Journal Agrisep: Kajian Sosial Ekonomi dan Agribisnis. 23 (02): 501-528 (2024)

AGRISEP: Journal Of Agricultural Socio-Economic and Agribusiness Studies

https://ejournal.unib.ac.id/agrisep/index

DOI: 10.31186/jagrisep.23.02.501-528

THE INFLUENCE OF ATTITUDE ON FARMERS' DECISION-MAKING PROCESS IN USING CERTIFIED QUALITY SEEDS IN HILLY AREAS

Asih Sri Wulandari[1)]; Dewi Kurniati[2)] *; Maswadi[3)]

[1),2),3)] *Master of Agribusiness, Faculty of Agriculture, Tanjungpura University, West Kalimantan, Indonesia*

*Corresponding Author: dewi.kurniati@faperta.untan.ac.id

ABSTRACT

The use of certified quality seeds is critical to increasing agricultural productivity. However, its use still needs to be improved in Bengkayang Regency, especially in hilly areas that pose unique challenges to agricultural practices. This study analyzed the influence of farmers' attitudes on their decision to use certified quality seed in the region. The research method used a mixed approach, combining descriptive analysis to collect data through a comprehensive questionnaire from farmers who have and have not used certified quality seeds. The sample consisted of 111 farmers in the Bengkayang district, representing a wide range of farming backgrounds and experiences. Fishbein's multi-attribute analysis and structural equation modeling (SEM) were used for in-depth data analysis, which provided vital insights into the factors influencing farmers' decisions. The results showed that farmers positively evaluated several attributes of certified quality seed, indicating confidence in its reliability, yield potential, and relevance to local conditions. These positive attitudes are mainly driven by agricultural motivation, perceived economic benefits, and careful decision evaluation. It is important to note that effective, cognitive, and cognitive attitudes jointly influence farmers' decision-making in selecting certified quality seed, indicating the complexity of the adoption process involving emotional, rational, and behavioral aspects. The results of this study provide valuable information for rice farmers and policymakers at the government level to design

* Submitted: December 15th, 2023
Accepted : September 2nd, 2024

effective strategies to increase the use of quality seeds. Recommendations are developing targeted extension programs, improving access to quality seeds, and implementing incentives to encourage wider adoption among farmers in Bengkayang Regency.

Keyword: Attitude, Certified Superior Seeds, Decision

***Cite as*:**
Wulandari, A. S., Kurniati, D., & Maswadi. (2024). The Influence Of Attitude On Farmers' Decision-Making Process In Using Certified Quality Seeds In Hilly Areas. Jurnal AGRISEP: Kajian Masalah Sosial Ekonomi Pertanian Dan Agribisnis, 23(02), 501–528. https://doi.org/10.31186/jagrisep.23.02.501-528

INTRODUCTION

The ongoing era of globalization poses significant challenges to the agricultural sector, prompting farmers to improve the quality and productivity of crop yields. One of the strategies introduced to achieve this goal is the use of certified high-quality seeds. However, in Bengkayang, the use of quality seeds still needs to be improved to the optimal level expected. Certified superior seeds play a crucial role in improving agricultural productivity and food security in a region. In this context, Bengkayang district, as one of the rice production centers in West Kalimantan, is the focus of the study to understand the extent to which farmers in different sub-districts adopt certified superior rice seeds.

UPTPSB Kalbar certification data and Simluhtan 2022 data show that the use of superior certified seeds in different sub-districts in Bengkayang Regency shows exciting variations. Teriak sub-district, with a large agricultural area of 1,263.98 ha, shows a high commitment to using superior rice seed with an average area under cultivation of 30.7 ha. In the Sungai Betung sub-district, despite having a more limited land area of 732.55 ha, efforts to focus on superior rice seeds are evident from the average breeding area of 8.1 ha. This analysis illustrates the potential and commitment of various sub-districts to contribute to the use of certified superior rice seeds and the development of the agricultural sector in Bengkayang Regency. In addition, analyzing the availability of superior rice seeds compared to the seed demand in Bengkayang Regency also provides essential information.

Based on the data on seed production and demand in 2022, it can be seen that the availability of seeds relative to their seed demand varies in each sub-district, with the percentage of availability of superior rice seeds in Teriak around 2.43%, in Sungai Betung around 1.11%, in Ledo around 1.14%, and in Lumar around 4.73%. Despite the availability of certified superior seeds, which have better quality and productivity, their use appears uneven in some sub-districts. This is reflected in the data on seed production and demand in 2022, where the percentage of availability of superior rice seeds is relatively low in some sub-

districts, such as in Sungai Betung, with a percentage of around 1.11%, and in Ledo, around 1.14%.

From the total planting area in Bengkayang District, which is 10,891.91 ha, and the certified superior seed planting area of 1,925 ha, we can see that the circulation of certified superior seeds in Bengkayang District does not reach 20% or about 17.67%. The remaining 82.33% is still dominated by local seeds (UPTPSB, 2021).

Bengkayang Regency, located in the northern part of West Kalimantan, has two main geographical conditions: coastal and inland areas with hills. This region is one of the centers of rice production in West Kalimantan Province, considered significant in rice production, with a rice field area of 10,513 hectares and a production output of 26,400.73 tons (BPS, 2022).

The government has initiated several programs to ensure the availability of seeds to farmers. However, the use of certified high-quality seeds in West Kalimantan, especially in Bengkayang Regency, has been declining yearly. This decline could be due to various factors, including low farmer awareness, inadequate availability, limited technical knowledge, lack of support, and economic and social barriers. This research is important because certified high-quality seed is critical to improving agricultural productivity, food security, and farmer welfare. Understanding the factors contributing to the decline in the use of certified seed is essential to developing effective strategies to address this issue. The results of this study will provide valuable insights for policy makers and other stakeholders in designing targeted interventions. This will contribute to improving farming practices, food production, and the resilience of the agricultural sector in the face of challenges such as climate change and population growth.

A study by Aisyah et al. (2020) reported that government programs such as the Desa Mandiri Benih program have positively contributed to the availability of certified improved seeds to farmers. The study suggests that intensive information and education of farmers on the benefits and use of certified seeds can increase farmers' awareness and preference for quality seeds. The importance of continued technical support and mentoring from government and agricultural institutions to ensure accessibility and successful implementation of certified seed programs at the local level. These programs have been implemented, but there are still obstacles, including the fact that what has been promoted and planned by the government still needs to be improved and sometimes even stagnates. For this reason, in-depth analysis and cooperation between the government, agricultural institutions, and farming communities are needed to overcome these obstacles and increase the consistency of certified superior seeds.

Understanding how farmers' attitudes and decision-making processes influence their choice of certified improved seed is important. Farmers' attitudes

are an important determinant of their behavior in choosing quality seeds, while the decision-making process involves several steps that need to be better understood.

This study aims to assess the factors influencing farmers' adoption of certified improved seeds, focusing on their attitudes and decision-making processes. The study will identify key drivers of adoption, analyze the influence of farmers' attitudes on seed selection, and examine the stages of farmers' decision-making, considering geographical conditions and specific agricultural needs. The study will also evaluate the effectiveness of existing adoption strategies and formulate more appropriate recommendations. It is expected that an in-depth understanding of farmers' attitudes, decision-making processes, and contextual factors will enable the development of effective approaches to increase the adoption of certified improved seeds.

RESEARCH METHOD

This research was conducted in four sub-districts of Bengkayang District, West Kalimantan: Teriak, Sungai Betung, Ledo, and Lumar. These sites were purposely selected as they represent rice production centers in hilly areas with different farmer groups both certified and non-certified high-quality seeds. The site selection also considered the diversity of farming experience, including long-time farmers and those who recently started farming (Etikan, 2016). A stratified random sampling technique was used to ensure a representative sample. This involved obtaining a list of registered farmer groups from the local agricultural office, categorizing farmers based on their seed use (certified or non-certified) and length of farming experience, randomly selecting farmer groups proportionally from each category, and then choosing individual respondents from the selected farmer groups. The sample size was determined by the Slovin formula, resulting in 111 respondents (Santoso, 2023). The researchers used purposive sampling to intentionally select farmers with specific characteristics, ensuring the representation of different groups. Respondents included farmers who had experience using certified improved seeds and those who had never used them. This approach allowed for a comprehensive understanding of the use of improved seeds in the study area.

Data collection involved face-to-face interviews using a structured questionnaire. The questionnaire collected information on socio-economic characteristics, farming practices, seed preferences, and factors influencing seed selection. This study used primary data from the questionnaire and secondary data from literature, previous studies, and relevant agencies. This mixed-method approach provides a rich and diverse dataset for analysis.

Fishbein's multi-attribute analysis and Structural Equation Modeling (SEM) were the data analysis methods used. Fishbein's multi-attribute analysis was employed to assess farmers' attitudes toward using rice seeds and identify

factors that influence their attitudes. This model considered several vital attributes, including:

1. Knowledge of quality seeds (PBU): Farmers' understanding of certified quality seeds.
2. Seed variety knowledge (PVB): Farmers' familiarity with different seed varieties.
3. Farming experience (PB): More than two years of experience in farming practices.
4. Seed accessibility (KAB): Ease of obtaining certified quality seeds.
5. Seed quality resistance (KMB): Perceived seed resistance to pests and diseases.
6. Productivity of improved seeds (PBU2): Farmers' expectations of production yields from certified seeds.
7. Influence of field officers (PPL): The impact of agricultural extension workers on farmers' decisions.
8. Motivation to farm (MU): Farmers' motivation to engage in agricultural activities.
9. Using seeds (MB): Farmers' willingness to adopt and use certified quality seeds.
10. Information seeking (PI): Farmers' efforts to gather information about certified seeds.
11. Evaluation of Alternatives (EA): Farmers' process of comparing different seed options.
12. Purchase Decision (KP): Factors influencing farmers' purchase of certified seeds.
13. Post-Purchase Evaluation (EPP): Farmers' assessment of seed performance after use.

Consumer perceptions of a product with a positive value indicate a positive attitude towards the product, while a negative value suggests a negative attitude.

Fishbein's model was used to examine farmers' attitudes towards rice seeds and identify factors influencing them.

$$A_0 = \sum_{i=1}^{n} b_i e_i$$

Ao = Farmers' attitude towards certified superior seeds
bi = Strength of farmers' belief that certified superior rice seeds have the i-th attribute
ei = Farmers' evaluation of the i-th attribute in general
n = Number of beliefs

The value of Ao determines the consumer's perception of a product. A positive value indicates a positive attitude towards the product, while a negative value indicates a negative attitude towards the product.

A five-point Likert scale is used to evaluate certified improved seeds. A Likert scale from "strongly disagree" to "strongly agree" assesses consumer confidence in certified superior seeds. The Ao component shows farmers' attitudes towards the attributes. It is obtained by multiplying the evaluation score and trust score for each attribute.

The SEM analysis method is used to see the causal relationship between the variables studied. The SEM method is further described as follows. All variables are measured based on the scores given by respondents using a Likert scale ranging from very low (1), low (2), medium (3), high (4), and very high (5). To analyze the relationship between variables in a model, including between indicators and constructs, SEM combines factor analysis and regression analysis (correlation). This multivariate analysis technique is utilized by researchers, as described by (Hair et al., 2021).

In conducting data analysis in this study, SEM was used through tests for structural models, referred to as structural model tests. The primary purpose is to estimate between variables that cannot be measured directly, known as latent variables, and conduct interaction test tests. In addition, moderate regression analysis (MRA) was used to test the correlation between the independent and dependent variables, considering factors that may increase or decrease the test variables, as illustrated in the chart.

The latent variables included are knowledge of seeds (X 1.1), knowledge of seed varieties (X 1.2), farming experience (X 1.3), ease of access to seeds (X 2.1), quality resistance of seeds (X 2.2), productivity of superior seeds (X 2.3), and influence of field officers (X 3.1). While those included in the manifest variables need recognition (Y.1), information search (Y.2), alternative evaluation (Y.3), purchase decision (Y.4), and post-purchase evaluation (Y.5).

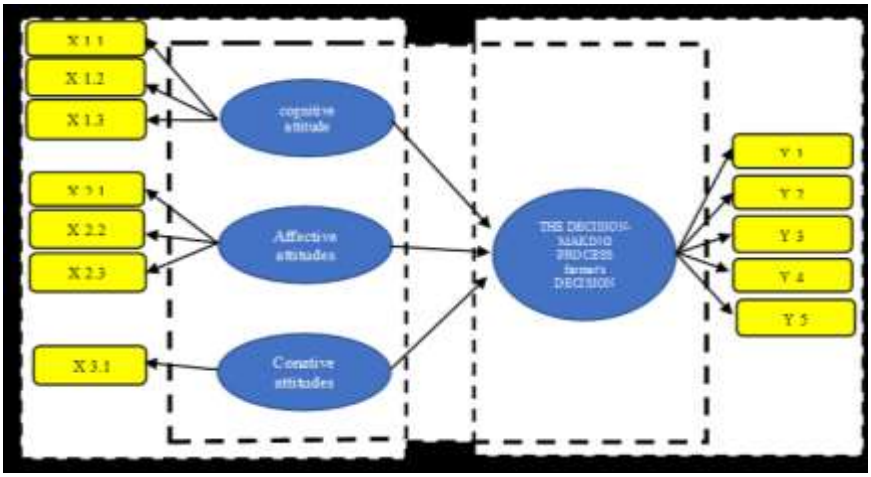

Figure 1.
The Framework in SEM analysis method

In the SEM test, Model Fit Evaluation analysis was also conducted.

1. Assessing the Measurement Model.
2. Discriminant Validity: The loading value on the intended construct must be greater than the loading value with other constructs. (Hussein, 2015).
3. Convergent Validity: An individually reflective measure is said to correlate if it is ≥ 0.5 with the construct it's intended to measure.
4. Composite Reliability: CR is said to be good if it has a value ≥ 0.7 and the AVE value is good if it has a value ≥ 0.5.

RESULT AND DISCUSSION

Farmer Characteristics

The characteristics of respondents in research are critical to understanding the population that is the study's subject and how the study's results can be related to those characteristics. Here are some essential points about respondent characteristics: Respondent characteristics can be seen in Table 1.

The majority of rice farmers are between 45-54 years old (46.8%), indicating the dominance of older people in agriculture. This reflects the younger generation's lack of interest in agriculture, as they are more interested in the non-agricultural sector (Hernowo, et al., 2023). However, overall, farmers are above 30 years of age, which is considered productive. Productive age means that farmers are able to carry out farming activities properly (Hukom et al., 2019).
The farmers in this study have been farming for a considerable period. Most respondents (62.2%) have been farming for 4-6 years, indicating a relatively high level of experience in their work. This may influence their knowledge and skills they have in agricultural practices (Nurhesti et al., 2022).

The formal education most farmers receive is primary school, with as many as 51 people. Most farmers have a low level of education because in the past, parents did not have the opportunity to send their children to school and did not realize the importance of education. The low level of education is one of the factors hindering the development of rural agriculture because it affects the ability of farmers to apply innovations.

Land size often influences farmers' decisions (Hotmarida et al., 2020). Farmers' land holdings are relatively small. In general, farmers cultivate an average of 0.86 hectares of rice land. Most farmers are sharecroppers. The most common gender is male, with as many as 65 people or 58.6%. It's undeniable that wives or housewives, as women, also help him with farming. In terms of matters related to farming that require a lot of work, it is left to men (Suyudi & Mamoen, 2021).

Table 1. Respondent Characteristics

No.	Characteristics	Frequency	%
1	Age (Years Old)		
	25-34	21	19.0
	35-44	33	29.7
	45-54	52	46.8
	55-64	5	4.5
2	Farming experience (Years Old)		
	< 1	1	0.9
	1-3	6	5.4
	4-6	69	62.2
	7-9	25	22.5
	>10	10	9.0
3	Education		
	Elementary School	51	46.0
	Junior High School	32	28.8
	Senior High School	28	25.2
4	Sex		
	Male	65	58.6
	Female	46	41.4

Source: Processed Data, 2023

Analysis of Farmers' Attitudes Towards Certified Superior Seeds

1. Attribute Evaluation Rating

The attribute evaluation assessment in this study includes 13 attributes, namely, knowledge of quality seed (PBU), knowledge of seed variety (PVB), farming experience (PB), influence of field agent (PPL), accessibility of seed (KAB), motivation for farming (MU), resistance to seed quality (KMB), productivity of high-yielding seed (PBU2), use of seed (MB), information search (PI), evaluation of alternatives (EA), purchase decision (KP), and post-purchase evaluation (EPP).

Table 2. shows the results of farmers' evaluation of certified quality seed attributes. The evaluation score (EI) for each attribute was calculated using a 5-point Likert scale, where 1 is the lowest and 5 is the highest. The final score is expressed as a percentage, with criteria as follows: 0-20% (very unsuitable), 21-40% (unsuitable), 41-60% (moderately suitable), 61-80% (quite suitable), and 81-100% (very suitable).

Table 2. The Results of Farmer Respondents' Assessment of Attribute Evaluation (ei) of Certified Quality Seeds

No.	Attributes	Frequency					Evaluation Score (ei)	(%)	Criteria
		1	2	3	4	5			
1	Quality Seed Knowledge (PBU)	7	19	55	28	1	0.59	59	Quite suitable
2	Variety Knowledge (PVB)	32	0	0	0	78	0.76	76	Very suitable
3	Farming Experience (PB)	0	3	56	49	2	0.68	68	Quite suitable
4	Seed Accessibility (KAB)	1	30	36	42	1	0.62	62	Quite suitable
5	Seed Quality Resistance (KMB)	14	0	38	0	58	0.75	75	Quite suitable
6	High Seed Productivity (PBU2)	0	0	33	57	20	0.77	77	Very suitable
7	Field officer influence (PPL)	0	1	25	75	9	0.76	76	Very suitable
8	Motivation to farm (MU)	0	2	18	80	10	0.77	77	Very suitable
9	Seed Use (MB)	0	1	19	79	11	0.77	77	Very suitable
10	Searching for Information (PI)	32	0	0	1	77	0.76	76	Very suitable
11	Evaluation of Alternatives (EA)	34	0	0	0	76	0.75	75	Quite suitable
12	Purchase Decision (KP)	0	6	17	73	14	0.77	77	Very suitable
13	Post Purchase Evaluation (EPP)	0	0	31	77	2	0.74	74	Quite suitable

Source: Processed Data, 2023

The evaluation scores (ei) in the table are calculated on a scale of 0 to 1, with higher scores indicating greater suitability. Scores are presented as both decimals and percentages. The criteria column provides a qualitative assessment based on the score, with "quite suitable" typically ranging from 59% to 75% and "very suitable" for scores of 76% and above.

The evaluation results show that six attributes fall into the "highly suitable" category and seven fall into the "moderately suitable" category. The highly suitable attributes are seed variety knowledge, high-yield seed productivity, field officer influence, farming motivation, seed use, and purchase decision. These attributes are of the utmost importance to farmers, as they directly impact productivity and welfare. Seed variety knowledge and high yield potential significantly impact farmers' decisions and, as a result, on yields. Field officers must provide information and guidance on proper seed use.

The "moderately suitable" category includes seed accessibility, seed quality durability, and five other attributes. While these factors are important, they have a less direct impact on farmers' operations. Seed accessibility is less critical for farmers who already have reliable access. Seed quality durability is crucial for long-term crop health, but its impact is more immediate than high-yield productivity.

This categorization aligns with previous research findings (Java et al., 2020; Nasution & Pinem, 2020), particularly regarding seed accessibility, high-yield productivity, and seed quality resilience. Farmers choose high-quality seeds because they boost yields and income. Field officers must provide information on quality seeds and their use.

The analysis reveals that farmers demonstrate a preference for high-quality seeds due to their positive impact on crop yields and income. The role of field officers in disseminating information about quality seeds and their proper utilization has proven significant. To optimize production efficiency and overall farmer welfare, it is crucial to implement strategies encompassing enhanced publicity, education, and government incentives or subsidies. These measures can potentially promote wider adoption of high-quality seeds among farmers.

2. *Attribute Trust Assessment*

Certified quality seed trust assessment is a method used to evaluate farmers' trust in certified quality seeds. This assessment is conducted by measuring farmers' 13 attributes, such as quality seed knowledge, farming experience, and seed accessibility. Each attribute is assessed based on frequency and trust score.

The evaluation results are precise: all attributes are rated positively. The highest average trust score is 3.87 for "Using seeds," while the lowest average trust score is 2.95 for the attribute "Quality seed knowledge." These results clearly show that farmers have a high trust in certified quality seeds. The analysis shows that farmers have good knowledge of improved seeds (PBU) and positive farming experience (PB). This knowledge will undoubtedly lead to their use of improved seeds in their farming practices and choosing varieties that suit their needs. Access to improved seeds (KAB) is also a crucial factor. When access is easy, farmers are more likely to use them. Seed quality assurance (KMB) is also crucial. Quality improved seeds will undoubtedly result in better yields. Ensuring that improved seeds are productive is crucial, as this will influence farmers' decisions when choosing seeds. It is also essential to recognize the field officer's vital role in introducing superior seeds. Farmers' motivation to farm (MU) affects their decision to adopt improved seeds. Educating them on the benefits of using these seeds (MB) is crucial. Information search (PI) and evaluation of alternatives (EA) are essential for farmers to choose superior seeds.

Purchase decisions (KP) and post-purchase evaluations (EPP) are also necessary for the successful use of improved seeds.

Table 3. Assessment of The Trustworthiness of Certified Quality Seeds

No.	Attributes	Frequency					Trust Score (bi)	Evaluation Results
		1	2	3	4	5		
1	Quality seed knowledge (PBU)	7	19	55	28	1	2.95	Positive
2	Variety Knowledge (PVB)	32	0	0	0	78	3.80	Positive
3	Farming experience (PB)	0	3	56	49	2	3.42	Positive
4	Seed accessibility (KAB)	1	30	36	42	1	3.08	Positive
5	Seed quality resistance (KMB)	14	0	38	0	58	3.77	Positive
6	High seed productivity (PBU)	0	0	33	57	20	3.85	Positive
7	Field officer influence (PPL)	0	1	25	75	9	3.80	Positive
8	Motivation to farm (MU)	0	2	18	80	10	3.86	Positive
9	Seed Use (MB)	0	1	19	79	11	3.87	Positive
10	Searching for Information (PI)	32	0	0	1	77	3.79	Positive
11	Evaluation of Alternatives (EA)	34	0	0	0	76	3.73	Positive
12	Purchase Decision (KP)	0	6	17	73	14	3.83	Positive
13	Post Purchase Evaluation (EPP)	0	0	31	77	2	3.70	Positive

Source: Processed Data, 2023

The evaluation results are precise: all attributes are rated positively. The highest average trust score is 3.87 for the attribute "Using seeds," while the lowest average trust score is 2.95 for "Quality seed knowledge." These results clearly show that farmers have a high level of trust in certified quality seeds. The analysis indicates that farmers have good knowledge of improved seeds (PBU) and positive farming experience (PB). This knowledge will undoubtedly lead to their use of improved seeds in their farming practices and choosing varieties that suit their needs. Access to improved seeds (KAB) is also a crucial factor. When access is easy, farmers are more likely to use them. Seed quality assurance (KMB) is also crucial. Quality improved seeds will undoubtedly result in better yields. Ensuring that improved seeds are productive is crucial, as this will influence farmers' decisions when choosing seeds. It is also essential to recognize field officers' vital role in introducing superior seeds. Farmers' motivation to farm (MU) affects their decision to adopt improved seeds. Educating them on the benefits of using these seeds (MB) is crucial. Information search (PI) and

evaluation of alternatives (EA) are essential for farmers to choose superior seeds. Purchase decisions (KP) and post-purchase evaluations (EPP) are also necessary for successfully using improved seeds.

These factors are interrelated and will undoubtedly influence the successful use of improved seeds in farming practices. Farmers can make better decisions and increase their yields by understanding these implications. Farmers have the highest confidence level in using certified quality seeds, as indicated by the attribute with the highest trust score. The attribute "Quality seed knowledge" received the lowest trust score, indicating that farmers must improve their knowledge of quality seeds (Mayalibit et al., 2018; Novita et al., 2020; Pao & Enteding, 2019; Purba et al., 2022; Sativa et al., 2021; Theresia et al., 2016).

3. Farmers' Attitudes Towards Certified Quality Seeds

The evaluation of farmers' attitudes towards certified quality seeds is calculated by multiplying the evaluation score (ei) by the confidence score (bi) corresponding to each attribute.

The results of the attitude analysis definitively show that four attributes do not influence farmers' attitudes toward the use of certified quality seeds. Quality seed knowledge, seed availability, and farming experience are the primary factors influencing farmers' attitudes toward certified quality seeds. Other factors have a positive impact. These include seed variety knowledge, seed quality resistance, high-yielding seed productivity, field officer influence, farming motivation, using seeds, information search, alternative evaluation, purchase decision, and post-purchase evaluation (Gonzalvo et al., 2021; Saengavut & Jirasatthumb, 2021).

Overall, respondent farmers have a positive attitude toward the use of certified-quality seeds, especially about attributes that influence this attitude positively. These results clearly show that certain factors, such as farming motivation and judgment and consideration, are crucial in shaping farmers' attitudes towards certified-quality seeds.

Farmers' knowledge of quality seeds, availability of good seeds, and farming experience are key factors in fostering positive attitudes towards certified seeds. Farmers with extensive knowledge about the characteristics of quality seeds—such as germination rate, disease resistance, and productivity—can select seeds that suit their needs and have confidence in choosing high-quality seeds, including certified ones. Furthermore, farmers are more likely to choose readily available seeds with a proven track record of quality. The availability of certified quality seeds also reflects the existence of tested quality standards, which makes it clear that farmers have a positive attitude towards these seeds. Extensive farming experience allows farmers to distinguish between certified and non-certified seeds based on previous harvests. They understand the importance of accredited seeds in increasing productivity and reducing the

risk of crop failure. This further strengthens their overall positive attitude towards accredited seeds.

Table 4. Farmers' Attitudes Towards Certified Quality Seeds

No.	Attributes	Evaluation Score (*ei*)	Trust Score (*bi*)	Attitude (*Ao*) *ei*bi*	Evaluation results
1	Quality Seed Knowledge (PBU)	0.59	2.95	1.74	Positive
2	Seed knowledge (PVB)	0.76	3.80	2.89	Positive
3	Farming experience (PB)	0.68	3.42	2.34	Positive
4	Seed Accessibility (KAB)	0.62	3.08	1.90	Positive
5	Seed quality resistance (KMB)	0.75	3.77	2.84	Positive
6	High seed productivity (PBU)	0.77	3.85	2.96	Positive
7	Field officer influence (PPL)	0.76	3.80	2.89	Positive
8	Motivation to farm (MU)	0.77	3.86	2.97	Positive
9	Seed Use (MB)	0.77	3.87	3.00	Positive
10	Searching for Information (PI)	0.76	3.79	2.88	Positive
11	Evaluation of Alternatives (EA)	0.75	3.73	2.78	Positive
12	Purchase Decision (KP)	0.77	3.83	2.93	Positive
13	Post Purchase Evaluation (EPP)	0.74	3.70	2.74	Positive

Source: Processed Data, 2023

Prafithriasari & Fathiyakan (2017) and Mghweno (2020), confirm that farmers prefer seeds that are easily accessible. This allows them to locate the seed breeder with ease and ensures they receive a guarantee of good seed quality. Farmers unequivocally prioritize easy access and quality assurance when choosing seeds for their agricultural businesses. Meanwhile, (Mustika et al., 2019) found that farmers consider the presence of field agrarian extension officers to be the most essential attribute. Field agrarian extension officers are vital in providing farmers with the information and guidance to adopt the best farming practices, including selecting seeds that suit their conditions and needs. The presence of Field Agricultural Extension Officers is crucial to the success of farmers' agricultural businesses.

Prafithriasari & Fathiyakan (2017) and Mghweno (2020) assert that farmers prioritize easy access to seeds and quality assurance. Mustika et al. emphasize the pivotal role of Field Agricultural Extension Officers in influencing farmers' attitudes and decisions regarding seeds used in agriculture. Both perspectives make it clear that farmers need good support and access to information to optimize their agricultural yields.

The analysis results clearly show that farmers prioritize easy access to seeds and quality assurance are the main factors considered by farmers. The presence of Field Agricultural Extension Officers also plays a very important role in influencing farmers' attitudes and decisions regarding seeds used in agriculture. Both perspectives confirm that good support and access to information are essential for farmers to optimize their agricultural yields.

The instrument testing process includes validity and reliability evaluation to assess the extent to which the research instrument demonstrates validity and reliability.

Validity Tests:

1. Convergent Validity:

Convergent validity assesses whether items that should theoretically be related are actually related in practice. The specific loading factors aren't shown, but it is mentioned that all loading factors were above the critical values. This typically means that:

- Loading factors > 0.7 are generally considered to be good.
- Values between 0.4 and 0.7 are acceptable if the composite reliability is high.

The high loading factors indicate that the items within each construct are strongly related to each other and the construct they're measuring.

2. Discriminant Validity:

Discriminant validity ensures that a constructed measure is empirically unique and represents phenomena of interest that are not captured by other measurements in the model. Table 5. shows this:

- The diagonal values represent the square root of each construct's average variance extracted (AVE).
- Off-diagonal values represent correlations between constructs.

To establish discriminant validity, the square root of the AVE for each construct should be higher than its correlation with other constructs. This indicates that the construct is more strongly related to its own items than other constructs in the model.

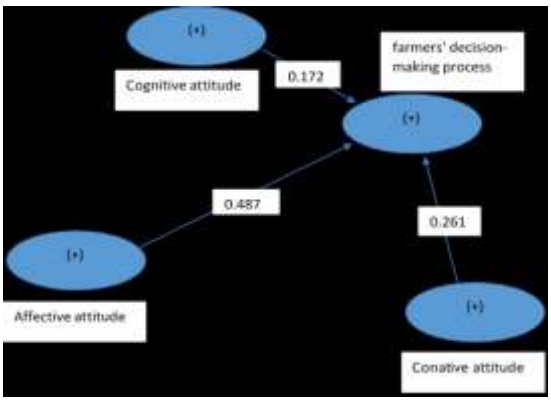

Figure 2.
Inner Model

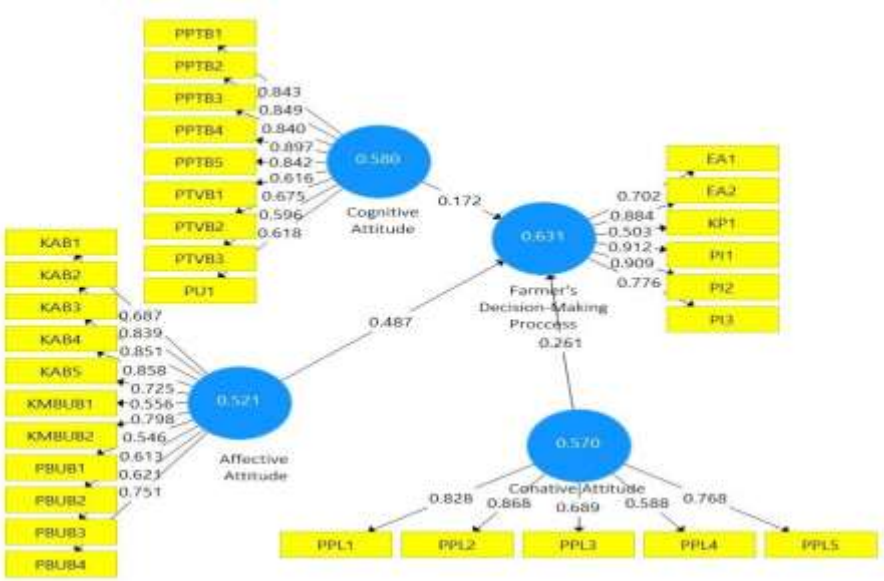

Figure 3.
Outer model

Table 5. Discriminant Validity

	Decision-Making Process	Affective Attitude	Cognitive Attitude	Conative Attitude
Decision-Making Process	0.795			
Affective Attitude	0.795	0.722		
Cognitive Attitude	0.741	0.786	0.762	
Conative Attitude	0.705	0.659	0.711	0.755

Source: Processed Data, 2023

The square root of AVE for each construct (diagonal values) is higher than its correlation with other constructs (off-diagonal values). This indicates good discriminant validity, meaning each construct is distinct from others in the model, per the proposed criteria (Fornell, C., & Larcker, 1981).

Reliability Tests:

Reliability tests include

1. Cronbach's Alpha:
   - Measures internal consistency.
   - Scores > 0.7 are generally considered acceptable.
   - Higher values indicate better reliability
2. Composite Reliability (CR):
   - Similar to Cronbach's Alpha but considered more appropriate for PLS-SEM.

- Scores > 0.7 indicate good reliability

3. Average Variance Extracted (AVE):
   - Measures the amount of variance captured by a construct relative to the variance due to measurement error.
   - Values > 0.5 are usually considered acceptable.

Table 6. presents the results of two reliability measures: Cronbach's Alpha and Composite Reliability (CR).

Table 6. Composite Reliability and Cronbach's Alpha

Variables	Cronbach's Alpha	Composite Reliability
Decision-Making Process	0.878	0.909
Affective Attitude	0.905	0.921
Cognitive Attitude	0.907	0.924
Conative Attitude	0.820	0.867

Source: Processed Data, 2023

All variables in this study showed excellent internal consistency with Cronbach's alpha values above 0.8. Composite reliability values above 0.7 are considered good. All variables showed high composite reliability, indicating strong internal consistency. These results suggest that the measures used in this research are highly reliable.

Structural Model Evaluation:

The R-squared value of 0.699 for the decision-making process variable is essential for this study. This value shows that their attitudes can explain 69.9% of the difference in farmers' choices about seeds. This shows that the model has identified important factors that affect farmers' choices. It is very useful for people in the agricultural sector, including policymakers, extension workers, and seed producers. They can use these insights to design better interventions and strategies. This result also supports the idea that attitudes affect decision-making in agriculture. It also shows that the study's approach of considering many different attitudes was right. However, there is still more to learn about why farmers make the decisions they do. This R-square value shows that the model is strong and can be used to predict farmer behavior and understand agricultural decision-making. Table 7. presents the R-square value for the Decision-Making Process variable.

Table 7. R-Square

	R Square	R Square Adjusted	Category
Decision-Making Process	0.699	0.690	Moderate

Source: Processed Data, 2023

Hypothesis Testing

The hypotheses in this study will also be analyzed. A bootstrapping technique that doubles the sample is used to test the significance of loading factors and research coefficients (Latan & Ghozali, 2014). The hypothesis is accepted if the t-statistic is more significant than 1.96, the p-value is less than 0.05%, and the beta value is positive. The results of the hypothesis test are in Table 8.

Table 8. Hypothesis Testing

Hypothesis	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistic (lO/STDEVl)	P Values
Affective Attitude -> decision making process	0.487	0.484	0.085	5.704	0.000
Cognitive Attitude - > decision-making process	0.172	0.179	0.087	1.967	0.025
Conative Attitude -> decision-making process	0.261	0.263	0.082	3.189	0.001

Source: Processed Data, 2023

The analysis shows three hypotheses that can be accepted. The first hypothesis is that positive attitudes affect decision-making. The significant beta coefficient (0.487) shows that attitudes affect decision-making. Affective attitudes, which are related to emotions and feelings, can influence how we evaluate choices.

Second, cognitive attitudes also affect the decision-making process. Although the beta coefficient is lower, the t-statistic confirms that cognitive attitudes also have a positive impact on decision-making. Cognitive attitudes relate to knowledge and understanding, which help people make informed decisions.

Third, the hypothesis regarding the positive impact of conative attitudes on decision-making. The beta coefficient (0.261) is lower than the conative attitude. The significant t-statistic value (3.189) shows that the cognitive attitude, which includes intention and willingness to act, significantly influences decision making.

Table 9. Summary of Hypothesis Testing Results

	Hypothesis	Result	Description
H1	Affective attitude positively affects the decision-making process	Coef.Beta=0.487 T-Statistics=5.704 P-value= 0.000	Accepted
H2	Cognitive attitude positively affects the decision-making process	Coef.Beta=0.172 T-Statistics=1.967 P-value= 0.025	Accepted
H3	Conative attitude positively influences the decision-making process	Coef.Beta=0.261 T-Statistics= 3.189 P-value= 0.001	Accepted

Source: Processed Data, 2023

This research investigates the influence of affective, cognitive, and conative attitudes on decision-making processes, aiming to develop more effective strategies in marketing, public policy, and organizational behavior. Our findings reveal a complex interplay of factors shaping farmers' choices regarding certified seeds, challenging simplistic decision-making models.

Affective attitudes, encompassing emotions and feelings, play a pivotal role in decision-making. (Lerner et al., 2015) demonstrate that these attitudes serve as rapid assessment tools in complex situations, while (Loewenstein et al., 2001) highlight their significant influence on risk perception. (Slovic et al., 2007) further emphasize their function as powerful motivators. Our study aligns with these theoretical perspectives, revealing that farmers' affective attitudes strongly influence their decisions to adopt certified seeds. These attitudes manifest in various ways, including emotional associations with past experiences, feelings of trust or skepticism, anxiety about risks, pride in farming identity, and excitement about potential yield improvements. Understanding these effective components enables the development of more effective strategies to promote certified seed adoption, potentially enhancing acceptance and use in agricultural communities.

Cognitive attitudes, beliefs, and knowledge also play a crucial role in decisions. Evans (2008) proposed a dual-process theory of thinking: a fast, automatic system and a slower, more deliberative one. Our research shows that both systems influence farmers' choices of certified seeds, although affective factors appear to have a stronger impact. Farmers value knowledge about different seed types, but their understanding of seed quality metrics could be improved. They consider factors such as seed growth and pest resistance and spend time researching and comparing options before deciding. While farmers employ logical thinking in seed selection, there's room for improvement. To enhance certified seed adoption, we recommend providing easily digestible information for quick decisions, and detailed resources for those inclined

towards deeper analysis. Agricultural support programs could enhance farmers' understanding of high-quality seeds to facilitate better choices.

Conative attitudes, rooted in Ajzen (2019) theory of planned behavior and Locke & Latham (2002) goal-setting theory, significantly influence farmers' decisions to use certified seeds. Our findings ($\beta = 0.261$, t-statistic = 3.189, p-value = 0.001) indicate a strong relationship between conative attitudes and seed adoption, as evidenced by high scores for "Seed Use" (3.87) and "Motivation to farm" (3.86). These results suggest that farmers actively use certified seeds and improve their farming methods. To capitalize on these positive attitudes, we propose developing goal-setting programs, initiatives to strengthen farmers' intentions, and educational programs to boost confidence. By effectively leveraging conative attitudes, we can develop better strategies to help farmers translate their intentions into actions, ultimately increasing agricultural yields.

The interplay between affective, cognitive, and conative attitudes in decision-making extends beyond agriculture, with significant implications for consumer behavior and public policy. Kahneman & Tversky's (1979) prospect theory demonstrates how cognitive biases, such as loss aversion, can significantly influence decision-making under uncertainty. This cognitive aspect interacts closely with affective attitudes, as illustrated by Damasio (1994) somatic marker hypothesis, which posits that emotional processes guide and bias behavior in complex decision-making scenarios. In the context of certified seed adoption, these theories suggest that farmers' decisions are not solely based on rational cost-benefit analyses but are also influenced by emotional responses to potential gains or losses.

Furthermore, social influence plays a crucial role in shaping attitudes and subsequent behaviors. The impact of field officers and successful early adopters can significantly affect the adoption of certified seeds. The elaboration likelihood model proposed by Petty & Cacioppo (1986) offers a framework for understanding how farmers process information about certified seeds, suggesting that the effectiveness of persuasive messages depends on the farmer's motivation and ability to process the data. These theoretical perspectives underscore the importance of tailoring communication strategies to address the complex interplay of affective, cognitive, and conative attitudes in promoting the adoption of agricultural innovations.

Seed Use

The high score of 3.00 for seed use indicates acceptance and active adoption of quality seeds by farmers. This score suggests that farmers have transcended the awareness stage and reached full implementation. It implies that farmers have experienced tangible benefits from quality seeds, such as increased yields or pest resistance, reinforcing their trust.

This finding aligns with Rogers' diffusion of innovation theory, indicating that farmers have reached the confirmation stage in the adoption process. Spielman & Kennedy (2016) observations corroborate this interpretation, demonstrating that farmers' adoption of improved seeds is often driven by perceived benefits and positive experiences, reflecting experiential learning in agricultural contexts.

Motivation to Farm

The 2.97 score for farming motivation reflects farmers' high enthusiasm and intrinsic drive. The close correlation between this motivation and the use of quality seeds indicates a positive feedback loop: good results from quality seeds enhance motivation, encouraging the adoption of better farming practices.

This phenomenon aligns with Bandura (2021) self-efficacy theory, where success increases confidence and motivation for subsequent tasks. Manda et al. (2016) findings reinforce this interpretation, showing a reciprocal relationship between adopting improved agricultural practices and increased farmer motivation and productivity. This highlights the importance of interventions that focus not only on technical aspects but also on enhancing farmer motivation.

High Seed Productivity

The 2.96 score for high seed productivity indicates that farmers highly value the yield potential of certified-quality seeds. This recognition reflects a paradigm shift among farmers from traditional practices to an evidence-based approach in selecting agricultural inputs.

This finding, consistent with Shiferaw et al. (2014) research in Ethiopia, suggests a global trend in farmers' perceptions of improved varieties. This underscores the crucial role of tangible yield demonstrations in shaping farmers' attitudes and decision-making processes regarding seed selection.

Purchase Decision

The 2.93 score for purchase decision reveals a strong preference for certified quality seeds over alternatives. This indicates that farmers are engaging in long-term strategic thinking, recognizing the value of investing in quality inputs despite higher upfront costs. It reflects a sophisticated understanding of cost-benefit analysis in farming decisions. The alignment with Ghimire et al. (2015) findings in Nepal suggests a broader trend of economically motivated seed choices among smallholder farmers across different geographical contexts.

Seed Knowledge

The 2.89 seed knowledge score indicates farmers' robust understanding of seeds among farmers. This level of knowledge suggests practical educational and extension efforts, enabling farmers to make informed decisions. It aligns with Maredia et al. (2019) findings, highlighting the critical role of farmer education in shaping seed preferences and willingness to pay for improved varieties. This underscores the importance of continued investment in farmer education and knowledge dissemination programs.

Field Officer Influence

The score of 2.89 for field officer influence underscores the pivotal role of agricultural extension services in shaping farmers' attitudes towards certified quality seeds. This high score suggests that field officers serve as crucial intermediaries in knowledge transfer, bridging the gap between agricultural research and on-farm implementation.

The significant influence of field officers aligns with Lambrecht et al. (2016) findings, emphasizing the importance of personal interaction and trust in the adoption of agricultural innovations. This highlights the need for continued investment in training and supporting field officers as key agents of change in rural agrarian communities.

Searching for Information

A score of 2.88 for information-seeking behavior indicates a proactive approach among farmers toward agricultural knowledge acquisition. This high level of curiosity and desire for continuous learning suggests a shift towards a more knowledge-driven farming paradigm.

The finding resonates with Muange et al. (2014) research, emphasizing the importance of social networks and information-seeking behavior in exposing farmers to improved crop varieties. This underscores the potential for leveraging farmers' inherent curiosity through targeted information campaigns and peer-to-peer learning initiatives to accelerate the adoption of agricultural innovations.

Seed Quality Resistance

The 2.84 score for seed quality resistance reflects farmers' recognition of the durability and resilience of certified quality seeds. This appreciation suggests that farmers look beyond immediate yield gains to consider long-term crop performance and risk mitigation.

The high valuation of seed quality resistance indicates a sophisticated understanding of the multiple dimensions of seed quality, including storage stability and plant vigor. This finding points to the potential for marketing

strategies that emphasize the comprehensive benefits of certified seeds, beyond just yield improvements.

Evaluation of Alternatives

A score of 2.78 for evaluating alternatives indicates a critical and analytical approach to seed selection among farmers. This score suggests that farmers engage in complex decision-making processes, weighing various factors such as price, quality, and yield potential. The alignment with Kassie et al. (2013) observations in Tanzania indicates a broader trend of increasingly discerning farmers across different agricultural contexts. This finding emphasizes the importance of providing comprehensive and comparative information about seed options to support farmers' decision-making processes.

Post Purchase Evaluation

The 2.74 score for post purchase evaluation suggests a generally upbeat assessment of certified quality seeds after use. This level of satisfaction indicates that the seeds are mainly meeting or exceeding farmers' expectations in real-world conditions.

The consistency with (Asfaw et al., 2012) findings suggests that positive experiences with modern agricultural technologies can lead to sustained adoption and diffusion. This underscores the importance of ensuring consistent seed quality and performance to maintain farmer trust and encourage long-term adoption.

Farming Experience

The relatively lower score of 2.34 for farming experience reveals a complex relationship between years of farming and attitudes towards certified quality seeds. This score suggests that experience alone does not necessarily predispose farmers to adopt new technologies.

The findings align with (Lambrecht et al., 2014) research, indicating that other factors such as education and access to information may be more influential in technology adoption. This highlights the need for targeted approaches that address the specific needs and perspectives of both experienced and newer farmers in promoting agricultural innovations.

Seed Accessibility

The low score of 1.90 for seed accessibility points to significant challenges in obtaining certified quality seeds. This score suggests that despite positive attitudes towards these seeds, structural barriers such as limited availability, high prices, or distribution constraints hinder wider adoption.

The alignment with (McGuire & Sperling, 2016) findings emphasizes the need for systemic improvements in seed distribution networks. This low score highlights a critical area for intervention, suggesting that efforts to improve seed systems and distribution channels could significantly boost the adoption of certified quality seeds.

Quality Seed Knowledge

While indicating a generally positive attitude, the score of 1.74 for quality seed knowledge, reveals a gap in specific understanding of what constitutes seed quality. This score suggests that farmers' positive attitudes towards certified seeds may be based more on general perception than on detailed knowledge.

The finding aligns with Fisher & Carr (2015) observations, emphasizing the need for more targeted education on the specific characteristics and benefits of certified quality seeds. This knowledge gap presents an opportunity for focused educational interventions to enhance farmers' understanding and potentially increase their willingness to invest in quality seeds.

CONCLUSION AND SUGGESTION

Conclusion

Various attributes influence farmers' attitudes towards certified quality seed. Key factors include motivation to farm, perceived productivity of quality seed, and knowledge of seed varieties. However, some aspects require improvement. For instance, knowledge about quality seed (PBU) scores low in evaluation and confidence, despite being viewed positively.

Analysis reveals that affective, cognitive, and conative attitudes all impact farmers' decisions to use certified-quality seed. This study provides insights to help rice farmers make informed choices regarding the adoption of certified-quality seed.

Suggestion

It is recommended that action be taken to assist farmers in comprehending new seed varieties. Training sessions, workshops, and model farms can facilitate knowledge transfer. Videos and posters can also be practical tools. It is also beneficial to engage field officers in direct extension. Training and mentoring programs can enhance the farming experience. Improving seed accessibility involves improving seed marketing and simplifying seed distribution. Training, extension, and information campaigns can reinforce farmers' trust in certified seeds. Training and demonstrations on quality seeds are effective methods to improve knowledge about them.

REFERENCES

Aisyah, S., Nahraeni, W., & Arsyad, A. (2020). Efektivitas Pelaksanaan Program Seribu Desa Mandiri Benih Di Kabupaten Bogor (Studi Kasus Kelompok Tani "Mitra Tani" Desa Karehkel, Kecamatan Leuwiliang-Kabupaten Bogor). *Jurnal Agribisains*, 6(2), 69-80. doi: 10.30997/jagi.v6i2.3530

Ajzen, I. (1991). The Theory Of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. doi: 10.1016/0749-5978(91)90020-T

Asfaw, S., et al. (2012). Impact Of Modern Agricultural Technologies On Smallholder Welfare: Evidence From Tanzania And Ethiopia. *Food Policy*, 37(3), 283-295. doi: 10.1016/j.foodpol.2012.02.013

Bandura, A. (2001). Social Cognitive Theory: An Agentic Perspective. *Annual Review Of Psychology*, 52, 1-26. doi: 10.1146/annurev.psych.52.1.1

BPS. (2022). *Kabupaten Bengkayang Dalam Angka 2022*. Retrieved from https://bengkayangkab.bps.go.id/publication/2022/02/25/fe2f1189f41f77cac5adc614/kabupaten-bengkayang-dalam-angka-2022.html

Damasio, A. R. (1994). *Descartes' Error: Emotion, Reason, And The Human Brain*. New York: Putnam

Etikan, I. (2016). Comparison Of Convenience Sampling And Purposive Sampling. *American Journal of Theoretical And Applied Statistics*, 5(1), 1-4. doi: 10.11648/j.ajtas.20160501.11

Evans, J. S. B. T. (2008). Dual-Processing Accounts Of Reasoning, Judgment, And Social Cognition. *Annual Review of Psychology*, 59, 255-278. doi: 10.1146/annurev.psych.59.103006.093629

Fisher, M., & Carr, E. R. (2015). The Influence Of Gendered Roles And Responsibilities On The Adoption Of Technologies That Mitigate Drought Risk: The Case Of Drought-Tolerant Maize Seed In Eastern Uganda. *Global Environmental Change*, 35, 82-92. doi: 10.1016/j.gloenvcha.2015.08.009

Hair, J. F., et al. (2010). *Multivariate-Data-Analysis-7th-Edition*. London: Pearson Education

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables And Measurement Error. *Journal of Marketing Research*, 18(1), 39–51. doi: 10.2307/3151312

Ghimire, R., Wen-chi, H., & Shrestha, R. B. (2015). Factors Affecting Adoption Of Improved Rice Varieties Among Rural Farm Households In Central Nepal. *Rice Science*, 22(1), 35-43. doi: 10.1016/j.rsci.2015.05.006

Prafithriasari, M., & Fathiyakan, G. (2017). Analisis Sikap Dan Kepuasan Petani Dalam Menggunakan Benih Padi Varietas Lokal Pandanwangi (Studi Kasus Di Desa Bunikasih Dan Desa Tegallega Kecamatan Warungkondang). *Agroscience (Agsci)*, 7(2), 290-298. doi: 10.35194/agsci.v7i2.154

Gonzalvo, C. M., Aala, W. J. F., & Maharjan, K. L. (2021). Farmer Decision-Making On The Concept Of Coexistence: A Comparative Analysis Between Organic And Biotech Farmers In The Philippines. *Agriculture*, 11, 1-20. doi: 10.3390/agriculture11090857

Hernowo, H., Sutanto, A., & Suyono. (2023). Kegiatan On-Farm Dan Off-Farm Sebagai Usaha Di Sektor Pertanian: Persepsi Pemuda Di Kabupaten Purbalingga On-Farm And Off-Farm Activities As A Business In The Agricultural Sector: Perceptions Of Youth In Purbalingga Regency. *Jurnal Ekonomi Pertanian Dan Agribisnis (JEPA)*, 7(2), 472–492. doi: 10.21776/ub.jepa.2023.007.02.5

Hukom, J., Kakisina, L. O., & Sari, R. M. (2019). Analisis Produktivitas Petani Sayuran Daun Di Desa Passo Kecamatan Baguala Kota Ambon. *Agrilan: Jurnal Agribisnis Kepulauan*, 7(3), 227-240. doi: 10.30598/agrilan.v7i3.902

Hotmarida, S., Ayu, S. F., & Rahmanta. (2020). Factors That Influence The Decision Of Coffee Farmers To Take Credit In North Sumatra. *IOP Conference Series: Earth And Environmental Science*, 454(1), 1-4. doi: 10.1088/1755-1315/454/1/012017

Java, W., et al. (2020). Factors Affecting Farmers In Adopting VUB Rice Seeds In Cianjur Regency Factors Affecting Farmers In Adopting VUB Rice Seeeds In Cianjur Regency West Java. *International Journal Of Progressive Sciences And Technologies (IJPSAT)*, 21(2), 239–245. doi: 10.52155/ijpsat.v21.2.1976

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis Of Decision Under Risk. *Econometrica*, 47(2), 263-291. doi: 10.2307/1914185

Kassie, M., et al. (2013). Adoption Of Interrelated Sustainable Agricultural Practices In Smallholder Systems: Evidence From Rural Tanzania. *Technological Forecasting And Social Change*, 80(3), 525-540. doi: 10.1016/j.techfore.2012.08.007

Latan, H., & Ghozali, I. (2014). *Partial Least Squares: Concepts, Methods And Applications Using Warppls 4*. Semarang: Badan Penerbit Universitas Diponegoro

Lambrecht, I., et al. (2014). Understanding The Process Of Agricultural Technology Adoption: Mineral Fertilizer In Eastern DR Congo. *World Development*, 59, 132-146. doi: 10.1016/j.worlddev.2014.01.024

Lerner, J. S., et al. (2015). Emotion And Decision Making. *Annual Review Of Psychology*, 66, 799-823. doi: 10.1146/annurev-psych-010213-115043

Locke, E. A., & Latham, G. P. (2002). Building A Practically Useful Theory Of Goal Setting And Task Motivation: A 35-Year Odyssey. *American Psychologist*, 57(9), 705-717. doi: 10.1037/0003-066X.57.9.705

Loewenstein, G. F., et al. (2001). Risk As Feelings. *Psychological Bulletin*, 127(2), 267-286. doi: 10.1037/0033-2909.127.2.267

Manda, J., et al. (2016). Adoption And Impacts Of Sustainable Agricultural Practices On Maize Yields And Incomes: Evidence From Rural Zambia. *Journal of Agricultural Economics*, 67(1), 130-153. doi: 10.1111/1477-9552.12127

Maredia, M. K., et al. (2019). Farmer Perception And Valuation Of Seed Quality: Evidence From Bean And Cowpea Seed Auctions In Tanzania And Ghana. *Agricultural Economics*, 50(4), 495-507. doi: 10.1111/agec.12505

Mayalibit, N. F., et al. (2018). Sikap Petani Padi Terhadap Benih Unggul Padi Bersertifikat Di Kecamatan Karangpandan, Kabupaten Karanganyar. *Caraka Tani: Journal Of Sustainable Agriculture*, 32(2), 116-125. doi: 10.20961/carakatani.v32i2.15090

McGuire, S., & Sperling, L. (2016). Seed Systems Smallholder Farmers Use. *Food Security*, 8(1), 179-195. doi: 10.1007/s12571-015-0528-8

Mghweno O. N., Mishili, F. J., & Nchimbi-Msolla, S. (2020). Farmers' Decision To Purchase Quality Declared Seeds In Kongwa District, Tanzania. *Tanzania Journal Of Agricultural Sciences*, 19(2), 203–215. Retrieved rom https://www.ajol.info/index.php/tjags/article/view/205098

Muange, E. N., Schwarze, S., & Qaim, M. (2014). Social Networks And Farmer Exposure To Improved Crop Varieties In Tanzania. *Agricultural Economics*, 45(6), 715-725. doi: 10.1111/agec.12117

Mustika, M., Fariyanti, A., & Tinaprilla, N. (2019). Analisis Sikap Dan Kepuasan Petani Terhadap Atribut Asuransi Usahatani Padi Di Kabupaten Karawang Jawa Barat. *Forum Agribisnis*, 9(2), 200–214. doi: 10.29244/fagb.9.2.200-214

Nasution, M. P., & Pinem, L. J. (2020). Analisis Sikap Dan Kepuasan Petani Dalam Menggunakan Benih Kelapa Sawit (*Elaeis guineensis*) Bersertifikat Di Kabupaten Labuhan Batu Utara. *Agrimor*, 5(3), 40–44. doi: 10.32938/ag.v5i3.856

Novita, D., Sari, L. A., & Hendrawan, D. (2020). Persepsi Dan Tingkat Kepuasan Petani Dalam Penggunaan Benih Padi Bersertifikasi Di Kabupaten Deli Serdang. *Jurnal Agrica*, 13(2), 136–143. doi: 10.31289/agrica.v13i2.3989

Nurhesti A., Bakri, M., & Firdamayanti, E. (2022). Analisis Faktor Sikap Petani Tidak Menggunakan Benih Padi Bersertifikat Di Desa Olang Kecamatan Ponrang Selatan Kabupaten Luwu. *Wanatani*, 2(1), 27–35. doi: 10.51574/jip.v2i1.68

Pao, A., & Enteding, A. S. (2019). Faktor-faktor Yang Mempengaruhi Sikap Petani Dalam Menggunakan Benih Padi Bersertifikat Di Desa Beteleme Kecamatan Lembo, Kabupaten Morowali. *Agrobisnis*, 2(1), 1–10. doi: 10.32529/ja.v2i1.633

Petty, R. E., & Cacioppo, J. T. (1986). The Elaboration Likelihood Model Of Persuasion. *Advances In Experimental Social Psychology*, 19, 123-205. doi: 10.1016/S0065-2601(08)60214-2

Purba, T., Tarigan, K., & Supriana, T. (2022). Analisis Sikap Dan Preferensi Petani Terhadap Penggunaan Benih Padi Varietas Unggul di Kabupaten Langkat Sumatera Utara. *Jurnal Agrica*, 15(1), 35–47. doi: 10.31289/agrica.v15i1.5169

Saengavut, V., & Jirasatthumb, N. (2021). Smallholder Decision-Making Process In Technology Adoption Intention: Implications For Dipterocarpus Alatus In Northeastern Thailand. *Heliyon*, 7(4), 1-10. doi: 10.1016/j.heliyon.2021.e06633

Santoso, A. (2023). Rumus Slovin: Panacea 1 Masalah Ukuran Sampel. *Jurnal Psikologi Universitas Sanata Dharma*, 4, 2, 24–43. doi: 10.24071/suksma.v4i2.6434

Sativa, R. D. O., Ibrahim, J. T., & Sutawi, S. (2021). Analysis Of Taking Decision Of Farmers In Choosing Rice Cultivars: Case Of Pakel District, Tulungagung, Indonesia. *E3S Web Of Conferences*, 226, 1-9. doi: 10.1051/e3sconf/202122600037

Shiferaw, B., et al. (2014). Adoption Of Improved Wheat Varieties And Impacts On Household Food Security In Ethiopia. *Food Policy*, 44, 272-284. doi: doi: 10.1016/j.foodpol.2013.09.012

Simluhtan. (2022). *Sistem Informasi Manajemen Penyuluhan Pertanian*. Retrieved from https://app3.pertanian.go.id/simluh/

Slovic, P., et al. (2007). The Affect Heuristic. *European Journal of Operational Research*, 177(3), 1333-1352. doi: 10.1016/j.ejor.2005.04.006

Spielman, D. J., & Kennedy, A. (2016). Towards Better Metrics And Policymaking For Seed System Development: Insights From Asia's Seed Industry. *Agricultural Systems*, 147, 111-122. doi: 10.1016/j.agsy.2016.05.015

Suyudi, S., & Mamoen, H. M. I. (2021). Farmers' Motivation In Mendong Farming. *Journal Of Agri Socio-Economics And Business*, 3(1), 43–58. doi: 10.31186/jaseb.3.1.43-58

Theresia, V., Fariyanti, A., & Tinaprilla, N. (2016). Pengambilan Keputusan Petani Terhadap Penggunaan Benih Bawang Merah Lokal Dan Impor Di Kabupaten Cirebon, Jawa Barat. *AGRARIS: Journal Of Agribusiness And Rural Development Research*, 2(1), 50–60. doi: 10.18196/agr.2125

UPTPSB. (2021). *Laporan Capaian Kinerja UPT Pengawasan Dan Sertifikasi Benih Dinas Tanaman Pangan Dan Hortikultura Provinsi Kalimantan Barat*. Retrieved from https://distan.kalbarprov.go.id/sites/default/files/Laporan%20Kinerja%20Tahun%202021.pdf