ANALYSIS OF FARMERS' INSURANCE LITERACY IN ACEH BESAR DISTRICT, ACEH PROVINCE

Liston Siringo Ringo [1*], Hermanto Siregar [2], Nunung Kusnadi [3], Harianto [4], Bagio[5]

[1,5]Department of Agribusiness, Faculty of Agriculture,Universitas Teuku Umar, Aceh Barat, Aceh, Indonesia
[2] Department of Economics, Faculty of Economics and Management, IPB University, Bogor 16680, Indonesia
[3,4] Department of Agribusiness, Faculty of Economics and Management, IPB University, Bogor 16680, Indonesia
E-mail: listonsirngo@utu.ac.id[1*], hermantojsiregar@gmail.com, nunungkusnadi@yahoo.com, harianto.ipb@gmail.com

Abstract

Insurance literacy plays a crucial role in expanding farmers' access to insurance. Lack of understanding of insurance products and inability to process information prevent farmers from making the right decisions, which leads to low levels of insurance participation. This study aims to analyze the level of knowledge, attitudes, and behavior of farmers towards insurance and examine the factors that influence farmers' insurance literacy. Data were collected directly from 94 farmer households in four sub-districts in Aceh Besar Regency. This study measured farmers' insurance literacy using a questionnaire and then conducted a regression analysis using the ordinary least squares (OLS) method on variables suspected of influencing insurance literacy. The results of this study indicate that farmers' insurance literacy is sufficient literate. Variables such as gender, age, education level, and main occupation significantly affect farmers' understanding of insurance. The average scores of farmers' knowledge, attitudes, and practices towards insurance were 42.23, 71.36, and 46.28, respectively. Education has a significant impact on farmers' knowledge of insurance. This study suggests that the government and other stakeholders can carry out promotional activities, socialization and training periodically to increase insurance knowledge and awareness.

Keywords: *Insurance literacy scores, farming household, insurance education, multiple linear regression*

INTRODUCTION

The agricultural insurance program, which includes providing premium subsidies to participating farmers, is proof of the government's presence in protecting farmers. Agricultural insurance is a financing scheme to protect farmers from farming risks due to the climate change phenomenon through the payment of compensation claims they experience (Dodon & Sagala, 2015). Permen (2015) explains that agricultural insurance safeguards farmers against crop failure losses caused by natural disasters, plant pest attacks, infectious animal disease outbreaks, and/or the impact of climate change. Having agricultural insurance provides peace and certainty for farmers, allowing them to run their farming businesses sustainably.

Business risks in the agricultural sector are higher compared to non-agricultural businesses because natural factors greatly influence agricultural business activities, such as weather, pests, disease, drought, and floods (Sulili et al., 2021). Agricultural sector businesses, especially rice farming, face many and varied risks and uncertainties. The risks and uncertainties faced by agricultural sector businesses, particularly rice farming, include attacks by plant pest organisms (OPT), floods, and droughts resulting from the increasing impact of climate change (Sumaryanto & Nurmanaf, 2016). This necessitates the existence of an insurance institution.

Rice farming insurance in Indonesia, which is known as *Asuransi Usahatani Padi (AUTP)* is a risk transfer instrument in order to minimize the impacts faced so that the sustainability of farming can be guaranteed (Balcita, 2015; Kepmen, 2021; Pasaribu, 2010; Ramm et al., 2018). AUTP provides compensation to rice farmers. Agricultural Insurance products aim to protect low-income farmers from loss of income (Yildirim, 2017). Each risk should be given anticipatory action against more larger losses, also known as mitigation (Sijabat & Noor, 2020). The government offers subsidies for AUTP premiums, but the number of farmers participating in the AUTP program is still low. In almost all developing countries, farmer participation in agricultural insurance programs is low (Wang et al., 2015). Based on a study conducted by (Estiningtyas, 2015; Kawanish & Mimura, 2015; Prasetyo et al., 2019), indicates that numerous rice farmers do not participate in rice farming insurance. The

realization of the AUTP program carried out by the Ministry of Agriculture in Aceh Province in 2015–2019 was still very low, and the achievement in 2018 was 16.58 percent and only accessed by 3578 farmers participating in AUTP. The number of rice farming households in Aceh province was 407,397 (Badan Pusat Statistik, 2020). The percentage of farmers participating in AUTP compared to the number of food farmers in Aceh Province is 0.87 percent. These data indicate that AUTP accessibility in Aceh Province is still low. The results of research in Aceh Besar District, Aceh Province, show that more than 50 percent of farmers do not have good knowledge about the AUTP program (Fadhliani et al., 2019). Furthermore, these research results of Handayani et al. (2019) show that the majority of farmers are hesitant to continue participating in the AUTP program, and only a small number of farmers think that AUTP should be carried out every planting season. This will have an impact on the sustainability of participating in the AUTP program.

Generally, there are two perspectives regarding the limited demand for formal financial services. Firstly, the expense of formal financial services is considerable; secondly, there exists a deficiency in cognitive capabilities and financial literacy (Cole et al., 2011)Financial literacy, particularly in insurance, is crucial for enhancing farmers' access to insurance. Insufficient comprehension of insurance products and the incapacity to digest information hinder farmers from making educated decisions. Given the significance of insurance literacy in enhancing farmers' access to insurance, it is necessary to study further the condition of farmers' insurance literacy and what factors influence it.

LITERATURE REVIEW

Financial literacy does not necessarily equate to insurance literacy (Weedige et al., 2019). Research on insurance literacy remains significantly constrained. Insurance literacy comprises three primary components: (1) comprehending the nature of insurance and possessing knowledge of insurance products; (2) demonstrating a thorough understanding of the risks covered by the insurance policy; and (3) utilizing this knowledge to evaluate insurance options and make informed decisions (Lin et al., 2019). Insurance literacy refers to the acquisition of knowledge and competencies necessary for the selection and utilization of insurance services to enhance personal financial well-being (Weedige et al., 2019). According to an extensive examination of pertinent literature, insurance literacy encompasses the information, abilities, attitudes, and behaviors required for making informed insurance decisions (Sanjeewa and Hongbing 2019).

Research on insurance literacy among rice farmers has been limited. Relevant studies conducted include: financial literacy of rice farmers by Yarasevika (2016) in Garut and Tasikmalaya Regencies, Ainurrahma (2019) in Kendal Regency, and Widhiyanto et al. (2018) in Central Java. Anwar et al. (2020) and Yuwono et al. (2018) investigated the financial literacy of farmers engaged in food crops and horticulture. Numerous research have been conducted on diverse populations across several countries to enhance understanding of financial literacy. The investigations encompass those conducted by Akmal & Saputra (2016), Bağci & Kahraman (2020), Chen & Volpe (1998), Cole et al. (2011), Lusardi et al. (2009), Otoritas Jasa Keuangan (2016), Sreelakshmi (2017), Wagner (2015), and Yeboah & Obeng (2016). Factors such as age, gender, educational attainment, income, and proximity to a bank have been identified in prior research as influencing insurance literacy (Bucher-Koenen et al. 2017; Cupák et al., 2018; Finke et al., 2017; Lin et al., 2018; Lusardi, 2019; Weedige et al., 2019; Widhiyanto et al., 2018). This study's originality is in its focus on farmer insurance literacy, specifically assessing the level of such literacy among farmers in Aceh Province. Based on the background and formulation of the problem that has been described, this study aims to analyze the level of farmer insurance literacy in Aceh Province and the variables that influence it.

METHOD

Study area.

This research was conducted in Aceh Besar Regency, Aceh Province. Aceh Province is one of the rice production centers in Indonesia with rice productivity exceeding the national average. Rice farming in Aceh Province is very vulnerable to crop failure because it is prone to flooding and drought. On the other hand, the proportion of farmers who utilize rice agricultural insurance is very minimal. This research was conducted from October 2022 to December 2022.

Data Selection and Collection.

The type of data used in this research is cross-sectional data. We obtained primary data by conducting a survey at the farmer level using a structured questionnaire and conducting direct interviews with respondents, specifically rice farmers in Aceh Besar Regency, Aceh Province. We used multistage purposive sampling as the

sampling method, adapting the characteristics of the population elements to the problem and research objectives. The first stage used Aceh Besar Regency as a research sample. The second stage involves determining the four selected sub-districts: Suka Makmur, Kuta Cot Glie, Indrapuri, and Lhoong. The third stage involves selecting one village from each subdistrict. The fourth stage entails selecting respondents from farmer groups. There were 120 questionnaires distributed to respondents..

Data Analysis.

Initially, we compiled tabulations for variables that encompassed the socio-economic characteristics of the respondents such as age, gender, education level, main occupation, land area and farming experience.This aims to provide background information that can add to the discussion of the results of the econometric analysis carried out (Siregar 2016). The next stage of this research was to carry out multiple regression analyses of the factors that influence farmers' insurance literacy scores. This research uses the farmers insurance literacy score as the dependent variable, and uses gender, age of the farmer, length of education, main occupation, account ownership, total annual income, and distance from the farming location to financial institutions as the independent variables. The insurance literacy value of farmers is calculated by dividing the number of correct answers by the total number of questions in the questionnaire multiplied by one hundred percent. Insurance literacy score = (insurance knowledge score + insurance attitude score + insurance behavior score)/3. The insurance literacy score of farmers is divided into four categories (OJK 2013), namely: well literate (76-100), sufficient literate (51-75), less literate (26-50), and not literate (0-25). This research uses the farmers insurance literacy score as the dependent variable and uses gender, age, length of education, main occupation, bank account ownership, total annual income, and distance from the farming location to financial institutions as the independent variables. This study uses multiple linear regression and tobit regression. Then, the regression analysis is conducted by using the ordinary least squares (OLS) method. The classical assumption test used inthis study includes normality, heteroscedasticity and multicollinearity tests. We use the following equation model (1) in our research:

$$NLAP = a_0 + a_1 JKEL + a_2 USIA + a_3 LWPF + a_4 PKUT + a_5 PREK + a_6 JPEN + a_7 JKLB + U_i$$

Where: $a0$ = Intercept (constant), $a1$-$a7$= Regression coefficient of each variable, U1 = Error term NLAP = Farmer insurance literacy value (value ranges from 0-100), JKEL = Gender (male = 1, other = 0), USIA = Farmer's age (years), LWPF = Length of formal education (years), PKUT = Main occupation (farmer = 1, others = 0), PREK = Account ownership (account ownership = 1, others = 0), JPEN = Total annual income (millions of rupiah), JLKB = Distance of farming location to financial institutions (km)

RESULTS AND DISCUSSION

Respondent Characteristics.

The socio-economic characteristics of the respondents described in this discussion consist of age, gender, education level, main occupation, land area, and farming experience. Table 1 displays the distribution of respondents.

Table 1. Demographic Characteristics of Respondents

Characteristics of respondents	Category	Percentage
Age	Productive (15-59 year)	93.62
	Elderly (> 59 year old)	6.38
Gender	Man	56.38
	Women	43.62
Education Level	Elementary school	3.19
	Junior High School	11.70
	Senior High School	43.62
	Diploma	14.89
	Bachelor	26.60
Main Occupation	Farmer	67.02

	Other	32.98
Land Area	Narrow < 0,5 Ha	27.66
	Medium 0,5 – 1 Ha	58.51
	Wide >1 Ha	13.83
Farming Experience	1-5 Year	3,18
	6-10 Year	14,01
	>10 Year	82,80

Source: primary data (processed)

Most respondents were farmers of productive age, specifically 69.43 percent, as seen in Table1. The youngest respondent was 30 years old, and the oldest was 61 years old. In general, someone who is in the productive age range is able to earn more income than someone who is not in the productive age range. A physically productive age still has quite a large potential for producing goods and services. The age factor is an indicator of farming success. Farmers who are of a productive age tend to earn higher profits and are also more open to accepting change. It follows the finding of Alassaf et al. (2011) that farmers' age, as one of the socioeconomic factors, posed a positive relationship with their decision to continue farming. Productive-age farmers performed better than non-productive-age ones. Furthermore, age could serve as a benchmark to determine farmers' activity.

The study found that 56.38 percent of the respondents were male, while 43.62 percent were female. These findings reveal that men conduct the majority of rice farming activities in Aceh Besar Regency. The female respondents represented families where their husbands worked in various sectors, such as fishing, trading, and craftsmanship, while they themselves managed the farming companies. The education duration variable represents the length of time that the respondent spent in formal education. Most of the respondents' formal education qualifications were still at the Senior High School level, namely 43.62 percent (41 people), while the least number of respondents who had formal education reached the tertiary level was 41.49 percent (39 people). A person's level of education can indirectly influence their mindset and ability to make decisions about running a farming business. According to empirical evidence, education increases agricultural productivity for users of modern technology (Fatmawati et al. 2018).

Based on respondents' source of livelihood or main occupation, it is known that 67.02percent are farmers, while 32.98percent are not farmers. We can identify the main ccupation by the amount of time we dedicate to a particular field of work or the highest income we earn from it. Respondents whose main occupation is not farming hold jobs such as traders, laborers, fishermen, and entrepreneurs. Table 1 indicates that farming activities account for more than half of the respondents' primary income. If the output or production is good, farmers will make a profit. On the other hand, when the harvest fails, farmers will suffer losses. Farmers who have rice farming insurance can offset some of the losses they experience due to crop failures. This is a significant issue, and it is imperative to ascertain the extent of insurance literacy among farmers and the factors that contribute to it.

The majority of farmers have narrow land, namely less than 0.5 ha, as much as 27.66 percent, while 58.51 percent of farmers have land with an area of 0.5 ha–1 ha. This proves that rice farmers in Indonesia are small or narrow farmers. Land is capital or a valuable asset for farmers, where land is one of the determining factors in the production process. Soekartawi, (1999) asserts that the size of the land determines the extent of farming operations. Of course, the size of the cultivated farming land will influence the increase in production and household income from agricultural products. Each respondent has different farming experience. We calculate the respondent's farming experience from the time they started farming. The number of respondents who had 1–5 years of experience was 3.18 percent, 6–10 years of experience was 14.01 percent, and more than 10 years of experience was 82.80 percent. Farmers with more experience have the ability to manage risk better (Akinola 2014; Mohammed and Ortmann 2005)

According to Table 2, the average insurance literacy score among farmers in the research area is 37.63 percent. At the research site, 48.41 percent of respondents were less literate. Respondents with this level of literacy have an extremely limited understanding of insurance. They may have heard of the concept of insurance but lack in-depth knowledge of how it works or how to choose the right policy. They may understand some basic terms, but they may still be confused about more complex terms or the differences between types of policies. Around 29.94 percent of farmers fall into the sufficiently literate category. Respondents with this level of literacy indicate that they have a sufficient understanding of insurance to make well-informed decisions about policies that suit their needs. They may understand basic types of insurance, such as health, life, and property insurance, as well as

common terms like premiums and benefits. They may also know how to file basic claims and understand the importance of timely premium payments.

None of the respondents at the research location fell into the not-literate and well-literate category. Respondents with this level not-literate, describe those who do not understand or have any knowledge about insurance. Individuals in this category may not understand what insurance is, how it works, or even why having insurance coverage is important. They may not know what types of insurance policies are available or how to file an insurance claim if necessary. Individuals with well-literate categories routinely manage family risks and have insurance policies, such as agricultural insurance policies, to protect themselves from the risk of loss due to crop failure. Individuals in this category have a substantial understanding of insurance. They may understand the various types of insurance policies available, as well as additional policies that can increase the scope of protection. They may also understand more complex concepts, such as cash value in life insurance policies or risk assessment methods in property insurance. Individuals have the ability to assess and contrast many plans and select the one that most effectively aligns with their specific requirements and financial resources. Additionally, they may be able to give others beneficial advice about insurance.

Table 2. Farmers' Insurance Literacy Level

Level	Percentage
Not-literate	0.00
Less-literate	34.04
Sufficient-literate	65.96
Well-literate	0.00

Source: primary data (processed)

The overall farmer insurance literacy score stands at 53.29, indicating a level of literacy among the respondents sufficient literate. Analysis of the most dominant dimensions of insurance literacy, when seen from the three dimensions of insurance literacy in Table 3, shows that the insurance attitude score makes the largest contribution to the farmers' insurance literacy score, namely 71.36. Meanwhile, the average farmer insurance knowledge score is 42.23, and the average insurance behavior score is 46.28.

Table 3. Components of Farmer Insurance Literacy

Indicator	Average
Insurance Knowledge	42.23
Insurance Attitude	71.36
Insurance Behavior	46.28

Source: primary data (processed)

Factors Affecting Farmers' Insurance Literacy

According to the Adjusted R-squared value and the quantity of significant independent variables, model equation 2 is the superior model among the available alternatives. Table 5 presents the estimates from various linear regression models aimed at determining the factors that affect farmers' insurance literacy. The regression comprises 94 observations. The F value (7.86) = 24.90 signifies that the number of variables examined is (9-1), and the number of observations minus the number of variables is 86 (94-8). The probability value > F = 0.0000 is below α (α = 5 percent), indicating that the independent factors together exert a statistically significant influence on the insurance literacy value. The independent factors in the regression model account for 64.27 percent of the variance in the farmer's insurance literacy value, but other excluded variables account for the remaining 35.73 percent, as indicated by the adjusted R-squared value of 0.6427.

Gender.

According to Tabel 5, the gender dummy variable (JKEL) has a positive effect on farmers' insurance literacy, an estimated coefficient of 3.903084 at the 1 percent significance level. The coefficient of the gender variable has a positive sign, indicating that women respondents are less literate than male.This shows that a person's level of financial literacy is influenced by their gender. The findings of this study differ from the results of previous studies (Kutner et al., 2006; McCormack et al., 2009; Politi et al., 2014; Yap & Kimiyaghalam, 2017). There is no clear difference in the level of financial literacy between men and women.

Tabel 5. Results of a multiple linear model estimation of variables that influence farmers' insurance literacy scores

Variabel	Coefficient	Std. Error	t Statistics	Significance
Gender	3.903084	1.127591	3.46	0.001
Age	-0.3797438	0.0723079	-5.25	0.000
Education Level	2.075757	0.2081203	9.97	0.000
Main occupation	-2.388431	1.111958	-2.15	0.035
Bank account	-0.5020766	1.573666	-0.32	0.750
Farm location	-0.0057159	0.0535308	-0.11	0.915
Income	. -0.0376563	0.0298258	-1.26	0.210
_cons	46.51662	5.051405	9.21	0.000

Number of obs = 94; F(7, 86) = 24.90; Prob > F = 0.0000
R-squared = 0.6696; Adj R-squared = 0.6427; Root MSE = 4.68

The classical assumption test was performed to verify that the regression model satisfies the criteria for being a BLUE (Best Linear Unbiased Estimator) model. The conducted tests comprise normality tests, heteroscedasticity tests, and multicollinearity tests (Table 6). Meanwhile, the autocorrelation test was not performed due to the cross-sectional nature of the data utilised. The normality test findings indicated a Kolmogorov-Smirnov p-value of 0.482, exceeding 0.05, therefore confirming that the residuals were normally distributed. The heteroscedasticity assessment employed the Breusch-Pagan test, yielding a probability value of 0.235, which exceeded 0.05. This indicates that the model satisfies the homoscedasticity assumption. The multicollinearity assessment was performed using VIF analysis, revealing all values below 5, hence confirming the model's adherence to the non-multicollinearity assumption. The constructed regression model adheres to the basic OLS assumptions and is appropriate for examining the influence of independent variables on insurance literacy.

Table 6 Classic assumption test results

Type Test	Indicator	Value
Normality test (Kolmogorov-Smirnov test)	Probability value	0.482
Heteroscedasticity (Breusch-Pagan)	Prob> Chi^2	0.235
Multicollinearity (VIF test)	Mean VIF	1.340

The results of the estimation utilising Tobit regression are presented in Table 7. Upon comparing the outcomes of multiple regression and Tobit regression, it is evident that both yield nearly identical values. No substantial difference was observed in the coefficient, t value, or p>|t|.

Table 7. Results of Tobit regression model estimation of variables that influence farmers' insurance literacy scores

Variable	Coefficient	Std. Error	t Statistics	Significance
Gender	3.921063	1.084887	3.61	0.001
Age	-0.3815348	.0695776	-5.48	0.000
Education Level	2.117344	.2028217	10.44	0.000
Main occupation	-2.390394	1.069757	-2.23	0.028
Bank account	-.3450956	1.518865	-0.23	0.821
Farm location	0.0024842	.0518933	0.05	0.962
Income	-0.0403702	.0287715	-1.40	0.164
_cons	45.90236	4.883157	9.40	0.000

Number of obs = 94 ; LR Chi^2(7)= 105.25; Prob> Chi^2=0.0000
Log likelihood=--272.57634 ; Pseudo R^2=0.1618

Age.

The age variable (USIA) has a negative effect on farmers' insurance literacy, with an estimated coefficient of -0.3797438 at the 1 percent significance level. This shows that the younger the respondent, the more likely they are to have better insurance literacy. The youngest respondent's age was 26 years, and the oldest was 76 years. The younger generation (under 50 years old) has a greater capacity to access a larger amount of information over the internet due to their heightened familiarity with contemporary electronic equipment. The findings of this study are in line with the results of studies (Insurance Authority 2022; Akoto et al. 2017). Respondents aged above 60 years have lower knowledge about insurance compared to other age groups (Insurance Authority (2022). The level of financial literacy of cocoa farmers in Ghana is also related to age and education level (Akoto et al. 2017).

Education Level.

The variable representing the duration of the respondent's formal education (LWPF) has a favorable impact on farmers' knowledge and understanding of insurance, with an estimated coefficient of 2.075757 at a significance level of 1 percent. The higher a person's education, the more likely he or she will have better insurance literacy. This finding is in accordance with research results (Aggarwal et al., 2014; Akoto et al., 2017; Anwar et al., 2020; Insurance Authority, 2022; Yap & Kimiyaghalam, 2017). The level of financial literacy of farmers increases along with their level of education (Akoto et al., 2017; Anwar et al., 2020). A low level of education are associated with low levels of financial literacy(Yap & Kimiyaghalam, 2017). There is a positive correlation between insurance literacy and education (Insurance Authority, 2022).

Main Occupation.

The main occupation dummy variable (PKUT) a negative effect on farmers' insurance literacy, with an estimated coefficient of -2.388431 at the 5 percent significance level. A coefficient with a negative sign indicates that respondents whose main occupation is farming tend to have lower insurance literacy scores. The primary nature of the job and the work setting will have an impact on the data acquired. Rice field farmers will receive less information compared to traders. Agricultural workers engaged in rice cultivation primarily interact with the soil, plants, pests, and other farmers. Conversely, those who have frequent interactions with a diverse range of people will have greater access to a wider array of knowledge. This study differs from the research results of Widhiyanto et al. (2018) who found no significant influence of main job on financial literacy.

Bank Account Ownership.

The dummy variable of account ownership (PREK) has no a significant effect on farmers' insurance literacy. The results of the study differ from previous studies (Widhiyanto et al., 2018). Having a bank account has become an important prerequisite for individuals to carry out routine financial transactions. Bank account holders have the opportunity to access information about various banking goods or services, which can improve their understanding of insurance.

Farming Location.

The variable distance to farming location (JKLB) has no significant effect on farmers' insurance literacy. The results of this study differ from the results of previous studies (Widhiyanto et al., 2018). The further the distance, the lower the level of financial literacy of respondents. The district capital is a location that is the center of information, economy, government, and education. Therefore, the location of the district capital affects the financial literacy index.

Income.

The income variable (JPEN) has no significant effect on farmers' insurance literacy. People with higher incomes generally have better financial literacy. This is in line with the research results of Insurance Authority (2022), McCormack et al. (2009). McCormack et al. (2009) said that those with low incomes also had lower health insurance literacy. Furthermore, the Insurance Authority (2022) reports a positive correlation between insurance literacy and income.

CONCLUSION

The majority of farmers in the research location are classified as sufficient literate, namely 65.96 percent (62 respondents). The insurance attitude score has the greatest impact on farmers' insurance literacy scores. Farmers have a 71.36average insurance attitude score, while the average insurance knowledge score of farmers is 42.23, and the average value of farmers' insurance behaviour score is 46.28. The variables of gender, age, education level, and main occupation influence the farmers insurance literacy level.

This research recommends that the government should support and facilitate the increase of farmers' insurance literacy to ensure the effectiveness and achievement of rice farming insurance program. Academics and practitioners in the insurance sector can enhance farmers' insurance knowledge by regularly providing outreach, education, training, and workshops, thereby increasing farmers' awareness of insurance and its products. The Indonesian Financial Services Authority (OJK) collaborates with entities involved in financial sector operations to provide farmers with information about their respective roles and tasks.

REFERENCES

Aggarwal, N., Gupta, M., & Singh, S. (2014). Financial Literacy among Farmers: Empirical Evidence from Punjab. *Pacific Business Review International*, *6*(7), 36–42. http://www.pbr.co.in/2014/2014_month/jan/4.pdf

Akoto, G. O., Appiah, K. O., & Turkson, J. K. (2017). Financial literacy of cocoa farmers in Ghana. *International Journal of Accounting and Finance*, *7*(1), 11. https://doi.org/10.1504/ijaf.2017.083928

Anwar, A. I., Putri, R., & Sabir, S. (2020). Analisis Faktor-Faktor Yang Mempengaruhi Literasi Keuangan Pada Petani Tanaman Pangan dan Holtikultura di Kabupaten Maros Sulawesi Selatan. *E-Journal Ekonomi Bisnis Dan Akuntansi*, *7*(2), 125. https://doi.org/10.19184/ejeba.v7i2.18898

Badan Pusat Statistik. (2020). *Provinsi Aceh dalam Angka 2020*. Badan Pusat Statistik Provinsi Aceh.

Balcita, G. . (2015). *Determinants of farmers' demand for rice crop insurance in the Ilocos Region, Philippines* [Nagoya University]. https://doi.org/10.13140/RG.2.1.2646.6003

Cole, S., Sampson, T., & Zia, B. (2011). Prices or Knowledge? What Drives Demand for Financial Services in Emerging Markets? *Journal of Finance*, *66*(6), 1933–1967. https://doi.org/10.1111/j.1540-6261.2011.01696.x

Dodon, & Sagala, S. A. H. (2015). Asuransi pertanian untuk meningkatkan ketahanan ekonomi masyarakat petani dalam menghadapi perubahan iklim. *J. Perenc Wil Dan Kota*, *4*(1), 57–63.

Estiningtyas, W. (2015). Asuransi Pertanian Berbasis Indeks Iklim: Opsi Pemberdayaan dan Perlindungan Petani Terhadap Risiko Iklim. *Jurnal Sumberdaya Lahan Vol.*, *9*(1), 51–64.

Fadhliani, Z., Yustika, E., Nugroho, A., & Hamid, A. H. (2019). Farmers' knowledge, perceptions, and participation on the implementation of crop insurance program in Aceh Besar. *IOP Conference Series: Earth and Environmental Science*, *273*(1), 0–9. https://doi.org/10.1088/1755-1315/273/1/012062

Handayani, C. P., Kasimin, S., & Fajri, F. (2019). Analisis Faktor-Faktor Yang Mempengaruhi Tingkat Partisipasi Dan Keberhasilan Program Asuransi Usaha Tani Padi (Autp) Di Kabupaten Aceh Besar. *Agrifo : Jurnal Agribisnis Universitas Malikussaleh*, *4*(1), 7. https://doi.org/10.29103/ag.v4i1.1536

Insurance Authority. (2022). *Report on Insurance Literacy Tracking Survey In Hongkong 2021* (Issue 3608).

Kawanish, M., & Mimura, N. (2015). Assessment of insurance for paddy production: a case study in Indonesia. *Clim Dev*, *7*(3), 257–266. https://doi.org/10.1080/17565529.2014.951022

Kepmen. (2021). *Keputusan Menteri Pertanian Republik Indonesia Nomor 01 Tentang Pedoman Bantuan Premi Asuransi Usaha Tani Padi Tahun 2021*.

Kutner, M., E., G., Jin, Y., & Paulsen, C. (2006). The health literacy of America's adults: results from the 2003 National Assessment of Adult Literacy. *Education*, *6*, 1–59.

Lin, X., Bruhn, A., & William, J. (2019). Extending financial literacy to insurance literacy: a survey approach. *Accounting and Finance*, *59*(1), 685–713. https://doi.org/10.1111/acfi.12353

McCormack, L., Bann, C., Uhrig, J., Berkman, N., & Rudd, R. (2009). Health insurance literacy of older adults. *J Consum Aff*, *43*(2), 223–248. https://doi.org/10.1111/j.17456606.2009.01138.x

Pasaribu, S. M. (2010). Developing rice farm insurance in Indonesia. *Agriculture and Agricultural Science Procedia*, *1*, 33–41. https://doi.org/10.1016/j.aaspro.2010.09.005

Politi, M. C. ., Kaphingst, K. A. ., Kreuter, M., Shacham, E., Lovell, M. C. ., & McBride, T. (2014). Knowledge of health insurance terminology and details among the uninsured. *Medical Care Research and Review*. https://doi.org/10.1177/1077558713505327

Prasetyo, K., Fariyanti, A., & Suharno. (2019). Faktor Sosial Ekonomi Yang Mempengaruhi Keputusan Petani Mengikuti Program Asuransi Usahatani Padi (Autp) Socio-Economic Factors Affecting Farmers' Decisions To Join the Rice Farm Insurance (Autp) Program. *Jurnal AgribiSains ISSN*, *5*(1), 1–12.

Ramm, G., Balogun, K., Range, M., & Souvignet, M. (2018). *Integrating Insurance into Climate Risk Management: Conceptual Framework, Tools and Guiding Questions: Examples from the Agricultural Sector*. https://climate-insurance.org/wp-content/uploads/2020/05/RZ_DigiToolbox_190507-2.pdf

Sijabat, N. A., & Noor, T. I. (2020). Strategi Mitigasi Terhadap Risiko Petani Menghadapi Alih Fungsi Lahan (Kelurahan Setianegara, Kecamatan Cibeureum, Kota Tasikmalaya, Jawa Barat). *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis*, *6*(2). https://doi.org/https://doi.org/10.25157/ma.v6i2.3306

Sulili, A., Summase, I., Rukmana, D., Diansari, P., Arwinia, P. C., Indrastuti, & Muhardi. (2021). Production risk and income risk analysis of rice farming. *IOP Conference Series: Earth and Environmental Science*, *681*(1). https://doi.org/10.1088/1755-1315/681/1/012102

Sumaryanto, N., & Nurmanaf, A. R. (2016). Simpul-Simpul Strategis Pengembangan Asuransi Pertanian untuk Usahatani Padi di Indonesia. *Forum Penelitian Agro Ekonomi*, *25*(2), 89.

https://doi.org/10.21082/fae.v25n2.2007.89-103

Wang, M., Tao, Y., & Peijun, S. (2015). Factors Affecting Farmers Crop Insurance Participation in China. *Canadian Journal of Agricultural Economics*, *64*(3), 479–492.

Weedige, S. S., Ouyang, H., Gao, Y., & Liu, Y. (2019). Decision making in personal insurance: Impact of insurance literacy. *Sustainability*. https://www.mdpi.com/2071-1050/11/23/6795

Yap, S., & Kimiyaghalam, F. (2017). Level of Financial Literacy in Malaysia. *International Journal of Research*, *4*(7), 1065–1075. https://lens.org/086-455-747-375-283

Yarasevika, S. (2016). *Evaluasi Tingkat Literasi Keuangan Petani Padi Dan Hortikultura Di Kabupaten Tasikmalaya Dan Garut*. https://repository.ipb.ac.id/handle/123456789/86382