

Understanding Extension Support Services Provided for Rice Farmers by the Local Government Unit (LGU) in Alangalang, Leyte, Philippines

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Abstract

This study examined the extension support services provided to rice farmers by the Local Government Unit (LGU) of Alangalang, Leyte, Philippines. A total of 108 randomly selected rice farmers participated using a structured questionnaire, and descriptive statistics were employed to assess satisfaction levels and identify challenges in service delivery. Results revealed that farmers were highly satisfied with extension support services, particularly the rice seed subsidy (OWM = 2.41), fertilizer subsidy (OWM = 2.35), and crop insurance (OWM = 2.37). In contrast, farmers were moderately satisfied with farm advisory and training services, with average weighted means of 1.91 and 1.90, respectively. This suggests that while material subsidies were effectively delivered, capacity-building services were less frequent, less accessible, or insufficiently aligned with farmer needs. Farmers also reported several challenges affecting LGU service delivery. Limited funding support (WM = 2.64) was identified as a very serious problem, while delays in distribution (WM = 2.00), unfair distribution of services (WM = 1.85), irregular evaluation (WM = 1.86), limited number of extension workers (WM = 1.88), lack of information updates (WM = 2.15), and poor input supply (WM = 2.00) were considered serious problems. Overall, the findings highlight the key role of LGUs in delivering extension services under decentralization. Strengthening their capacity through adequate funding, timely information, more extension personnel, and regular needs-based training is essential to improve farmer satisfaction and productivity. The study recommends enhancing transparency in service delivery and institutionalizing training on modern rice production to support more inclusive and effective agricultural development.

Keywords: extension services, satisfaction, seed subsidy, rice farmers, Philippines

Introduction

In many developing nations, including the Philippines, agriculture is a major source of income (Aguda et al., 2022; Casinillo, 2020). Apparently, an increased agricultural productivity has the potential to increase farming income and alleviate poverty in rural areas, especially for the small-scale farmers. Rice is the single most important agricultural crop in the Philippines and is therefore a major source of income for millions of Filipino farmers (Red et al., 2021; Casinillo & Serioño, 2022; Casinillo, 2022). In the Philippines, rice is the main agricultural crop used to feed domestic animals and provide sustenance for people. Rice covers approximately most of the country's total cropped area (Nalica, 2010). On the face of it, rice production has become a main contributor to the gross domestic product (GDP) of the Philippines and sustains every Filipino in regard to livelihood, especially in rural areas (Casinillo, 2020; Valencia & Zang, 2022). In Eastern Visayas, Leyte is among the major rice-producing provinces, accounting for approximately 52.75 percent of the region's production of 240,530 metric tons in the first quarter of 2025 (Philippine Statistics Authority, 2025). However, rice farmers have a number of challenges that hinder the progress of their production activities, including soil problems, pests and diseases, high inputs, poor market prices, and climate change (Juliano, 2020; Casinillo & Serioño, 2022; Pelobello et al., 2023). Hence, extension service programs are vital in aiding the rice farmers in their production processes.

Extension services help farmers manage their farms more effectively and speed up the transmission of new technologies, which increases agricultural production and closes the yield gap between potential and actual yields in farmers' fields (Casinillo, 2022; Peñafior-elorde et al., 2024). In that case, it is necessary to understand the factors that might be important in increasing farmers' output to improve the current policy of extension services in the country. Assessment and evaluation of the services provided by the local government and some agencies are essential (Bakari et al., 2021). For a variety of reasons, it is crucial to assess how satisfied farmers are with their current situation because farmers are the program's intended beneficiaries, they thought to have the power to assess its effectiveness with their existing circumstances for several reasons, including the fact that since they are the program's intended beneficiaries, they are regarded to have the authority to judge its success (Aguda et al., 2022). Agricultural extension brings about changes through education and communication in farmers' attitudes, knowledge, and skills (Managanta, 2020). The role of agricultural extension involves the dissemination of information, building the capacity of farmers with a variety of communication methods, and helping farmers make informed decisions (Casinillo, 2022). Moreover, the goals of extension include the transfer of knowledge from research to farmers, advising farmers in their decision-making, educating the farmers on how to make better decisions, enabling farmers to clarify their own goals and possibilities, and stimulating desirable agricultural developments (Gurning et al., 2023). According to Managanta (2020), a positive return to agricultural extension services arises because the extension system assists farmers to be better managers, adopt more modern farm inputs, and prefer risky (high return) production technologies.

This study is based on Rogers' Diffusion of Innovations (DOI) theory, which describes how new practices and technology spread within a social system, in order to better understand how farmers interact with agricultural support services. According to the DOI, farmers' adoption decisions are influenced by five innovation attributes: relative advantage, compatibility, complexity, trialability, and observability. According to research by Dorji et al. (2022), adoption behavior is greatly influenced by perceptions of compatibility, complexity, and observability, which help explain why some agricultural innovations are accepted or

rejected. This study's application of DOI allows for an examination of rice farmers' views of LGU-provided extension services and how these perceptions affect farm productivity, satisfaction, and adoption of suggested practices.

The study sought to determine whether rice farmers' access to extension services is relevant to achieving self-sufficiency in rice production through increased farm-level efficiency and a significant reduction in yield losses, given the perceived importance of extension services in raising farm productivity and efficiency in agriculture and the current knowledge gap. Although there are many studies related to the satisfaction of rice farmers with the agricultural support services, limited research has been conducted in Alangalang, Leyte; hence, this study was conducted. This study aimed to assess rice farmers' satisfaction with the agricultural support services provided by the Local Government Unit (LGU) in Alangalang, Leyte. Specifically, this study aimed to: (1) describe the socio-demographic profile of the respondents; (2) identify the agricultural support services program provided by the LGU; (3) determine the satisfaction level of rice farmers on the various agricultural support services of the LGU; and (4) find out the problems encountered by the respondents and suggested solutions to address the existing problems. This study is important because the findings may help policymakers and planners in planning how to carry out policies and strategies that will enhance the participation of rice farmers in development projects. Furthermore, it can serve as a basis for other researchers wishing to conduct a related study.

Methodology

A descriptive research design was employed in this study to evaluate the extension support services for rice farmers provided by the local government unit (LGU) in Alangalang, Leyte, Philippines. This study focused on rice farmers' satisfaction with the agricultural support services provided by the LGU in Alangalang, Leyte, Philippines (e.g., rice seed subsidy, fertilizer subsidy, crop Insurance, farm advisories, and training). This study focused on the specific barangays of Alangalang, Leyte, namely: Calaasan, Hubang, and Mudboron, as these barangays have the highest number of registered rice farmers in the area according to the Municipality Agriculture Office (MAO). This study was conducted from October to November 2023 in three barangays of Alangalang, Leyte, namely: Calaasan, Hubang, and Mudboron. Figure 1 shows the map of the municipality of Alangalang, Leyte, as a locale of the study.

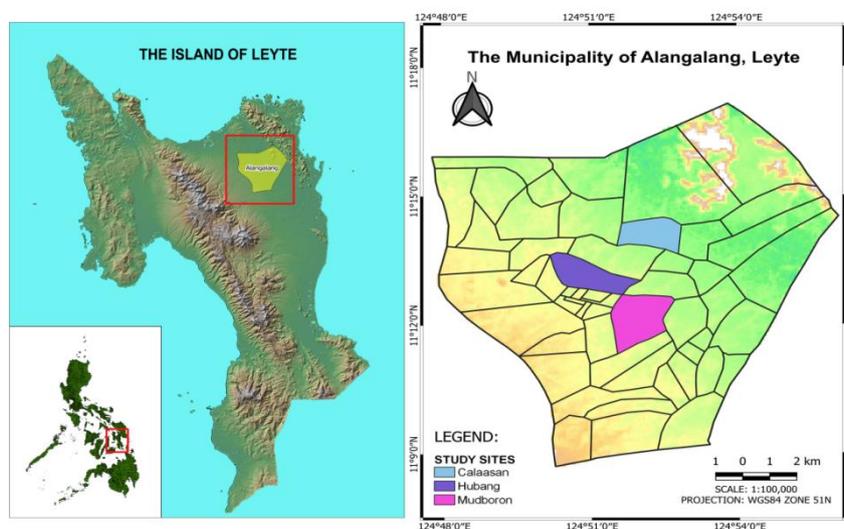


Figure 1. Locale of the study

A consent letter was secured from a higher official in the municipality of Alangalang, Leyte, asking permission to conduct the study. Another formal letter request was sent to the Municipal Agriculture Office (MAO) to collect the secondary data on the list of registered rice farmers in the municipality of Alangalang, Leyte. In determining the sample size, Slovin's formula was used with 8% margin of error. To solve the number of respondents per barangay, the ratio and proportion were used. Table 1 shows the distribution of respondents.

Table 1. Distribution of respondents per barangay

Barangay	Number of registered farmers	Sample size
Calaasan	76	23
Hubang	139	43
Mudboron	136	42
Total	351	108

Another request letter was also sent to the barangay chairman to formally ask permission to conduct an interview. Before the interview survey, the farmers were informed that their participation was voluntary, and the data collected from them were highly confidential and intended for study purposes only. The data were collected using a researcher-made interview schedule, which was drafted in English and translated into a local dialect (Leyte-Samaron). The said research instrument was divided into five parts: Part I: Socio-demographic profile of the respondents; Part II: Agricultural support services program provided by the LGU; Part III: Farmers' satisfaction on the various agricultural support services; and Part IV: Problems encountered by the respondents and suggested solutions to address the existing problems. The 3-point Likert scale was used to analyze Farmers' Satisfaction on the extension Services provided by the LGU (i.e., 1-Dissatisfied; 2-Moderately satisfied, and 3-Highly Satisfied). In addition, to analyze the extent of the problem encountered by the farmers, a 3-point Likert was used (1-a problem; 2-a serious problem, and 3-a very serious problem). Tables 2 and 3 show the perception scores and their interpretation of 2 types of 3-point Likert scales.

Table 2. Mean satisfaction perception scores and their description.

Response	Mean Perception score	Description
1	1.00 - 1.67	Dissatisfied
2	1.68 - 2.33	Moderately Satisfied
3	2.34 - 3.00	Highly satisfied

Table 3. Mean problem perception scores and their description.

Response	Mean Perception score	Description
1	1.00 - 1.67	A problem
2	1.68 - 2.33	A serious problem
3	2.34 - 3.00	A very serious problem

The collected data were then encoded in Microsoft Excel, and coding was applied. In analyzing the data, standard descriptive statistics such as frequency distribution, percentage, and weighted mean were computed and presented in a statistical table. Appropriate interpretation and discussion of statistical results were employed accordingly.

Results and Discussion

Socio-demographic Profile of the Respondents

The socio-demographic profile of the respondents is presented in Table 4. The results reveal that respondents were predominantly middle-aged, with ages ranging from 22 to 45 years old (26.85%), nearly half in the 46-59 age group (44.44%), and 28.70% in the senior age group of 60 and above. The majority of respondents fall within the 46-59 age range, indicating that in rice farming, this age group is considered active and productive. Casinillo (2020) found a similar trend, with the average age of Filipino rice farmers being 54. A majority of respondents were female (58.33%), while nearly half were male (42%). According to Chakma et al. (2021), women are getting involved and participating in rice farming activities nowadays. In terms of civil status, the majority were married (73.14%), followed by single (16%), and widowed (11.11%). Casinillo and Serino (2022) portrayed that married farmers have advantages in agricultural production and technology adoption since they are more responsible. Regarding educational attainment, nearly half had primary level education (42.59%), followed by secondary level (36.11%), tertiary level (19.44%), and vocational courses (1.85%). This suggests that most farmers had a lower level of education. Furthermore, a majority reported a monthly farm income below 10,000 pesos (75.92%), with 10,000-19,999 pesos (10.18%), 20,000-29,999 pesos (0.92%), and 50,000-59,999 pesos (0.92%). About 10.18% of the farmers do not have income but rather their rice output is just enough for family consumption. Palis et al. (2015) found that Filipino rice farmers often face poverty due to insufficient capital for rice cultivation. In terms of household size, 5-6 members constituted the majority (37.96%), indicating larger family sizes, while the lowest was 12-13 members (0.92%). Concerning farm size, the majority of respondents had a farm size of 1-2 hectares (60.18%), below 1 hectare (24.07%), 3-4 hectares (10.18%), and 5 hectares and above (5.55%). In terms of tenurial status, the majority were tenants (70.37%), followed by landowners (28.70%), and renters (0.92%), indicating that most farmers are tenants, which is consistent with the findings of Casinillo (2020).

Table 4. Socio-demographic profile of the respondents

Variables	Frequency (n=108)	Percentage (%)
Age		
Adult (22-45)	29	26.85
Old (46-59)	48	44.44
Senior (60 and above)	31	28.70
Total	108	100
Mean: 53		
Sex		
Male	45	42
Female	63	58.33
Total	108	100
Civil Status		
Single	17	16
Married	79	73.148
Widowed	12	11.11
Total	108	100
Number of Years of Schooling		
Elementary level (1-6)	46	42.59
High School level (7-10)	39	36.11

Variables	Frequency (n=108)	Percentage (%)
College level (11-14)	21	19.44
Vocational Courses	2	1.85
Total	108	100
Household Size		
1-2	15	13.88
3-4	39	36.11
5-6	41	37.96
7-8	10	9.25
9-10	2	1.85
11-12	-	-
12-13	1	0.92
Total	108	100
Monthly Farm Income		
Below 10,000	82	75.92
10,000-19,999	11	10.18
20,000-29,999	2	1.85
30,000-39,999	-	-
40,000-49,999	1	0.92
50,000-59,999	1	0.92
0	11	10.18
Total	108	100
Farm Size (Hectare)		
Below 1 ha	26	24.07
1-2 ha	65	60.18
3-4 ha	11	10.18
5 ha and above	6	5.55
Mean: 2.49		
Total	108	100
Tenurial Status		
Landowner	31	28.70
Tenant	76	70.37
Rented/Leased	1	0.92
Total	108	100

Awareness of extension services

The most prominent and extensively advertised agricultural support services in the area are the rice seed subsidy, fertilizer subsidy, and crop insurance, as Table 5 demonstrates that all respondents (100%) are aware of them. Another factor contributing to the high level of awareness of these programs is the proactive execution and consistent information sharing by agricultural extension agents and local government entities. However, awareness levels differ

for other services, with training receiving 54.62% and farm advisories receiving 66.66%. Rural areas lack access to agricultural information services due to agricultural structures' disregard for service delivery (Bonephace et al., 2022). In the study of Bakari et al. (2021) and Casinillo (2022), it is portrayed that farmers become dependent on input providers for information when they lack awareness and the necessary knowledge from reliable sources, such as public extension service providers.

Table 5. Awareness of extension services on various agricultural service programs

Awareness of extension services	Frequency (n=108)	Percentage (%)
Rice seed subsidy	108	100
Fertilizer subsidy	108	100
Crop Insurance	108	100
Farm advisories	72	66.66
Training	60	55.55

*Multiple response

Farmers' Satisfaction with the Extension Services

The degree of satisfaction that the respondents had with the rice seed subsidy is shown in Table 6. According to the results, farmers are highly satisfied with every factor assessed, including accessibility (WM=2.16), relevance (WM=2.57), availability (WM=2.43), and efficacy (WM=2.48). The average weighted mean of 2.41 indicates that farmers are generally quite satisfied. This suggests that the rice seed subsidy program has been carried out well and that farmers are usually happy with the distribution and availability of high-quality rice seeds. Additionally, the results indicate that the program has a good effect on farmers' farming operations and satisfies their output needs. The high degree of satisfaction is consistent with the findings of Bishwakarma and Kattel (2025), who highlighted that a variety of personal, household, and farm-related traits, as well as governance aspects and service providers' capacity, all affect farmers' satisfaction. Their research also showed that, in addition to individual and farm characteristics, the technical proficiency of local government employees, the proper distribution of funding for agricultural initiatives, and the promptness and accountability of service delivery all significantly influence farmers' overall satisfaction. These findings imply that the efficiency, openness, and responsiveness of the organizations in charge of providing agricultural services are just as important to the effective implementation of programs as the quality of the inputs supplied.

Table 6. Farmers' satisfaction with rice seed subsidy

Farmers' Satisfaction with Rice Seed Subsidy	Weighted mean (WM)	Description
Availability	2.43	Highly satisfied
Accessibility	2.16	Highly satisfied
Relevance	2.57	Highly satisfied
Effectiveness	2.48	Highly satisfied
Overall weighted mean (OWM)	2.41	Highly satisfied

Table 7 indicates that farmers had a moderate level of satisfaction with accessibility (WM=2.05) but a high level of satisfaction with the program's relevance (WM=2.63), efficacy (WM=2.59), and availability (WM=2.13). The fertilizer subsidy program largely satisfies farmers' needs and has a beneficial impact on rice output, as seen by the overall mean of 2.35,

which is considered highly satisfied. The lower degree of satisfaction with accessibility, however, indicates that some farmers may have had trouble getting fertilizers, either as a result of local supply shortages or delays in distribution. This result confirms the findings of Casinillo and Serioño (2022), who highlighted that timely, transparent, and efficient service delivery is just as important to farmers' happiness as the quality of supplies supplied. Similar to this, Baig and Aldosari (2013) ascribed public extension services' shortcomings to issues such as restricted funding, a lack of response to farmers' needs, poor outreach, low staff morale and skill levels, and insufficient distribution of pertinent information. These factors might potentially play a part in the accessibility problems with the fertilizer subsidy program. Therefore, boosting extension staff capability, strengthening resource allocation, and improving delivery methods could raise farmers' satisfaction and guarantee the program's long-term efficacy.

Table 7. Farmers' satisfaction with fertilizer subsidy

Farmers' Satisfaction with Fertilizer Subsidy	Weighted mean (WM)	Description
Availability	2.13	Highly satisfied
Accessibility	2.05	Moderately satisfied
Relevance	2.63	Highly satisfied
Effectiveness	2.59	Highly satisfied
Overall weighted mean (OWM)	2.35	Highly satisfied

Table 8 shows that farmers are highly satisfied with the farm advisory in terms of its relevance (WM = 2.13), but only moderately satisfied with its availability (WM = 1.75), accessibility (WM = 1.81), and effectiveness (WM = 1.93). Although farmers acknowledge the value and practicality of advisory services, they perceive specific constraints in their availability and delivery, according to the overall weighted mean of 1.91, which is characterized as moderately satisfied. Due to a lack of extension staff, irregular field visits, or poor communication routes, the average ratings imply that advisory services could not be frequently or consistently available to farmers. These findings are consistent with the study of Baig and Aldosari (2013), who reported that public extension services often face challenges such as insufficient funding, weak farmer outreach, and limited responsiveness to farmers' needs. Similarly, Ullah et al. (2022) emphasized that the lack of timely and credible information from extension workers leads farmers to rely more on informal sources, reducing the perceived effectiveness of advisory services.

Table 8. Farmers' satisfaction with farm advisory

Farmers' Satisfaction with Farm Advisory	Weighted mean (WM)	Description
Availability	1.75	Moderately satisfied
Accessibility	1.81	Moderately satisfied
Relevance	2.13	Highly satisfied
Effectiveness	1.93	Moderately satisfied
Overall weighted mean (OWM)	1.91	Moderately satisfied

According to Defiesta and Mediodia (2016), rice insurance in the Philippines is a major program of the Philippine Crop Insurance Corporation (PCIC), a government-owned and controlled corporation under the Department of Agriculture. PCIC's primary mandate is to provide insurance protection to agricultural producers, especially subsistence farmers, against

losses due to natural calamities, pests, and diseases, while also offering loan guarantee coverage for uninsured crops. As shown in Table 9, farmers are highly satisfied with all aspects of the crop insurance program—availability (WM=2.24), accessibility (WM=2.16), relevance (WM=2.56), and effectiveness (WM=2.50)—with an overall mean of 2.37. This suggests that the program is well-implemented, relevant, and effective in safeguarding farmers from production risks. The result aligns with Bezati et al. (2024), who found that farmers’ satisfaction with agricultural insurance is influenced by the quality and design of the insurance policy, farmers’ socioeconomic characteristics, and the government’s active role in ensuring fair and efficient service delivery.

Table 9. Farmers’ satisfaction with Crop Insurance

Farmers' Satisfaction with Crop Insurance	Weighted mean (WM)	Description
Availability	2.24	Highly satisfied
Accessibility	2.16	Highly satisfied
Relevance	2.56	Highly satisfied
Effectiveness	2.50	Highly satisfied
Overall weighted mean (OWM)	2.37	Highly satisfied

The respondents' degree of satisfaction with training services is shown in Table 10. The findings indicate that, with an average mean of 1.90, farmers are only moderately satisfied with all four indicators: availability (WM=1.85), accessibility (WM=1.80), relevance (WM=2.01), and efficacy (WM=1.94). This implies that although training programs are helpful, they might not be held regularly, may not be easily accessible to all farmers, and may face problems with facilitators who lack the required training or with information that is not fully tailored to each farmer's needs. This result is in line with Red et al. (2021), who highlighted that the factors, including skills of the trainers, training material, and program design as a whole, affect farmers' satisfaction. Casinillo (2022) also portrayed that limited access to well-structured training sessions and a lack of follow-up support frequently hinder the effectiveness of extension services in enhancing farmers' knowledge and skills. Furthermore, Ituriaga et al. (2024) underscored that improving service quality, particularly the relevance, accessibility, and consistency of training offerings, is essential for strengthening agricultural resilience and ensuring that extension interventions meaningfully support farmers' capacity development.

Table 10. Farmers’ satisfaction with training services

Farmers' Satisfaction with Training Services	Weighted mean (WM)	Description
Availability	1.85	Moderately satisfied
Accessibility	1.80	Moderately satisfied
Relevance	2.01	Moderately satisfied
Effectiveness	1.94	Moderately satisfied
Overall weighted mean (OWM)	1.90	Moderately satisfied

Table 11 shows that the most serious issues identified are the limited funding support (WM = 2.64), described as a very serious problem. Other concerns, such as delay in distribution (WM = 2.00), unfair distribution of services (WM = 1.85), irregular evaluation (WM = 1.86), limited number of extension workers (WM = 1.88), lack of information updates (WM = 2.15), and poor input supply (WM = 2.00), were all considered serious problems. The overall mean of 2.05 indicates that, in general, farmers face significant challenges in the delivery and

management of extension services. These findings are consistent with Baig and Aldosari (2013), who pointed out that inefficiencies in public extension systems are often due to limited financial resources, insufficient manpower, and weak monitoring mechanisms. Similarly, Aguda et al. (2022) highlighted that enhancing reliability, responsiveness, and input quality can strengthen farmers’ trust in government programs, improve productivity, and promote sustainable agricultural development—factors that are vital not only for agricultural progress but also for the overall economic growth of the Philippines.

Table 11. Problems encountered by the rice farmers

Problem encountered	Weighted mean (WM)	Description
Delay distribution	2.00	A serious problem
Unfair distribution of extension services	1.85	A serious problem
Irregular evaluation	1.86	A serious problem
Limited number of extension workers	1.88	A serious problem
Lack of information update	2.15	A serious problem
Limited funding support	2.64	A very serious problem
Poor input supply	2.00	A serious problem
Overall weighted mean (OWM)	2.05	A serious problem

Table 12 presents the suggested solutions of the respondents to improve the delivery of agricultural extension services. Based on the results, all farmers (100%) ranked it as the top priority and stressed the necessity of allocating cash for services to guarantee consistent program implementation. In line with research that links sufficient budget allocation to efficient extension service delivery, this emphasizes the significance of ongoing financial assistance in bolstering agricultural projects (Lukhalo & Zwane, 2022). About 92.59% of respondents ranked information access as the second most crucial solution, highlighting the necessity of prompt and open contact between farmers and extension agents. This aligns with Alzahrani et al. (2023), who found that delays or inadequacies in information delivery significantly reduce the effectiveness of public extension and advisory services in promoting sustainable rice production, emphasizing that responsive and relevant information is essential for enhancing farmer productivity and engagement. Timely distribution of services, such as fertilizer subsidies, was ranked third (91.66%), indicating that delays in service delivery hinder productivity. Hazrana (2024) supports this, demonstrating that input subsidies and extension services jointly enhance rice farming productivity, meaning that any delays can significantly diminish the benefits to farmers. Finally, 81.48% of farmers expressed worries about equity and inclusivity by suggesting that subsidies should benefit all farmers. Wang et al. (2025) emphasize that inclusive subsidy policies are crucial for ensuring that benefits reach all farmers, rather than being concentrated among a limited group, thereby promoting equity in agricultural development. Overall, these findings are consistent with those of Casinillo (2022) and Peñaflor-elorde et al. (2024), who stressed that adequate funding, efficient service delivery, and equitable distribution are key to improving the effectiveness of agricultural extension programs.

Table 12. Suggested solutions

Suggested solutions	Frequency (n=108)	Percentage (%)	Ranking
Must have allocated funds in terms of services to farmers	108	100	1 st
It's important to have access to the information	100	92.59	2 nd
The distribution of services like fertilizer subsidy must be on time	99	91.66	3 rd
The subsidies implemented are capable of benefiting all farmers	88	81.48	4 th

Conclusion

The study aims to evaluate the extension support services provided for rice farmers by the Local Government Unit (LGU) in Alangalang, Leyte, Philippines. Conclusively, the majority of the rice farmers in Alangalang, Leyte, express high satisfaction with rice seed subsidy, fertilizer subsidy, crop insurance, and moderate satisfaction with farm advisories and training. However, it is found that rice farmers in the area face various challenges in support services programs, including delayed distribution, unfair service distribution, irregular evaluation, a limited number of extension workers, and poor input supply, which are described as serious problems. Additionally, the lack of information updates and limited funding support are considered very serious problems. Hence, the study recommends that the Local Government Unit (LGU) should have training and participate in training seminars and workshops focusing on the modern rice farming techniques, postharvest management, pest and disease control, and sustainable farming practices. The farmers' associations in the municipality must be capacitated and well-informed about new technologies and techniques in farming in order to achieve good yields and high income. Farmers' associations are good venues for farmers to strengthen their skills and improve their knowledge and understanding of farming through information, education, and communication materials, videos, and even demonstration training. Moreover, the LGU must promote integrated pest management practices, providing farmers with information on pest and disease identification and control measures, and conducting research to develop resistant crop varieties. Furthermore, in the irrigation system, upgrading and maintaining the existing irrigation system, promoting water-efficient farming techniques, and exploring alternative irrigation methods such as drip irrigation or rainwater harvesting must be done to improve the rice production process. As for future research, one must determine the predictors of rice farmers' satisfaction with the extension support services using regression modeling, and correlation analysis can be applied in determining the relationship between variables to improve the current findings of the study.

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