Logit Analysis for Farmers' Response to the Livestock Insurance for Cattle/Buffalo program in Pelaihari District, Tanah Laut Regency

Predictor	Coef	SE Coef	Wald	Sig.	Odds Ratio
<i>Constant</i>	-6.404	1.806	12.576	.000	.002
Duration of education	.246	.135	3.345	.067**	1.280
Participation in farmer groups	.490	.777	.397	.529	1.632
Number of livestock raised	.183	.135	1.825	.177	1.200
Experience in cattle farming	.071	.059	1.433	.231	1.074
Active participation in Livestock Insurance for Cattle/Buffalo socialization programs	1.005	.744	1.825	.177	2.731
Risk of cattle mortality	.448	.691	.421	.516	1.566
Active involvement of field officers in livestock insurance socialization	.713	.670	1.132	.287	2.039
Ease of livestock insurance claim procedures	1.572	.724	4.715	.030*	4.816
Ease of livestock insurance registration procedures	2.405	.778	9.564	.002*	11.082
Farmer participation in the presence or absence of Livestock Insurance for Cattle/Buffalo programs.	.132	.877	.023	.881	1.141

Criteria for Simultaneous Tests (Model): *Chi-square* = 40,266 df = 10, sig. = 0,000  
*Nagelkerke R Square* = 0,542  
*Hosmer and Lemeshow Test*: *Chi-square* = 4,041; sig. = 0,853

Note: \* = Significant at a 5% level; \*\* = Significant at a 10% level.  
 Source: Primary data processing, 2023.

Before interpreting the coefficients used in the equation model above, the goodness-of-fit test is conducted to determine whether the model used fits the empirical data. In the case of the *Ordinary Least Square* (OLS) model, the simultaneous significance is tested using the F-test, while in logistic regression models, the Chi-Square value is used based on the difference between the *-2 log likelihood* before the independent variables enter the model and the *-2 log likelihood* after the independent variables enter the model. The test conducted is also known as *Maximum Likelihood* testing. Based on the analysis results using the



*Iteration History*, the value of  $-2 \log \text{likelihood}$  before the independent variables entered the model (104.775) >  $X^2_{table}$  (100.749) at the significance level  $\alpha = 5\%$ . This means that the model before including the independent variables still does not meet the test requirements. However, the value of  $2 \log \text{likelihood}$  after the independent variables entered the model (64.509) <  $X^2_{table}$  (89.391) at the significance level  $\alpha = 5\%$ . This means that the model after including the independent variables now meets the test requirements.

Based on the analysis results using *Omnibus Tests of Model Coefficients* on the G test, a *Chi-Square* value of 40.266 and a Sig. value smaller than  $\alpha = 5\%$  (0.050), namely 0.000 (Table 3), were obtained. This indicates that the factors in the independent variables collectively and simultaneously influence the dependent variable.

Next, to assess the ability of the independent variables to explain the dependent variable, the values of *Cox & Snell R Square* and *Nagelkerke R Square* were used. These values are also referred to as Pseudo R-Square or, in the case of OLS (*Ordinary Least Square*) models, commonly known as *R-Square*. Based on the test results, the Nagelkerke *R Square* value is 0.542 (Table 13). This indicates that 54.2% of farmers' responses to the Livestock Insurance Program for Cattle/Buffalo Business are determined by variables such as the farmers' level of formal education, their participation in farmer groups, the number of livestock they manage in their livestock business, their experience in cattle farming, their participation in the Livestock Insurance Program for Cattle/Buffalo, the risk of cattle mortality in the livestock business, the effectiveness of officers/counselors in promoting the Livestock Insurance Program for Cattle/Buffalo, the ease of claim procedures, the ease of registration procedures for the Livestock Insurance Program for Cattle/Buffalo, and the farmers' participation in the program (whether or not there is a Livestock Insurance Program for Cattle/Buffalo offered by relevant institutions). The remaining 45.8% is determined by factors outside the model or not included in the functional model.

In addition, the *Goodness of Fit test* (GoF) or the *Hosmer and Lemeshow Test* is used to determine whether the formed model is appropriate or not. It is considered appropriate if there is no significant difference between the model and the observed values. From the research results, the *Chi-Square* value of the *Hosmer and Lemeshow test* is 4.041 with a Sig. value of 0.853 (Table 3). Therefore, the Sig. value is greater (>) when compared to  $\alpha=5\%$  (0.050). This indicates that the model is acceptable, and there is no significant difference between the model and the observed values, allowing for further hypothesis testing.

Based on the partial testing (Wald test), it is shown that the factors significantly influencing farmers' responses to the Livestock Insurance Program for Cattle/Buffalo in Pelaihari Sub-district, Tanah Laut Regency are the farmers' level of education ( $X_1$ ) at  $\alpha = 10\%$  (Table 3), the ease of claim procedures for the Livestock Insurance Program for Cattle/Buffalo ( $X_8$ ), and the ease of registration procedures for the Livestock Insurance Program for Cattle/Buffalo ( $X_9$ ) at  $\alpha = 5\%$  (Table 3). Meanwhile, the factors that do not significantly influence farmers' responses to the Livestock Insurance Program for Cattle/Buffalo are the farmers' participation in farmer groups ( $X_2$ ), the number of livestock managed ( $X_3$ ), the duration of cattle farming experience ( $X_4$ ), the participation in the promotion of the Livestock Insurance Program for Cattle/Buffalo ( $X_5$ ), the risk of cattle mortality ( $X_6$ ), the effectiveness of officers/counselors in promoting the Livestock Insurance Program for Cattle/Buffalo ( $X_7$ ), and the farmers' participation in the program ( $X_{10}$ ) regardless of its availability.

## CONCLUSION

The scoring results per indicator indicate that overall, all questions were responded to positively by the farmers. However, there were three indicators that received poor responses, namely the role of agricultural extension agents in promoting the AUTSK program to farmers, the perceived slow processing time for AUTSK benefits, and the farmers' interest in participating in the AUTSK program. Based on the average score of farmers' responses to the AUTSK program in Pelaihari Sub-district, Tanah Laut Regency, it falls under the category





of good with a percentage of 69%. A good response implies that the implementation of the AUTSK program has effectively provided understanding and explanation of the program's benefits. As a result, farmers not only have knowledge but also comprehension of the program, leading them to willingly join and participate in the AUTSK program.

The factors of farmers' level of education, the ease of claim procedures for AUTSK, and the ease of registration procedures for AUTSK significantly influence farmers' responses to the AUTSK program in Tanah Laut Regency. On the other hand, factors such as farmers' participation in farmer groups, the number of livestock managed, the duration of cattle farming experience, the participation in the promotion of AUTSK, the risk of cattle mortality, the effectiveness of officers/counselors in promoting AUTSK, and farmers' participation in the program regardless of its availability do not significantly influence farmers' responses to the AUTSK program.

## **SUGGESTIONS**

Conducting education and training on the AUTSK program by the insurance service provider (PT JASINDO) for both officials in the department and field officers to ensure maximum results in the implementation of the AUTS/K program and its approach to the community.

The Animal Husbandry Department of Tanah Laut Regency, through its field officers, should be more proactive in conducting socialization, training (non-formal education), and mentoring for farmers regarding the procedures and benefits of participating in the AUTSK program. This is to increase farmers' interest in the AUTSK program and to encourage more farmers to participate in it.

There is a need for additional personnel, especially field officers, for the AUTSK program. This is necessary to ensure that the number of officers is in line with the vastness of the area and the distribution of farmers across various regions in Tanah Laut Regency.

With the positive response received, it is expected that the adoption of the AUTSK program will improve. Therefore, further research is needed to investigate the level of farmers' adoption/participation in the AUTSK program in Tanah Laut Regency.

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