INFLUENCE OF AGRICULTURE COUNSELING AGENT'S PERFORMANCE AND SMART FARMING TECHNOLOGY USAGE ON FARMERS' BEHAVIOR

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ABSTRACT

This study examines the influence of agricultural counseling performance and smart farming technology on farmer behavior in Luwu Regency, Indonesia. The region, known for its significant agricultural activities, provides a suitable context for this research. Employing a quantitative approach with Structural Equation Modeling (SEM), the study involves 100 purposively sampled farmers actively engaged in extension activities and using agricultural technology. Data collection was conducted through a validated and reliable Likert-scale questionnaire. The findings reveal that both agricultural counseling performance and smart farming technology usage significantly improve farmer behavior, contributing to better farm management and increased agricultural productivity. Potential biases from purposive sampling were mitigated through diverse sample selection, data triangulation, and rigorous statistical analysis. These results highlight the importance of effective extension services and modern technology in enhancing agricultural practices and farmer welfare in Luwu Regency.

Keywords: Farmer welfare, Competence of agriculture counseling agents, Agricultural development, Advanced agriculture, Food production, Farmer resources

1. INTRODUCTION

Indonesia, as an agrarian country with abundant natural resources, has a highly strategic agricultural sector in supporting the national economy. However, despite its vital role, the welfare of farmers, especially in rural areas, remains low. This is evident from the higher poverty rates in rural areas compared to urban areas [1]. One of the causes is the low quality of human resources (HR) in the agricultural sector.

According to reference [2], agricultural development in Indonesia is still slow due to the low quality of agricultural HR. Human resources or labor are driving factors in the agricultural sector [3]. The low education level of most farmers results in weak mastery of knowledge and technology, rendering them powerless in accessing production factors and markets [4]. Therefore, achieving resilient agriculture requires efforts to develop agricultural HR that are professional, creative, innovative, credible, and globally minded.

The education process centered on empowerment, such as agricultural counseling, is crucial for improving the quality of agricultural HR. Agricultural counseling aims to enhance farmers' knowledge and skills, change their behavior, and encourage their independence to manage their farming activities productively, effectively, and efficiently [5]. Extension agents play a key role in changing farmers' behavior in farming development [6]. They guide farmers directly until the desired behavioral change occurs.

Good performance by agricultural counseling agents impacts the improvement of farmers' performance, ultimately increasing production [7]. Extension agents are change agents who interact directly with farmers. Their primary function is to change farmers' behavior through non-formal education, enabling farmers to achieve a better quality of life [8]. Extension agents are seen as agents of change capable of transferring knowledge to empower communities and assist them in creating and using institutional access related to the production, distribution, and consumption of agricultural products [9].

The performance of agricultural counseling agents is assessed based on three indicators: preparation of extension activities, implementation of extension activities, and evaluation of extension activities [10]. Agricultural counseling must continually enhance its role in helping farmers solve their problems, particularly in farming aspects. Agricultural counseling is non-formal education for farmers and their families, aiming to improve farmers' welfare through changes in knowledge, attitudes, and skills in farming.

The use of technology in agriculture is also crucial to support the advancement of this sector in Indonesia [11]. Although the currently available technology has been used for a long time, it has not yet been able to specifically accommodate regional potentials. Therefore, there is a need to

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increase the use of technology in conservation systems aimed at building sustainable agricultural production processes. Modern agricultural technology, such as smart farming, which utilizes technologies like RITX Soil and Weather Sensors to record field conditions in real-time and predict weather, can enhance the quantity and quality of agricultural products [12].

The implementation of smart farming makes the cultivation process more effective and can increase production, ultimately improving farmers' welfare [13]. However, the application of this technology must be supported by good farmer behavior in farm management. Environmentally conscious attitudes and behaviors of farmers are essential to prevent natural disasters and advance farming.

Good agricultural land management is reflected in how farmers cultivate and maintain their paddy fields. Farmer behavior includes soil tillage, fertilization, irrigation, weeding, pest and disease control, and land conservation. Environmentally conscious management behavior does not trigger natural disasters, whereas environmentally unconscious behavior can lead to disasters that harm human life. Farmers' behavior in farm management is key to farming advancement [6].

Research on the performance of extension agents and the use of technology in shaping good farmer behavior has been conducted by several previous researchers. Reference [14] research shows the influence of smart farming technology use on farmer behavior. Reference [15] research indicates that the use of technology can shape good farmer behavior, and reference [16] research shows that extension agents' performance can support the formation of farmer behavior in technology application.

The purpose of this study is to determine the extent of the influence of extension agent performance and smart farming technology use on farmer behavior in Luwu Regency. The implementation of smart farming is expected to increase agricultural production and farmers' welfare through the application of effective and efficient modern technology. With the support of good technology and extension services, farmers are expected to overcome various challenges in farming and improve their overall welfare.

2. MATERIALS AND METHODS

This study is a type of quantitative research with an explanatory research approach, aimed at testing hypotheses and explaining the causal relationships between extension agent performance, smart farming technology usage, and farmer behaviour [17]. The population of this study includes all farmers in Luwu Regency, with a sample of 100 respondents selected through purposive sampling based on criteria of active participation in extension activities and usage of agricultural technology.

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Primary data were collected through a questionnaire designed using a Likert scale to measure farmers' perceptions and attitudes towards the performance of extension agents, the use of smart farming technology, and their agricultural behavior. The questionnaire comprises several sections, including demographic information and items related to the research variables. To ensure validity and reliability, the questionnaire was pre-tested, with validity assessed using the item-total correlation technique and reliability tested using Cronbach's Alpha values.

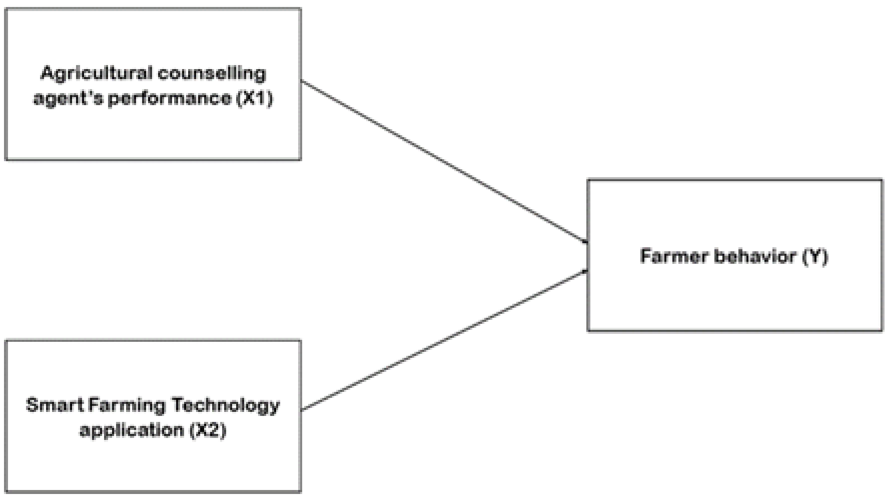

Fig. 1: Research conceptual framework

The collected data were analyzed using the Structural Equation Modeling (SEM) approach with the assistance of SmartPLS software [18]. The data analysis process includes testing the measurement model to ensure convergent and discriminant validity and composite reliability, followed by testing the structural model to evaluate the relationships between latent variables, test hypotheses, and measure R-squared values to assess the model's explanatory power.

The research procedure includes planning and drafting the questionnaire based on relevant literature reviews, collecting data by distributing the questionnaire directly to 100 respondents in the field, processing and analyzing the data using SmartPLS software, and interpreting and concluding the results to answer the research questions and test the proposed hypotheses.

3. RESULT

3.1 Respondent Characteristics by Gender

This study was conducted with 100 respondents who met the criteria of being farmers in Luwu Regency. The gender characteristics of the respondents (Fig. 2) show that the majority of the farmers in Luwu Regency are male, comprising 63%, while the remaining 37% are female.

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These results indicate that the farming profession is predominantly undertaken by men compared to women.

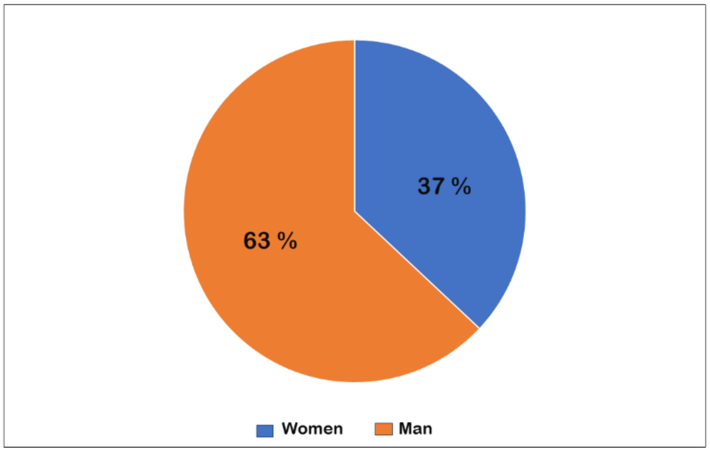

Fig. 2: Characteristics of respondents based on gender

3.2 Respondent Characteristics by Age

The age characteristics of the respondents indicate that the majority of farmers in Luwu Regency are aged 47 y to 56 y, accounting for 38%. The remaining age groups are as follows: 7% are aged 17 y to 26 y, 22% are aged 27 y to 36 y, 24% are aged 37 y to 46 y, and 9% are over 57 y. These findings suggest that farming is mainly conducted by individuals aged 47 y to 56 y (Fig. 3).

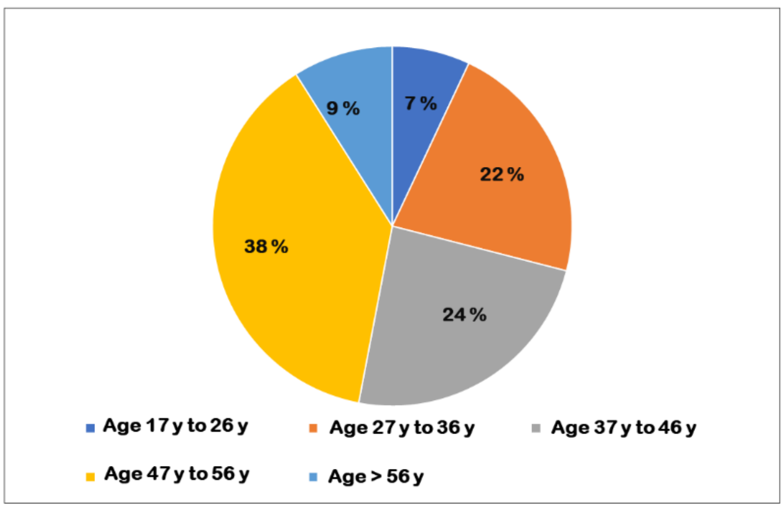

Fig. 3: Characteristics of respondents based on age

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3.3 Respondent Characteristics by Education Level

The education level characteristics of the respondents (Fig. 4) show that the majority of farmers in Luwu Regency have an elementary school education, accounting for 33%. The remaining educational levels are as follows: 20% have a junior high school education, 15% have a high school education, 6% have a bachelor's degree, and 26% have other educational backgrounds. These results indicate that a large proportion of farmers have an elementary school education.

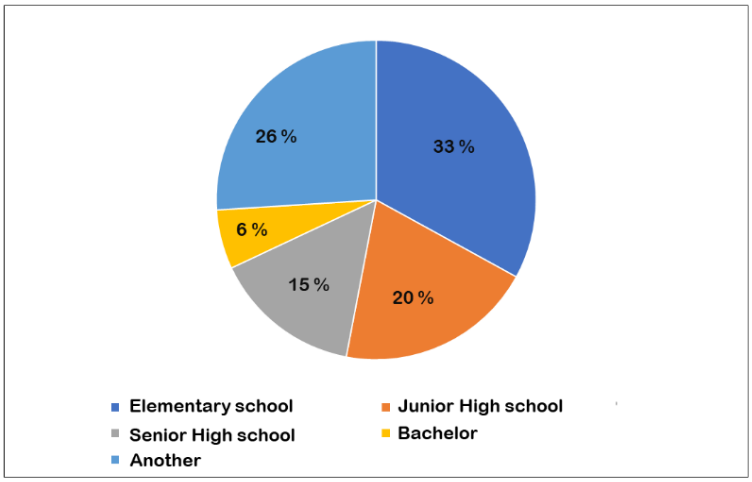

Fig. 4: Characteristics of respondents based on last education

3.4 Respondent Characteristics by Farming Experience

The farming experience characteristics of the respondents reveal that most farmers in Luwu Regency have 16 to 20 years of farming experience, accounting for 28%. The remaining levels of experience are as follows: 14% have 1 to 5 years of experience, 22% have 6 to 10 years of experience, 25% have 11 to 15 years of experience, and 11% have over 20 years of experience (Fig. 5).

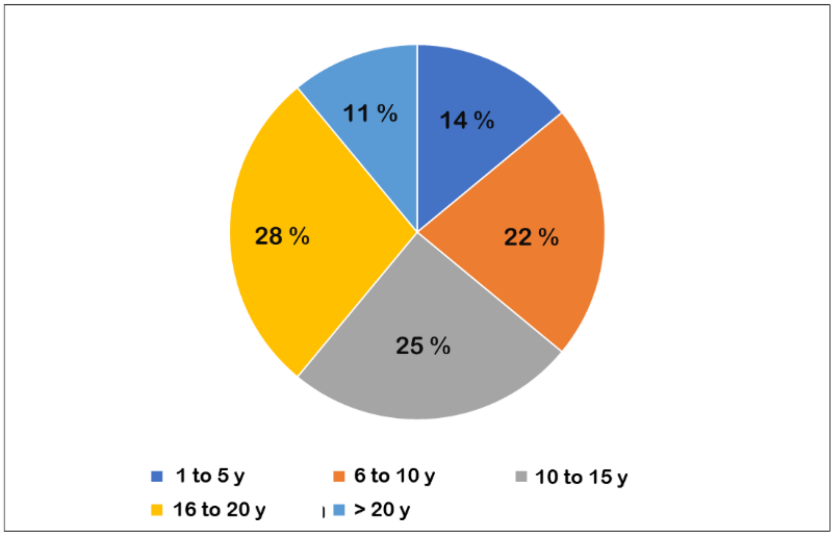

Fig. 5: Characteristics of respondents based on farming experience

3.5 Respondent Characteristics by Land Ownership

The land ownership characteristics of the respondents show that the majority of farmers in Luwu Regency own more than 3 hectares of land, accounting for 59%. The remaining 41% own less than 3 hectares (Fig. 6).

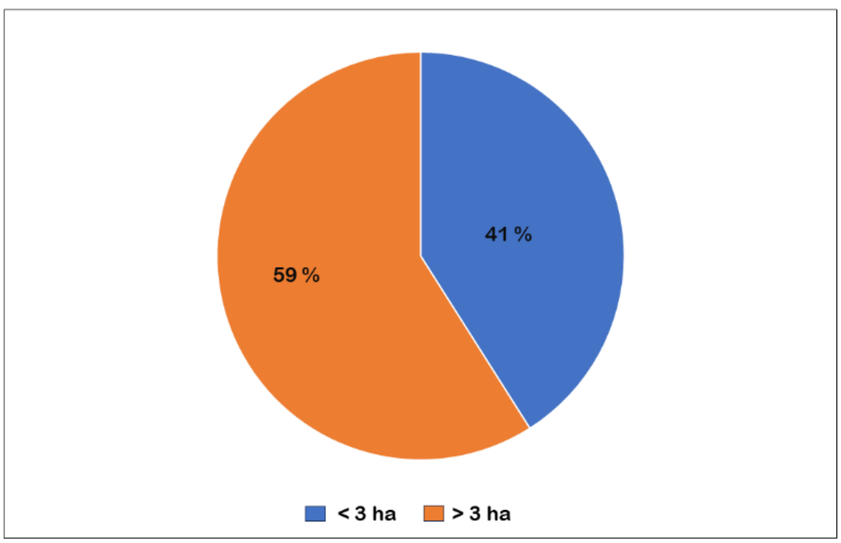

Fig. 6: Characteristics of respondents based on land ownership

3.6 Outer Model Analysis

3.6.1 Validity Test Results

The table below shows the AVE values for each variable in this study.

Table 1: *Average Variant Extracted*

Variabel	AVE	Keterangan
Extension Agent Performance	0,656	Valid
Smart Farming Technology Usage	0,663	Valid
Farmer Behavior	0,638	Valid

Based on these AVE values, it can be seen that each variable has an AVE value greater than 0.5. An AVE value greater than 0.5 indicates that the questionnaire instrument used in this study has good convergent validity (Hair et al., 2019; Henseler, 2020). These results show that the instrument accurately measures the intended construct, making it suitable for collecting valid data and supporting the analysis and conclusions drawn in this study.

3.6.2 Reliability Test

Reliability testing in this study is based on Cronbach's alpha and composite reliability. Cronbach's alpha values above 0.7 serve as the lower bound for reliability, while composite reliability values ranging from 0.7 to 0.95 represent the upper bound. Values exceeding these thresholds may indicate redundancy among the indicators (Hair et al., 2019).

Table 2: Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Description
Extension Agent Performance	0.739	0.851	Reliable
Smart Farming Technology Usage	0.745	0.855	Reliable
| Farmer Behavior	0.812	0.876	Reliable

The reliability test results presented in the table above show that all variables have Cronbach's alpha values greater than 0.7 and composite reliability values between 0.7 and 0.95. This indicates the absence of redundancy among the indicators. Therefore, it can be concluded that all indicators used in this study are reliable.

Figure 6 depicts the structural model showing the relationships between extension agent performance (X1), smart farming technology usage (X2), and farmer behavior (Y). This model provides insights into how these factors interact within the agricultural context.

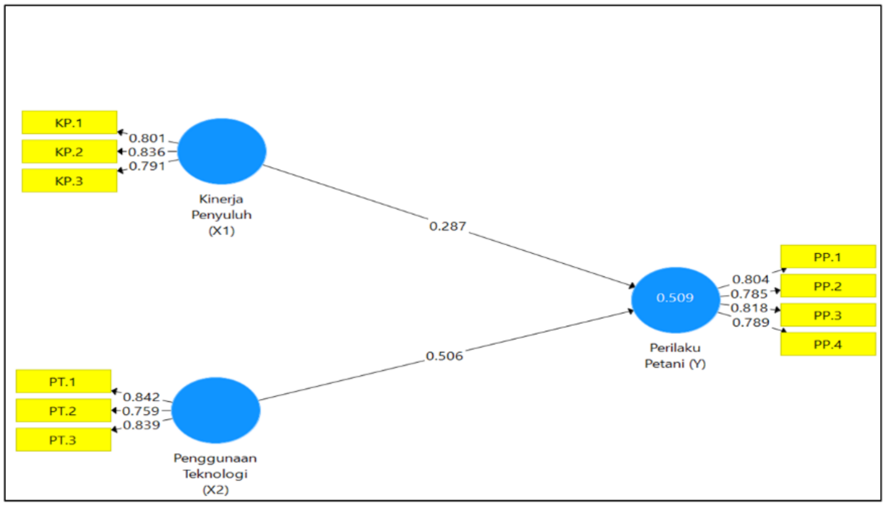

Fig. 7: Outer Model

Extension Agent Performance (X1) is represented by three indicators: KP.1, KP.2, and KP.3, with loading factor values of 0.801, 0.836, and 0.791, respectively. These values indicate the strength of each indicator in reflecting extension agent performance in the model. The direct relationship between extension agent performance and farmer behavior is represented by a path coefficient of 0.287, indicating a significant yet relatively smaller influence compared to other variables in the model.

Smart Farming Technology Usage (X2) is represented by three indicators: PT.1, PT.2, and PT.3, with loading factor values of 0.842, 0.759, and 0.839, respectively. These values show the strength of the relationship between these indicators and smart farming technology usage. Smart farming technology usage also has a direct relationship with farmer behavior, shown by a path coefficient of 0.506, indicating a larger influence on farmer behavior compared to extension agent performance.

Farmer Behavior (Y) is represented by four indicators: PP.1, PP.2, PP.3, and PP.4, with loading factor values of 0.804, 0.785, 0.818, and 0.789, respectively. These values indicate that farmer behavior is influenced by both independent variables, extension agent performance, and smart farming technology usage. Overall, the model demonstrates that both extension agent performance and smart farming technology usage have significant positive impacts on farmer behavior. The R-squared value of 0.509 indicates that 50.9% of the variance in farmer behavior can be explained by these two variables, emphasizing their importance in shaping better farmer behavior.

3.7 Inner Model Analysis

3.7.1 R-Square Test

The R-square value is used to assess the extent to which independent variables explain the variation in the dependent variable. An R-square value is considered substantial or strong if it reaches 0.75. It is categorized as moderate if the value is 0.50, and weak if it is 0.25. An R-square value above 0.9 may indicate overfitting (Hair et al., 2019; Sarstedt, Ringle & Hair, 2021).

Table 3: R-Square Test

Variable	R-Square	R-Square Adjusted
Farmer Behavior	0.509	0.499

Based on the R-Square value of 0.509 for the Farmer Behavior variable, it can be concluded that approximately 50.9% of the variation in Farmer Behavior is explained by the variables of Extension Worker Performance and Technology Use. The remaining 49.1% of the variation in Farmer Behavior is attributed to factors outside the scope of this research model.

3.7.2 Hypothesis Testing

Hypothesis testing results indicate that extension agent performance (X1) has a significant influence on farmer behavior (Y). This is shown by a T-statistic value of 3.445, which is greater than the critical value of 1.984, and a P-value of 0.001, which is less than the significance level of 0.05. This means that better extension agent performance tends to result in more positive and productive farmer behavior in their agricultural activities.

Table 4: Hypothesis Testing

Variable	T Statistic	P Value	Explanation
Agricultural counseling agent's performance (X1)→Farmer behavior (Y)	3.445	0.001	Significant
Smart Farming Technology application (X2)→Farmer behavior (Y)	5.460	0.000	Significant

Additionally, smart farming technology usage (X2) is also proven to have a significant influence on farmer behavior (Y). This is evidenced by a T-statistic value of 5.460, which far exceeds the critical value of 1.984, and a P-value of 0.000, which is well below 0.05. This shows that the adoption of smart farming technology by farmers significantly contributes to shaping better farmer behavior, such as increasing efficiency and effectiveness in agricultural practices.

Overall, the data confirms that both extension agent performance and smart farming technology usage are important factors influencing farmer behavior. Effective extension agent performance can provide the necessary guidance and assistance to farmers, while smart farming technology helps farmers face challenges and improve agricultural outputs.

Figure 7 shows the structural model depicting the relationships between extension agent performance (X1), smart farming technology usage (X2), and farmer behavior (Y). Each variable has several indicators representing the measured aspects in this study.

Extension agent performance (X1) is represented by three indicators: KP.1, KP.2, and KP.3, with respective values of 18.117, 15.502, and 15.036. This performance has a direct relationship with farmer behavior, shown by a line with a T-statistic value of 3.445, indicating a significant relationship between improved extension agent performance and positive changes in farmer behavior.

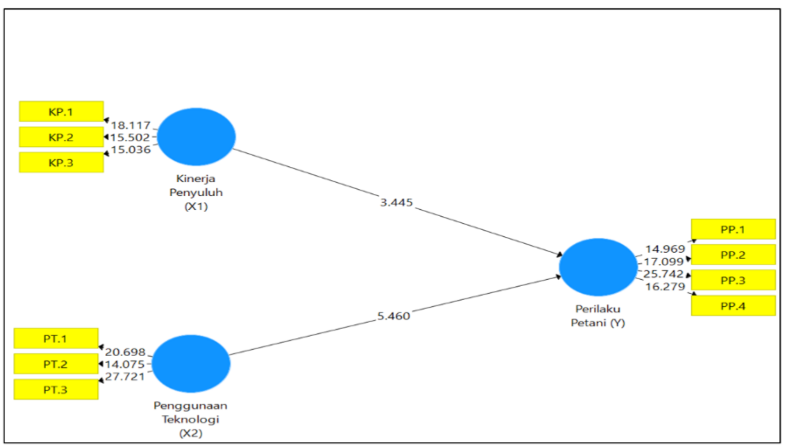

Fig. 8: Inner Model

Smart farming technology usage (X2) is represented by three indicators: PT.1, PT.2, and PT.3, with respective values of 20.698, 14.075, and 27.271. This technology also has a direct relationship with farmer behavior, shown by a line with a T-statistic value of 5.460. This means that the use of smart farming technology significantly influences farmer behavior positively.

Farmer behavior (Y) is represented by four indicators: PP.1, PP.2, PP.3, and PP.4, with respective values of 14.969, 17.099, 25.742, and 16.279. Farmer behavior is influenced by both extension agent performance and smart farming technology usage, showing that both independent variables (X1 and X2) significantly contribute to changes in farmer behavior. Overall, this graph illustrates that both extension agent performance and smart farming technology usage have significant positive impacts on farmer behavior. This is reflected by high and significant T-statistic values, showing the importance of these factors in improving farmer behavior and practices.

4. DISCUSSION

4.1 The Influence of Agricultural counseling Performance on Farmer Behavior

Based on the research results, the variable of agricultural counseling performance has a significant impact on farmer behavior, with a t-statistic value of 3.445 > 1.984 and a p-value of 0.001 < 0.05. These results indicate that improved performance of agricultural counseling workers can shape better farmer behavior. In other words, the higher the performance of agricultural counseling workers, the better the behavior of farmers in conducting agricultural activities. Conversely, if the performance of agricultural counseling workers is low, the behavior of farmers will also tend to be poor. This finding underscores the importance of the role of extension workers in providing direction and knowledge regarding good agricultural practices.

Good performance of agricultural counseling workers includes various aspects, such as the ability to provide relevant and up-to-date information, skills in delivering extension materials, and the ability to build good relationships with farmers [19]. When extension workers can provide accurate and beneficial information, farmers are more motivated to adopt better agricultural practices. Additionally, extension workers with good communication skills can explain agricultural concepts in ways that are easy for farmers to understand, thereby enhancing farmers' understanding and acceptance of the information provided.

Previous research also supports these findings. Reference [16] showed that the performance of extension workers can support the formation of farmer behavior in the adoption of technology. In their study, farmers who received good extension services were more likely to adopt the latest agricultural technologies. This indicates that effective extension workers are not only capable of conveying information but also of encouraging behavioral changes necessary to enhance agricultural productivity.

Reference [20] also found that the performance of agricultural counseling workers affects farmer behavior. They emphasized that extension workers who actively provide guidance and training to farmers can improve farmers' knowledge and skills. This improvement, in turn, influences farmers' attitudes and behavior in managing their farming enterprises. Thus, well-performing extension workers can be effective change agents in improving agricultural quality in a region.

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These findings are highly relevant in the context of Luwu Regency. Agricultural counseling workers in this area need to continuously improve their performance to ensure that farmers receive the necessary guidance to optimize their agricultural yields. Providing information on more efficient agricultural techniques, the use of smart farming technologies, and sustainable farming practices can increase productivity and sustainability of agriculture in the region [21].

Furthermore, good performance of agricultural counseling workers also contributes to improving farmers' welfare. Proper guidance to farmers can increase their harvests, which in turn can boost their income and welfare [22–24]. This aligns with research findings indicating that effective extension workers can help farmers overcome various challenges they face, such as climate change, pests, and plant diseases.

Good performance of agricultural counseling workers also includes the ability to build good relationships with farmers [25]. Extension workers who can build trust with farmers are more effective in conveying information and motivating farmers to adopt better agricultural practices. This trust is crucial as farmers tend to be more receptive to and implement information from sources they trust [26].

Moreover, well-performing extension workers must also have the ability to continuously learn and adapt to changes in the agricultural world. As technologies and agricultural practices evolve, extension workers need to stay up-to-date with the latest developments to provide relevant and accurate information to farmers. Well-performing extension workers not only provide accurate information but also continually develop themselves to be more effective in their roles [27].

Good performance of agricultural counseling workers has a significant impact on farmer behavior. Extension workers who can provide relevant information, possess good communication skills, and build good relationships with farmers can help enhance farmers' knowledge, skills, and attitudes in managing their farming enterprises. This, in turn, can increase agricultural productivity and farmers' welfare in Luwu Regency. This research highlights the importance of investing in the training and development of agricultural counseling workers to improve their performance and ultimately support better agricultural development.

4.2 The Influence of Smart Farming Technology Use on Farmer Behavior

Based on the research results, the variable of smart farming technology use has a significant impact on farmer behavior. A t-statistic value of $5.460 > 1.984$ and a p-value of $0.000 < 0.05$ indicate that the use of this technology can significantly shape better farmer behavior. In other words, the better and more optimal the use of smart farming technology, the better the behavior of farmers in facing various challenges and risks associated with their agricultural activities. This

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finding underscores the importance of adopting modern technology in agricultural practices to improve effectiveness and efficiency.

Smart farming technology encompasses various applications and tools that can help farmers manage their land more effectively [13]. This includes the use of soil and weather sensors, automated irrigation systems, drones for crop monitoring, and data-based applications for more detailed farm management. These technologies enable farmers to make more accurate decisions based on precise data, reducing risks and increasing crop yields. For instance, soil sensors can provide real-time information about soil moisture, allowing farmers to irrigate their crops at the right time and with the right amount of water.

Previous research also supports these findings. Reference [14]showed that the use of smart farming technology positively affects farmer behavior. Their research indicated that farmers who adopt this technology are better able to manage their farming enterprises more efficiently and effectively. They are more responsive to environmental and weather changes and more prepared to face challenges in the agricultural production process.

Reference [15] also found that the use of technology shapes better farmer behavior. This research emphasized that technology not only assists farmers operationally but also influences their attitudes and ways of thinking. Farmers using smart farming technology tend to be more open to innovation and more proactive in seeking solutions to agricultural problems [28, 29]. This shows that technology impacts not only the technical aspects of farming but also the psychological and behavioral aspects of farmers.

The adoption of smart farming technology in the context of Luwu Regency is becoming increasingly relevant. This region, like many other agricultural areas in Indonesia, faces various challenges such as climate change, pest attacks, and resource limitations. Adopting smart farming technology can help farmers in Luwu Regency manage their land more effectively and increase productivity. Additionally, this technology can help farmers monitor crop and soil conditions, allowing them to take appropriate actions to prevent crop damage and enhance yields.

Moreover, the use of smart farming technology also contributes to improving farmers' welfare [30, 31]. By using this technology, farmers can reduce production costs through more efficient resource use. For example, automated irrigation systems can reduce water usage, while crop monitoring with drones can help identify problems in crops early, allowing for intervention before significant losses occur. Similarly, reference [32] indicated that smart farming technology not only increases productivity but also reduces costs and risks, ultimately enhancing farmers' income and welfare.

Besides economic benefits, smart farming technology also has significant social impacts. Farmers who use this technology tend to be more confident in facing agricultural challenges and more adaptable to changes [33]. They are also more likely to share knowledge and experiences with other farmers, creating a more informed and collaborative farming community. This demonstrates that smart farming technology can strengthen social networks and enhance solidarity among farmers [34].

The adoption of smart farming technology, on the other hand, demands increased capacity and knowledge from farmers. Farmers need to be trained to use this technology effectively. Therefore, training and extension programs focusing on the use of agricultural technology are crucial. Agricultural counseling workers need to be equipped with adequate knowledge and skills to support farmers in adopting and utilizing smart farming technology [35]. This highlights the importance of synergy between technology and human resources in improving agricultural performance.

However, the adoption of smart farming technology is not without challenges. The initial cost of adopting this technology can be a barrier for farmers, especially those with limited resources. Therefore, support from the government and the private sector in the form of subsidies or assistance programs is needed to help farmers access this technology. Additionally, it is important to ensure that the technology adopted is appropriate for local conditions and specific needs of farmers in the region.

The use of smart farming technology has a significant impact on the behavior of farmers in Luwu Regency. This technology not only enhances productivity and efficiency but also shapes farmers' attitudes and behaviors to be more proactive, innovative, and responsive to agricultural challenges. This research highlights the importance of investing in modern agricultural technology and training for farmers, as well as the need for support from various parties to facilitate the adoption of this technology. Thus, smart farming technology can be an effective tool in improving farmers' welfare and agricultural sustainability in Luwu Regency.

4.3 Implications for Policy and Practice

Improving the performance of agricultural extension workers should be a policy priority for both the government and NGOs. Effective extension workers not only disseminate knowledge but also play a crucial role in building trust with farmers, which is essential for increasing the acceptance of new information and better farming practices. Policies that support the training and development of extension workers will ensure they can provide relevant and high-quality guidance to farmers. Therefore, the government should allocate adequate resources and support

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for extension worker training, including updating training curricula to align with the latest advancements in agriculture.

Additionally, the adoption of smart farming technologies should be promoted through policies that facilitate access to and uptake of these technologies by farmers. Subsidy programs or incentives for purchasing agricultural technologies, such as soil sensors, automatic irrigation systems, and data-driven applications, can help reduce financial barriers for farmers. The government and NGOs can also facilitate training and education on the use of these technologies, as well as provide ongoing technical support. By promoting technologies that enhance efficiency and agricultural outcomes while reducing production risks and costs, farmers will be better equipped to adapt to existing challenges and improve their livelihoods.

It is also important to encourage collaboration between agricultural extension workers and technology providers. Programs that integrate extension services with smart farming technologies can improve the adoption of better farming practices. Extension workers trained in the latest technologies can offer direct guidance to farmers on how to utilize technology to enhance agricultural outputs. Furthermore, regular evaluation and monitoring of the effectiveness of extension services and technologies will help identify and address issues and adjust strategies for optimal results.

Overall, an integrated approach that combines the enhancement of extension worker performance with the adoption of modern technologies will significantly impact farmers' behavior and improve their production and well-being. The government and NGOs should work together to design policies that support both aspects to advance the agricultural sector in Indonesia effectively and sustainably.

5. CONCLUSION

This study highlights two key factors in shaping better farmer behavior in Luwu Regency: extension worker performance and the use of smart farming technology. Our findings indicate that effective extension worker performance significantly contributes to improved farmer behavior, with t-statistic values showing a strong positive impact. Effective agricultural extension workers not only provide the necessary knowledge and skills but also build good relationships with farmers, thereby enhancing the quality and productivity of agriculture. Additionally, the adoption of smart farming technology has proven to have a greater positive impact on farmer behavior. This technology allows farmers to manage their land more efficiently and respond to environmental changes, which in turn improves crop yields and farmer well-being.

The implications of these findings for sustainable agricultural development in Indonesia are significant. First, improving the quality of agricultural extension worker performance should be a top priority, given their central role in transferring knowledge and technology to farmers. Training and development programs for extension workers should focus on enhancing communication skills, updating knowledge, and building effective relationships with farmers. Second, the widespread adoption of smart farming technology should be encouraged, especially in areas that are still lagging in agricultural technology. This technology not only helps manage production more efficiently but also has the potential to reduce costs and risks associated with agricultural activities. By combining optimal extension worker performance with advanced technology, it is hoped that the agricultural sector in Indonesia can achieve higher sustainability, improve productivity, and ultimately enhance the well-being of farmers across the country.

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