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Despite the Insufficiency of Extension Workers, Farmer Satisfaction with Extension Worker Performance Remains High

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ABSTRACT

Insufficient agricultural extension workers emerge in Indonesia to meet the demand for agricultural extension workers in the field. The COVID-19 outbreak has worsened the situation because extension workers lack proper guidance. This study aimed to determine how satisfied farmers are with the performance of agricultural extension workers. The case study was carried out at the Purwadadi District Agricultural Extension Center in the Ciamis Regency of West Java, Indonesia. The performance of extension workers was assessed using Importance Performance Analysis (IPA) and the Customer Satisfaction Index (CSI). According to the findings of the study, the relevance of the characteristics tangible, reliability, alertness, assurance, and empathy falls under the category of extremely vital. In terms of tangible, responsiveness, and assurance, as well as empathy and reliability, the farmers reported that the performance of agricultural workers remained outstanding. Additionally, the farmers were satisfied with the overall performance of the agricultural extension workers. The extension workers' abilities to guide the farmers' learning process with precision and clarity, as well as their understanding of field challenges, must be improved.

INTRODUCTION

The increasing rate of population growth in Indonesia is one of the tough challenges that must be faced by the Indonesian agricultural sector. With the increasing number of people, accompanied by economic growth and changes in people's tastes, the demand for food, especially for rice commodities, will increase both in quantity and quality. Rice (*Oryza sativa* L.) is a staple food source for nearly 40 percent of the world's population and the main food source for Southeast Asia's population. Paddy plants are rice-producing plants whose production is sought to be available all year because rice is a staple food for 90% of Indonesians (Kurniasih et al., 2008).

Purwadadi District is one of the districts in Indonesia's Ciamis Regency where the majority of inhabitants are farmers. In accordance with the aim

for regional agricultural development, Ciamis Regency's agricultural growth is focused on meeting food demands and increasing income. The regional administration attempts to boost rice yields through a variety of means, including the employment of agricultural extension agents.

The effectiveness of the agricultural program in the Ciamis Regency is closely related to the assistance agricultural extension workers provide to farmers in the region. The Purwadadi District has an Agricultural Extension Center (Balai Penyuluhan Pertanian/BPP) that supports nine villages and 109 farmer groups with the assistance of four extension workers. It appears that the current number of extension workers is insufficient to instruct all farmers. Due to the high number of aided farmer groups per extension worker, farmer groups cannot

meet intensively with extension workers. The installation of large-scale social restrictions (Pembatasan Sosial Berskala Besar/PSBB) as a result of the COVID-19 epidemic has also added to the list of issues in extension operations. In recent months, the face-to-face method, which often involved a large number of participants, has been rendered impossible. In contrast, extension workers are required to boost rice output among farmers through the adoption of new technology presented by extension workers. So, agricultural extension services for farmers who grow crops need to be improved so that farmers can adapt better to changes in science, technology, and global markets. Frequently, problems in extension implementation are also related to the level of technical and managerial competency of extension workers, their job satisfaction, which affects their performance and understanding of resource potential, their culture, and the needs of the farming community (Bahua and Musa, 2017; Satriadi, Lubis A., and Aprillita, 2018; Mokoginta et al., 2018). Because of this, it's important to find out how well the Agricultural Extension Center of Purwadadi District helps farmers.

The level of satisfaction of the farming community in receiving services from agricultural extension workers can be used as a metric for measuring the service performance of agricultural extension workers. According to Kotler (2006), there are five characteristics of service quality: tangibility, reliability, responsiveness, assurance, and empathy. In each of these aspects, service attributes serve as indicators for assessing farmer satisfaction with agricultural extension workers' performance. Also, according to Arifin (2015), farmer satisfaction will be high if the extension is accurately, regularly, and consistently implemented. This will assist in enhancing farmers' quality of life.

Importance-performance analysis (IPA) is a quantitative method for gauging public sentiment toward specific traits of a problem or object (Martilla & James, 1977). This method is often used to figure out how good a place or service is for fun (Hammitt, Bixler, and Noe, 1996; Oh, 2001). One benefit of

IPA is that it gives a clear picture of how important different things are and how much clients or customers like them (Levenburg & Magal, 2004; Siniscalchi, Beale, & Fortuna, 2008). Due to the fact that no satisfaction evaluation had been conducted in the BPP Purwadadi District, it was required to conduct research that evaluated the level of satisfaction of farmers with agricultural extension workers' performance. Agricultural extension workers with in BPP Purwadadi District should figure out the level of farmer satisfaction with the provided services. It was hoped that agricultural extension workers will continuously strive to improve the quality of the services they deliver.

METHODS

The determination of the study area relies on a methodical process. November 2021 to July 2022 was spent conducting research in Purwadadi Village, Purwadadi District, Ciamis Regency. The villagers of Purwadadi, who received agricultural assistance from the BPP as part of the Sumber Rejeki Farmer Group, served as research subjects. The research sample was determined using the census/saturated sampling approach. Saturated sampling is a sampling method in which all population members are used as samples (Sugiyono, 2016). Twenty-five farmers who are members of the Sumber Rejeki Farmers Group of Purwadadi Village participated in this study. To assess the data, an Importance Performance Analysis (IPA) (Silva and Paula, 2011; Peng, 2008) was adopted. The level of significance is determined by farmers' expectations, but the level of performance was determined by the extension's implementation. In the meantime, the Customer Satisfaction Index (CSI) analysis method was applied to determine the overall degree of satisfaction among farmers by determining the level of expectations for service quality. Before the data were analyzed, validity and reliability tests were run on the questionnaire to find out how valid and reliable it was.

RESULTS AND DISCUSSION

The Characteristics of Respondents

The characteristics of respondents are meant to determine the diversity of respondents, which should provide a fairly clear picture of the current situation of respondents in relation to the study's problems and objectives. Researchers looked at the gender, age, land ownership, level of education, and position in farmer groups of the people who answered the survey.

Table 1. Distribution of Research Respondents by Gender

Nr.	Gender	Number of people	Percentage (%)
1	Men	24	96
2	Women	1	4
Total		25	100

Based on the data in the table above, it appears that 96 percent of the Sumber Rejeki Farmer Group consisted of male breadwinners, indicating that male farmers in Indonesia are similar to those in the Sumber Rejeki Farmer Group. It was hardly surprising, given that farming was a physically demanding occupation.

Table 2. Distribution of Research Respondents by Age

Nr.	Ren Age Range (Years)	Number of people	Percentage (%)
1	20-40	4	16
2	41-55	12	48
3	56-65	4	16
4	>65	5	20
Total		25	100

Based on age, the majority of the Sumber Rejeki Farmer Group were 41 to 55 years old (Table 2). According to Sukirno (2013), the age range of 41 to 55 years was considered adulthood, and it was characterized by a decline in physical strength but

career peaks. In addition, it was stated that the physical health of adults would impact their ability to engage in learning activities because approximately 40% of their neurons were dead. Because neurons are damaged, the brain's capacity to receive, store, process, and transmit information is diminished. Moreover, he stated that this period may be surpassed by the development of methods using lecture approaches, discussions, demonstrations, and practical exercises. There are three categories of land ownership, as shown in Table 3: owner-farmers and sharecroppers; owner-farmers; and sharecroppers.

Table 3. Distribution of Research Respondents by Status of Landownership

	Land Ownership Status	Number of people	Percentage (%)
1	Landowner-farmers and cultivators	18	72
2	landowner-farmers	7	28
3	cultivators	0	0
Total		25	100

A person's ownership status is their explanation or identification. Farmers who own agricultural land and cultivate it independently are called proprietors and cultivators. Landowner-farmers are farmers who own agricultural land but delegate its cultivation to other farmers. While cultivators are farmers who work or work on other people's land, based on the land status of the research region, the majority (72 percent) were both landowners and cultivators, while the rest were solely landowners without cultivating.

The majority of farmers in the Sumber Rejeki Farmer Group had a low level of education despite government regulations mandating 12 years

of schooling for all (Table 4). It appears that the extension worker must be able to adapt to these conditions, which is communicating correctly using a language that would be easily understood or the language of the farmer, in the hopes that the message conveyed by the extension worker will be well absorbed by farmers who, on average, have a low level of education.

Table 4. Distribution of Research Respondents by Education Level

No.	Level of education	Number of people	Percentage (%)
1	"Not completed in primary school"	2	8
2	Elementary School/Equivalent	13	52
3	Middle School/Equivalent	4	16
4	High School or Equivalent	5	20
5	Diploma or Bachelor	1	4
Total		25	100

The activities of the Sumber Rejeki farmer group served as a venue for members to share knowledge when confronted with the same problem, such as controlling rat-pests that attack rice. The rat population was controlled through extensive gropyok (rat hunting) activities. The Sumber Rejeki farmer group owns agricultural equipment, including tractor engines, water pumping machines, and rice threshing machines in the service sector. The group rented the machines to cover its cash needs.

The Farmers' Interest Level and Agricultural Extension Worker Performance Level

Level of Conformity

Prior to determining the level of farmer interest and agricultural extension worker performance for each supplied attribute, it is required

to determine the level of appropriateness. When the value of appropriateness is high, the disparity between an attribute's importance and its effectiveness is diminished. Conversely, when the value of conformity is low, the discrepancy between an attribute's importance and its effectiveness is greater (Supranto, 2006). Table 5 shows the things that were used to figure out how important agricultural extension workers were and how well they did their jobs in the study area.

Table 5. The Attributes for Assessing the Level of Importance and Performance of Agricultural Extension Workers

No.	Dimensi	Atribut Pelayanan
1	<i>Tangible</i>	Appearance of extension workers in extension activities (A1)
		Presence of field extension workers (A2)
		Completeness and readiness of teaching aids (A3)
		Extension workers assist in distributing subsidies to farmers (A4)
2	<i>Reliability</i>	Carry out the training according to the planned material (B1)
		Extension workers are able to convey information on the latest agricultural technology (B2)
		Extension workers are able to practice directly in the field during training (B3)
		The ability of extension workers in increasing productivity, quantity and quality of farming (B4)
3	<i>Responsive-ness</i>	The extension worker is responsive in dealing with farmer complaints (C1)
		Extension workers can quickly solve farmers' problems (C2)
		Accuracy of agricultural workers in delivering material that is in accordance with the needs of farmers (C3)
		Quickness of agricultural workers in providing information related to the latest technology (C4)
4	<i>Assurance</i>	Extension workers provide training services to farmers in a friendly and polite manner (D1)
		The ability of extension workers to receive direct questions and to be able to answer questions from farmers (D2)

		The skills of the instructor in guiding the farmer's learning process in detail and clearly (D3)
		Knowledge of extension workers in knowing problems in the field (pests and diseases) (D4)
5	<i>Empathy</i>	Extension workers attend farmer group meetings (E1) Extension workers ask problems faced by farmers and provide solutions (E2) Extension workers provide assistance to farmers in dealing with problems (E3) Extension workers are easy to find and contact for consultation (E4)

The data collected showed that the conformity rate of farmers exceeded 80 percent (see Table 6). During training, the extension worker's ability to practice immediately in the field was rated lowest for suitability (87.61 percent). This value was low relative to other characteristics because it did not meet farmers' expectations.

Table 6. The Conformity Level of Each Attribute

No	Dimension/ Attribute	Scor		suitability(%)
		Importance (Y)	Performance (X)	
		TKI		
		$(\frac{X_i}{Y_i} \times 100\%)$		
A	<i>Tangible</i>	433	414	95,61
1	A1	106	101	95,28
2	A2	108	101	93,52
3	A3	108	107	99,07
4	A4	111	105	94,59
B	<i>Reliability</i>	439	420	95,67
5	B1	107	110	102,80
6	B2	108	103	95,37
7	B3	113	99	87,61
8	B4	111	108	97,30
C	<i>Responsiveness</i>	422	419	99,29
9	C1	103	109	105,83
10	C2	106	101	95,28
11	C3	104	101	97,12
12	C4	109	108	99,08
D	<i>Assurance</i>	452	419	92,70
13	D1	111	110	99,10
14	D2	111	103	92,79
15	D3	114	103	90,35
16	D4	116	103	88,79

E	<i>Empathy</i>	426	431	101,17
17	E1	110	113	102,73
18	E2	109	111	101,83
19	E3	108	103	95,37
20	E4	99	104	105,05

Sourcer: Primery data treated, 2022

The highest level of conformity was exhibited by the instructor's responsiveness in handling complaints, whose dimensions were included in the extremely essential category of tangible, reliability, responsiveness, assurance, and empathy. At the performance level, there were two very good dimensions—reliability and empathy—and three good dimensions—tangible, responsiveness, and assurance.

According to the calculation of the average value of each attribute of agricultural extension services, the average value for all attributes of importance (Y) was 4.34, while the average value for all attributes of performance level (X) was 4.21. The measurements of the farmers achieved a score of 105.83 percent.

How interested farmers are and how well extension workers do their jobs will be looked at

The assessment of the level of importance revealed that 17 attributes (85 percent) had a very important category and three attributes (15 percent) had an important category. The average importance of the knowledge attributes of extension workers for field concerns (pests and illnesses) was the highest (4.64). This indicates that farmers value these characteristics highly since they have a significant impact on their rice yield. Meanwhile, the average rating of importance for the attribute of extension workers who were easy to locate and consult (E4) was the lowest (3.96). This attribute was important, but it wasn't as important as other attributes, so it still needs to be looked at.

The level of performance was based on the reality or outcomes received by farmers as a result of agricultural extension workers' performance in the form of services. Table 7 displays the performance level. There were nine attributes that had a very good category (45 percent) and 11 attributes that had a decent category (55 percent). This means that the people working in agricultural extension did a great job putting these measures into place and that farmers were happy with the results.

This finding demonstrated that the five dimensions (tangible, reliability, responsiveness, assurance, and empathy) were quite important. At the performance level, there were two very good dimensions—reliability and empathy—and three good dimensions—tangible, responsive-ness, and assurance.

Table 7. Classification of Interest Levels and Performance Levels based on Average Score

Dimension/ Attribute Code	Importance (Y)		Performance (X)	
	\bar{Y}	Category	\bar{X}	Category
Tangible	4,33	VI	4,14	G
A1	4,24	VI	4,04	G
A2	4,32	VI	4,04	G
A3	4,32	VI	4,28	VG
A4	4,44	VI	4,20	VG
Reliability	4,39	VI	4,20	VG
B1	4,28	VI	4,40	VG
B2	4,32	VI	4,12	G
B3	4,52	VI	3,96	G
B4	4,44	VI	4,32	VG
Responsiveness	4,22	VI	4,19	G
C1	4,12	V	4,36	VG
C2	4,24	VI	4,04	G
C3	4,16	V	4,04	G
C4	4,36	VI	4,32	VG
Assurance	4,52	VI	4,19	G
D1	4,44	VI	4,40	VG
D2	4,44	VI	4,12	G
D3	4,56	VI	4,12	G
D4	4,64	VI	4,12	G
Empathy	4,26	VI	4,31	VG
E1	4,40	VI	4,52	VG

E2	4,36	VI	4,44	VG
E3	4,32	VI	4,12	G
E4	3,96	V	4,16	G
Total (Σ)	86,88		84,12	
$\bar{Y} = (\frac{\Sigma Y}{n})$	4,34	VI		
$\bar{X} = (\frac{\Sigma X}{n})$			4,21	VG

Note: VI: Veri Important; I: Important; VG: Very Good; G: Good

Cartesian Chart Mapping: Offered Attributes

The average value for all attributes of importance level (Y) for extension services in agriculture is 4.34, while the average value for all attributes of performance level (X) is 4.21. (See Table 16). This value is then translated into a Cartesian diagram to figure out the position of the service attributes, which determines the improvement and improvement strategy, which is the highest priority for each service attribute. IPA measures the level of importance and user satisfaction, which are afterwards characterized into four quadrants (Martilla & James, 1977), as illustrated in Figure 1. The results of the quadrant analysis of the service attribute indicators of agricultural extension workers are shown in the figure.

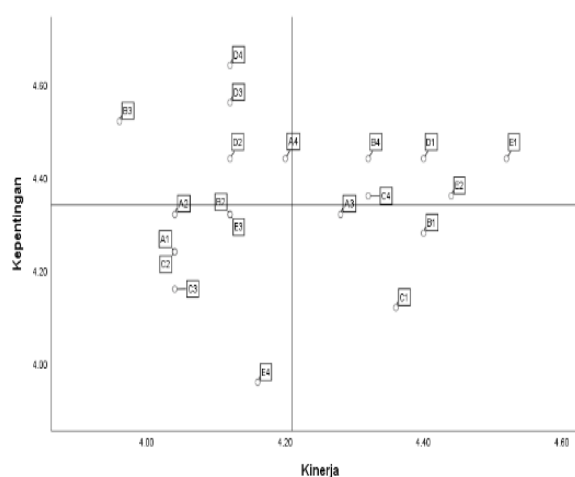


Figure 1. The Results

The five attributes in quadrant 1 of the Cartesian diagram (figure 1) need to be prioritized in order to improve performance. Farmers stated that agricultural extension workers play an important role in assisting with the distribution of subsidies and that they should receive the most attention. Agricultural extension workers must accompany the distribution of aid (subsidies) in the form of agricultural infrastructure. Farmers' aid must be distributed in a coordinated, helpful, and controlled manner by agricultural extension workers. The reality on the ground, however, demonstrated that farmers continued to view the role of extension workers in this area as inadequate. This resulted from a misunderstanding in perception. Therefore, agricultural extension workers must go above and beyond simply improving their work in order to live up to farmers' expectations. They must also ensure that farmers share the same perspectives.

Starting with assisting farmer organizations in submitting requests to the proper government or agriculture office in order to obtain aid in the form of seeds, fertilizer, and pesticides, agricultural extension workers could play an important role. When the government offers support to farmer groups, extension workers and group leaders may either give the support to each farmer group member directly or indirectly. Agricultural extension workers could help the government get money to farmers so that these groups can work well and get the most out of their efforts.

The next four characteristics were also included in quadrant-I and were as follows: 1) the extension workers' ability to exercise their skills in the field when in training; 2) the extension workers' ability to receive and respond to farmers' direct inquiries; 3) the instructor's capacity to precisely and clearly direct the farmer's learning process; and 4) the extension workers' familiarity with field issues, particularly pests and diseases. Farmers believed that it was important to prioritize these qualities since they were all in one location.

The farmers' satisfaction level

Using the sum of the average values of importance and satisfaction, the level of satisfaction of farmers with extension workers was computed. The CSI value for the performance attribute of agricultural extension workers in the study area was 84.20 percent, based on the findings of the CSI calculation (Table 8). This value fell between 80% and 100% CSI. This graph shows the total index of farmers' satisfaction with agricultural extension workers' performance in the study area, broken down into levels of extremely satisfied. Therefore, in order to enhance the performance of other attributes, the agricultural extension personnel at BPP Purwadadi District must maintain strong performance and continue to grow. Last but not least, farmers in the Purwadadi District are probably satisfied with the work that agricultural extension workers do. What management can learn concerning total customer satisfaction using the CSI approach In contrast, the IPA technique examines the specific features to rank the areas for improvement. Both of these approaches provide thorough managerial knowledge for decision-making regarding resource management (Suroto et al., 2017).

Table 8. Customer Satisfaction Index of Extension Workers' Performance

Dimension/Kode Attribute	MIS	WF (%)	MSS	WS
Tangible				
A1	4,24	4,88	4,04	0,20
A2	4,32	4,97	4,04	0,20
A3	4,32	4,97	4,28	0,21
A4	4,44	5,11	4,20	0,21
Reliability				
B1	4,28	4,93	4,40	0,22
B2	4,32	4,97	4,12	0,20
B3	4,52	5,20	3,96	0,21
B4	4,44	5,11	4,32	0,22
Responsiveness				
C1	4,12	4,74	4,36	0,21
C2	4,24	4,88	4,04	0,20
C3	4,16	4,79	4,04	0,19
C4	4,36	5,02	4,32	0,22
Assurance				
D1	4,44	5,11	4,40	0,22
D2	4,44	5,11	4,12	0,21
D3	4,56	5,25	4,12	0,22
D4	4,64	5,34	4,12	0,22
Empathy				
E1	4,40	5,06	4,52	0,23
E2	4,36	5,02	4,44	0,22
E3	4,32	4,97	4,12	0,20
E4	3,96	4,56	4,16	0,19
Jumlah	86,88	100	84,12	
Weight Score Total				4,21
CSI				84,20

Note: : MIS= Mean Importance Score; WF= Weighting Factor; MSS= Mean Satisfaction Score; WS= Weight Score CSI= Customer Satisfaction Index

CONCLUSION

Even though the number of extension workers was limited, the farmers revealed that the performance of agricultural workers was still very good in terms of tangible, responsiveness, and assurance dimensions, and even very good in terms of empathy and reliability.

The level of farmer satisfaction with agricultural extension workers' performance was classified as extremely satisfactory. However, five aspects of agricultural workers' job performance must be improved. Farmers can get hands-on training in the field, extension workers should be able to take and answer direct questions from farmers, extension workers should be aware of problems in the field (like pests and diseases), and extension workers should have better skills.

Nonetheless, the generalizability of these findings should not be exaggerated. It will be interesting to examine the management of extension agencies, the level of technical competence of extension workers, their job satisfaction, and the perceptions of farmers regarding the characteristics of educational quality, as well as how these differences influence the types of management policies and practices.

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