

FARMERS' PERCEPTIONS OF THE ROLE OF AGRICULTURAL EXTENSION WORKERS IN TENGGARONG SUBDISTRICT KUTAI KARTANEGARA REGENCY EAST KALIMANTAN

Ida Bagus Made Agung Dwijatenaya, Arista Damayanti, Ferdi Ramadhan

Agribusiness Study Program, Faculty of Agriculture, Kutai Kartanegara University, Tenggarong, Indonesia
correspondence email: dwijatenaya@yahoo.co.id

Received: 29 August 2023 | Accepted: 17 January 2024

ABSTRACT

The agricultural sector, especially rice, is one of the leading sectors, which is very important in helping to support the economy in Kutai Kartanegara Regency. The yields of rice production cannot be separated from the role of agricultural extension workers. Agricultural extension workers certainly play an important role in encouraging changes in the behavior of farmers in order to improve their welfare. This study aimed to determine farmers' perceptions of the agricultural extension workers' role as a dynamic actor, facilitators, and motivators. This research was conducted in Maluhu Village, Tenggarong Subdistrict, Kutai Kartanegara Regency. The data collected is in the form of primary and secondary data. Data was collected through library research, observation, and interviews with the help of questionnaires. The farmer population comes from advanced-class farmer groups totaling 248 people. The number of samples used was determined using the Slovin formula, which consisted of 38 people—aimed at wet rice farmers who were members of the advanced class farmer groups. Selected respondents were determined using the purposive sampling method. The analysis used in this research is a descriptive analysis. The results of this study indicate that farmers' perceptions of the agricultural extension workers' role as a dynamic actor were relatively good. Farmers' perceptions of the role of agricultural extension workers as facilitators and farmers' perceptions of the role of agricultural extension workers as motivators were in a good category. Farmers' perceptions of the role of agricultural extension workers were classified as good, predominantly farmers aged between 50 and 59 years, at elementary school education level, and the size of the land they owned was between 0.25 and 0.5 ha. The analysis showed that farmers' age, education, and land tenure were not correlated with farmers' perceptions of the role of agricultural extension workers as dynamic actor, facilitators, and motivators. However, farmer education was significantly correlated, at a 10% error level, to perceptions of the role of extension workers' roles as motivators.

Keywords: *perception, extension workers' role, dynamic actor, facilitator, motivator*

INTRODUCTION

Extension workers have an important role as the spearhead of agricultural development where extension agents are a bridge between the government and farmers. As regulated in the Minister of Agriculture Regulation, Number 67/PERMENTAN/SM.050/12/2016. The role of agricultural extension workers is to help farmers form sound opinions and make good decisions by communicating and providing the necessary information (Ban & Hawkins, 2010). The main function of agricultural extension is to facilitate and motivate key actors and business actors in the learning process to achieve the goals of developing human resources (HR) and increasing social capital so that they are willing and able to help and organize themselves in accessing market information, technology, capital and other resources to increase productivity, business efficiency, income and welfare (Sujono & Yahya, 2017). The role of extension workers is very important for Indonesian agriculture, including in Maluhu Village, Subdistrict of Tenggaraong. Various studies on the role of agricultural extension workers have been carried out such as research (Faqih, 2014), (Saputri et al., 2016), (Lini et al., 2018), (Halimah & Subari, 2020), (Kabeakan, 2020), (Walen et al., 2021), (Astuthi, 2022), (Seftiani et al., 2022), dan (Rusman et al., 2023) which concluded that the role of extension workers was significant in the development of farmer groups.

The importance of solution to the problem of farmers' perceptions of the role of extension workers, associated with the theory and empirical studies, the purpose of the study was

to determine the perceptions of farmers on the role of agricultural extension workers as dynamists, facilitators and motivators to improve the quality of farmers and farmer welfare. The main results of this research had important implications for policymakers regarding the development of low land rice farming, especially in Maluhu Village, Tenggaraong Subdistrict, Kutai Kartanegara Regency.

RESEARCH METHODS

This research was conducted in Maluhu Village, Tenggaraong Subdistrict, Kutai Kartanegara Regency. The data used was quantitative. Data sources were primary data and secondary data. Primary data was obtained from direct observation and interviews with respondents using a questionnaire that had been prepared. Data collection was carried out from November to December 2022. Secondary data was obtained from various literature sourced from the Agricultural Extension Center (*BPP*), internet sites and other sources that support the research. Data collection techniques was conducted by observation, interview, questionnaire, documentation and the four were combined. The population in this study were 248 wetland rice farmers in Maluhu Village who were members of the advanced farmer group. The sample determination used the Slovin formula (Sugiyono, 2001) with a tolerance of 15 percent to obtain a sample size of 38. Furthermore, respondents were determined using the purposive sampling method. According to Etta et al. (Nasriansyah, 2019), purposive sampling is a method of applying samples based on certain criteria deliberately. This research used samples from members of

advanced farmer groups. The basis of consideration was because the number of advanced farmer groups was greater and often held routine meetings than the beginner and middle-class farmer groups. Data analysis used in this research was descriptive analysis using Likert scale and cross-tabulation analysis and the correlation by applying Spearman correlation technique which were between age, education and land area of farmers with their perceptions of the role of agricultural advisors. Referring to research (Sahripin & Puryantoro, 2020), the analysis of age and education is proven to have a significant influence on perception formation. According to (Sugiyono, 2017) the Likert scale is a measurement method used to measure attitudes, opinions and perceptions of a person or group of people about social phenomena. The answer score is the value of the answer that will be given by the respondent, so that respondents can evaluate according to their criteria based on the existing options. Each answer is associated with a form of statement or attitude support expressed in words. The criteria are Strongly Agree (SS) is given a score = 5, Agree (S) = 4, Undecided (RR) = 3, Disagree (TS) = 2, and Strongly Disagree (STS) was given a score = 1. To answer the objectives of this research, the following formula was used (Ridwan & Akdon, 2020):

$$TPP = \frac{SrD}{SrL} \times 100\% \dots \dots \dots (1)$$

Explanation:

TPP = Farmer Perception Level

SrD = Score obtained or total scores

SrL = Ideal Score

Based on formula (1), the following criteria are obtained:

- Very bad : 1% - 20%
- Bad : 21% - 40%
- Less good : 41% - 60%
- Good : 61% - 80%
- Very good : 81% - 100%

To see the relationship between farmer characteristics with farmers' perceptions to the role of agricultural extension workers, the Spearman Rank analysis technique was used with a hypothesis; supposedly there is a significant relationship between the characteristics of the farmers with their perceptions of the role of agricultural advisors. As for the decision criteria are: if the calculated ρ (\bar{n}) is greater than or equal to the ρ table then the hypothesis is accepted, and vice versa (Sugiyono, 2001).

RESULTS AND DISCUSSIONS

1. Characteristics of Respondent

Characteristics of the respondent farmers consist of age, education and land size. Detailed farmers' characteristics were presented in Table 1. Respondents based on dominant age were aged 50 - 59 years with a percentage of 60.5 percent of the total respondents. Therefore, it could be concluded that the farmers in Maluhu Village, Tenggarong Subdistrict, Kutai Kartanegara

Regency were at the productive age. It is as accordance to the Central Statistics Board (2022), the productive age is between 15 - 64 years old. This research was in line with the results of the study (Sipahutar et al., 2022). The respondents based on the degree of their education, 50 percent of respondents had an

elementary school education, 26 percent had a junior high school education, and 24 percent had a senior high school education. The high or low level of farmer education will influence the farmer’s way of thinking in running and developing their farming business. The size of the land owned by respondents was mostly between 0.25 - 0.5 Ha with a percentage of 76.3 percent. It could be said that the respondents’ land area in this study was classified as being narrow or limited. Based on the results of interviews, it was found that the limited area of land owned was due to the land for farming obtained from the division of inheritance from parents, some of the land was used for housing and was also sold by farmers.

2. Farmers’ Perceptions To the Role of Agricultural Extension Workers

a. Farmers’ Perceptions To the Role of Agricultural Extension Workers as Dynamicators

The role of the agricultural extension works as a dynamicators were assessed from; (1) agricultural extension workers provided

guidance to farmers, (2) agricultural extension workers conducted collaborations/meetings between farmer groups, (3) agricultural extension workers direct field observations, (4) agricultural extension workers conveyed information on productivity improvement, and (5) agricultural extension workers reactivated the role of the administrators and members of farmer groups.

Table 2 shows that most respondents 71 percent, agreed that the agricultural extension workers provided mentoring to farmers for increasing productivity of the wet rice paddies. The total farmer perception score was 74.21 percent, so the interpretation of the value is classified as good. The reasons why farmers’ perceptions were classified as fair regarding the role of the agricultural advisors in providing guidance to farmers in order to increase the productivity of their paddy fields. On the basis of interviews in the field, most of them said that the agricultural extension workers often provided guidance to them in order to increase the productivity of their paddy fields during routine farmer group meetings that were held once a month. The

Table 1 Characteristics of respondent

No	Characteristics	Criteria	Amount	(%)
1	Age	30-39	1	2.6
		40-49	5	13.2
		50-59	23	60.5
		60-69	2	5.3
		≥ 70	7	18.4
2	Education	elementary school	19	50.0
		Junior High School	10	26.3
		Senior High School	9	23.7
3	Land Area (ha)	0.25-0.50	29	76.3
		0.51-0.75	1	2.6
		0.76-1.25	2	5.3
		1.26-1.50	2	5.3
		1.51-1.75	1	2.6
		1.76-2.0	3	7.9

Source: Primary Data, 2023

Tabel 2 Farmers' Perception of The Role of Agricultural Extension Workers as Dynamisators

No	Alternative Answers	Alternative Scores	Number of Respondents	Percentage of Respondents (%)	Total Scores
1.	Agricultural extension workers provided mentoring to farmers for increasing productivity of the wet rice paddies.				
	Strongly Agree	5	0	0	0
	Agree	4	27	71	108
	Undecided	3	11	29	33
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	141
	Total score		141/190 x 100% = 74.21% (Fair)		
2.	Agricultural extension workers collaborated/met between wetland rice farmer groups in agricultural activities				
	Strongly Agree	5	5	13	25
	Agree	4	24	63	96
	Undecided	3	9	24	27
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	148
	Total score		148/190 x 100% = 77.89% (Fair)		
3.	Agricultural extension workers undertook direct field observations after providing assistance to farmers in increasing the productivity of paddy rice				
	Strongly Agree	5	0	0	0
	Agree	4	28	74	112
	Undecided	3	10	26	30
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	142
	Total score		142/190 x 100% = 74.74% (Fair)		
4.	Agricultural extension workers shared information on increasing the productivity of paddy rice				
	Strongly Agree	5	0	0	0
	Agree	4	28	74	112
	Undecided	3	10	26	30
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	142
	Total score		142/190 x 100% = 74.74% (Fair)		
5.	The agricultural reactivated the role of the administrators and members of farmer groups				
	Strongly Agree	5	0	0	0
	Agree	4	29	76	116
	Undecided	3	9	24	27
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	143
	Total score		143/190 x 100% = 75,26% (Fair)		

Source: Primary Data, 2023

mentoring included land cultivations, fertilizers and the control of pests and diseases. The dominant respondents, namely 71 percent of farmers in farmer groups in Maluhu Village, consisting of farmer groups Sri Rukun I, Sri Rukun III, Sari Cipto (A, B, and C), Rindang

Lestari, Ngudi Makmur, and Rukun Santoso, answered regarding agricultural extension workers conducting collaborations/ meetings between wet rice farmer groups in extension activities. Agricultural extension workers conducted meetings between farmer groups in agricultural activities through Gapoktan

meetings held every 1 (one) month. The farmers could share information about their farms to fellow farmers from other farmer groups.

Total score of farmers' perceptions of 77.89 percent, the interpretation of the value was good. The background of farmers' perceptions was good against the agricultural extension workers made some cooperations/meetings between farmer groups. In the extension activities was based on interviews in the field, most of the farmers said that were in addition to regular meetings of farmer groups. The agricultural extension workers also conducted meetings of farmer groups scheduled through *Gapoktan* so that several farmer groups gathered in one place to share information about their farms with each other. Most of the respondents, 63% answered agree that agricultural extension workers conducted direct observations in the field after providing guidance to farmers. The background of the farmers' perceptions was classified as fair to them conducted direct observation in the field. After providing guidance to farmers to increase the productivity of rice, based on the interviews in the field, most farmers said the advisors not only provide guidance during the regular meeting. They also conducted the direct monitoring in the field to see the condition of rice as well as the constraints faced by farmers in the fields. Some farmers also reported that when they had problems with their rice fields, such as disease, farmer usually contacted the agricultural extension workers by telephone. The agricultural extension workers would see the conditions in the field. Some farmers said that the agricultural extension workers had assisted farmers during the planting and harvesting seasons.

Most of the respondents, 74 percent of farmers, agreed that extension workers carried out direct field observations after providing guidance to farmers. The total farmer perception score is 74.74 percent, so the interpretation of the value was considered good. The reason behind farmers' relatively good perceptions of agricultural extension workers conducting direct field observations after providing guidance to farmers to increase rice productivity is that based on interviews in the field, the majority of farmers said that instructors not only provide guidance during routine meetings, but instructors also carry out direct monitoring of field to see the condition of rice and the obstacles faced by farmers in the field. Some farmers also said that when farmers feel there is a problem with their rice fields, such as disease and so on, the farmers usually contact the extension agent by telephone so that the extension agent can go directly to the field to see the conditions in the field. Several farmers also said that extension workers had also helped farmers during the planting and harvest seasons.

Farmers' perceptions of them delivering information on increasing the productivity of rice showed that the dominant respondents, 74% agreed. The total farmer perception score is 74.74 percent, the interpretation of the value was considered good. The reason why farmers' perceptions was classified as being positive to the role of agricultural extension workers in conveying information about increasing the productivity of rice was based on interviews with farmers. They conveyed information about increasing the productivity of rice after the agricultural extension workers had observed in the field. They relayed such as the

use of good seeds, pests and diseases control that needed to be improved and post-harvest handling.

Most respondents, 76 percent, agreed. The total farmer perception score is 75.26 percent, so it was categorized as good. The underlying factor of farmers' perceptions was considered fair regarding the agricultural extension workers the role of administrators and members of farmer groups was based on interviews with them. It was found that agricultural extension workers gave directions to administrators related to group administration, held meetings and directed farmer group members to actively participate in activities along with farmer group meetings and the involvement of farmer group members in the preparation of the Definitive Plan of Group Needs (RDKK) for each farmer group in line with the results of research (Wibowo & Haryanto, 2020). The role of agricultural extension workers as dynamicators based the on assessment items was summarized in Table 3.

The assessment item with the highest

index was question two, which was 77.89 percent. It could be explained that based on the results of the research and interviews with farmers. It was obtained that agricultural advisors conducted meetings between farmer groups in extension activities through *Gapoktan* meetings. It held once a month so that farmers could share information about their farming efforts with their counterparts from other groups. Furthermore, the question with the lowest index was the first question, 74.21 percent. This was caused by agricultural extension workers always providing guidance to farmers either through farmer group meetings or joint farmer group meetings. This included the guidance related to land cultivation, fertilizer application, pest and disease control. In this case some farmers also mentioned that they were doubtful about the agricultural advisors providing guidance. It caused sometimes the farmers did not follow the extension activities at the time of the meeting. They were hesitant about their providing guidance. The total score

Table 3 A Summary of the Total Score of Data Collection and Interpretation of Farmers' Perceptions of the Role of Agricultural Extension Workers as Dynamicators

No	Questions	Total Score	Perception's Index (%)	Interpretation
1	Agricultural advisor provided mentoring to farmers for increasing productivity of the wet paddies rice	141	74.21	Good
2	Agricultural advisor collaborated/met between wetland rice farmer groups in agricultural activities	148	77.89	Good
3	Agricultural advisor undertook direct field increasing observations after providing assistance to farmers in the productivity of paddy rice	142	74.74	Good
4	Agricultural advisor shared information on increasing the productivity of paddy rice	142	74.74	Good
5	The agricultural advisor reactivated the role of the administrators and members of farmer groups	143	75.26	Good
Total score		716/950x100% = 75,37 % (Good)		

Source: Primary Data, 2023

obtained from the five questions asked by respondents was 716. The percentage of farmers' perception index number was 75.37 percent (Good). The analytical results indicated that the role of the agricultural extension workers as dynamicators was in good category. The results of this research were in contrast to the results of the research (Halimah & Subari, 2020). The results of this research were in line with the results of research (Lini et al., 2018) and (Seftiani et al., 2022) that the agricultural extension workers served as dynamicators which meant that they provided some changes through the services, demonstrations, giving instructions, growing and developing farmer groups. The assessment of the farmers on the role of agricultural extension workers as dynamicators was in good criteria.

b. Farmers' Perceptions on the Role of Agricultural Extension as Facilitators

Agricultural extension workers as facilitators are assessed through; 1) assisted farmers in obtaining inputs (means of production), 2) helped farmers attend training, 3) accompanied the process of delivering material from the technical team, and 4) assisted farmer groups to cooperate with government agencies or agricultural offices. The farmers' perceptions of the role of agricultural advisors as facilitators was displayed in the Table 4. Farmers' perceptions regarding agricultural extension workers assisting farmers to obtain inputs (means of production) for paddy rice crops. Most respondents (84%) answered in the affirmative. The total score of farmers' perceptions amounted to 76.84 percent, so the interpretation of the value was classified as

good. The background of farmers' perceptions was considered good towards the role of agricultural extension workers helping farmers to obtain production facilities for paddy rice was based on interviews with farmers in the field. The majority of farmers said that currently production facilities were easily obtained by farmers on the basis of the direction of the extension agent, for example obtaining fertilizer for paddy rice plants. The purchase of fertilizer originated from farmer groups and members compiled a Defenitive Plan of Subsidized Fertilizer Farmer Group Needs (*RDKK*) for collecting data to identify fertilizer needs for each farmer group member.

The *RDKK* was a year-long plan for the requirement of subsidized fertilizers. It was arranged based on the deliberations of Farmer Group members and was a tool for ordering subsidized fertilizers to authorized retailers that were determined manually and/or through the *e-RDKKK* electronic system (Pertanian, 2020). Furthermore, the *RDKK* from each farmer group was submitted to the head of the *Gapoktan* after which it was handed over to the agriculture advisor to be conveyed to the fertilizer provider. When the fertilizer was available, the fertilizer provider would then contact the leader of the *Gapoktan* or the chairman of each farmer group and then notified each member of the farmer group. Farmers' perceptions of agriculture extension workers assisted farmers to attend training held by government agencies or private most of the respondents (66%) farmers answered agree. The question items of the total score of farmers' perceptions equal to 73.16 percent, so it is interpreted in good category. The background

Table 4 Farmers' Perceptions of the Role of Agricultural Extension Workers As Facilitators

No	Alternative Answers	Alternative Score	Number of Respondents	Percentage (%)	Total
1	Agricultural extension workers assisted farmers in obtaining inputs (means of production)				
	Strongly Agree	5	0	0	0
	Agree	4	32	84	128
	Undecided	3	6	16	18
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	146
	Total score	146/190 x 100% = 76.84% (Fair)			
2	Agricultural extension workers assisted farmers in attending trainings organized by government or private institution				
	Strongly Agree	5	0	0	0
	Agree	4	25	66	100
	Undecided	3	13	34	39
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100%	139
	Total score	139/190 x 100% = 73.16% (Fair)			
3	Agricultural extension workers accompanied the process of delivering material from the technical team				
	Strongly Agree	5	0	0	0
	Agree	4	26	68	104
	Undecided	3	12	32	36
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	140
	Total skor	140/190 x 100% = 73.68% (Fair)			
4	Agricultural extension workers supported farmer groups to cooperate with government agencies or agricultural offices in terms of providing seeds and fertilizers				
	Strongly Agree	5	0	0	0
	Agree	4	33	87	132
	Undecided	3	5	13	15
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	147
	Total score	147/190 x 100% = 77.37% (Fair)			

Source: Primary Data, 2023

of the perception of farmers was relatively good against the role of him in assisting farmers to follow training held by government or private institutions. It is based on interviews with the farmers that they had helped farmers to attend training related to paddy rice held by government agencies. Several farmers said that agricultural extension workers assisted farmers to attend training held by government institutions or by their associations such as fertilizer processing training. According to

interviews, the agricultural advisors notified the head of the *Gapoktan* a few weeks before the training was held, to be informed again to the farmer groups. Therefore, not all farmers participated in the training but only a few or a representative of the farmer group. Farmers' perceptions of agricultural extension workers in the process of delivering material from the technical team, that most respondents (68%) answered agree. Under the question items the total score of farmers' perceptions was 73.68 percent, so it was fair category. The background

of the perception of farmers was classified as fair one regarding the agricultural extension workers accompanying in the process of delivering material from the technical team. Based on interviews with the farmers, that the agricultural extension workers accompanied in the process of delivering material from the technical team such as accompanying pest observers in delivering materials or guidances to the farmers.

Farmers' perceptions of the role of the agricultural extension workers helped farmer groups to cooperate with government agencies or agricultural offices in terms of the provision of seeds and fertilizers, they responded dominantly agree (87%). The total score of farmers' perceptions of 77.37 percent, it was fair. The results of the interviews with farmers showed that the agricultural advisors helped to cooperate with the government or the agriculture office. Deliberations were conducted by all farmer groups or a combination of farmer groups to obtain assistance by submitting proposals through the agricultural extension workers. They assisted farmer groups getting

such as fertilizers and seeds were obtained by farmer groups in Maluhu Village. Not only benefits such as seeds and fertilizers but also other supports.

The role of agricultural advisor as a facilitator based on the assessment items summarized in Table 5. Farmers' perception items with the highest index of the role of agricultural advisors as facilitators was question four which was 77, 37 percent. Furthermore, the question with the lowest index was question two was 73.16 percent. Based on the results of the analysis using Likert scale obtained a score of 572 with a percentage of 75.26 percent. The interpretation of farmers' perceptions of the role of agricultural advisors as facilitators was in the fair category. This study was different from the results of other research (Saputri et al., 2016), (Walen et al., 2021), but this study result in line with the results of Kabeakan (2020), and Astuthi (2022), that agricultural advisors have a role as facilitators, meaning that they provided utilities in the forms of things that were required by farmers. The benefits provided by agricultural advisors were not too many but they tried to get farmers to

Table 5 A Summary of Scores and Interpretation of Farmers' Perceptions of The Role of Agricultural Extension Workers As Facilitators

No.	Questions	Total Score	Index Perseption (%)	Interpretation
1	Agricultural extension workers assisted farmers in obtaining production inputs for rice paddy crop	146	76.84	Good
2.	Agricultural extension workers assisted farmers to attend trainings conducted by government or private institutions	139	73.16	Good
3	Agricultural extension workers assisted in the process of delivering material from the technical team	140	73.68	Good
4	Agricultural extension workers supported farmer groups to cooperate with government or agricultural institutions in providing seeds and fertilizers	147	77.37	Good
Total score		(572/760)x100%= 75,26 % (Good)		

Source: Primary Data, 2023

obtain proper facilities, these facilities came from the local government, usually in the form of agricultural tools, fertilizers or plant seeds.

c. Farmers' Perceptions on the Role of Agricultural Advisors as Motivators

The role of agricultural extension workers as motivators was assessed through: 1) agricultural extension workers encouraged farmers to follow the extension, 2) agricultural extension workers supported farmers to use quality seeds and fertilizers, 3) agricultural extension workers encouraged farmers to increase production, agricultural extension workers encouraged farmers to continue to join farmer groups, 4) agricultural extension workers supported activities carried out by farmer groups, 5) agricultural extension workers encouraged farmers to continue to advance farmer groups.

Farmers' perceptions of the role of agricultural extension workers as motivators was presented in Table 6. Respondents' answers about farmers' perceptions of the role of agricultural extension workers encouraged farmers to follow the extension. Respondents' answers were dominant in agree (66%). The total score of farmers' perceptions was 77.37 percent, thus falling into the fair category. This was supported by the results of the research obtained through in-depth interviews. In which the majority of farmers said that they often encouraged farmers to participate in extension activities so that they could get some information for their farms. The majority of respondents (66%) were agreed that the agricultural extension workers strongly supported farmers to apply quality seeds and fertilizers. The total score of farmers' perceptions was 78.42 percent or include as fair category. The respondents'

Answers about farmers' perceptions of agricultural advisors encouraged the farmers to increase the production of paddy rice dominantly responded in the affirmative (71%). The total score of farmers' perceptions was 79.47 percent, so the value was classified as fair. The main reason was based on interviews with farmers, that agricultural agricultural extension encouraged farmers to increase rice production by providing guidance to farmers at every farmer group meeting, providing a place to get fertilizer, and conducting meetings between farmer groups to share information about paddy fields. Farmers' perceptions of agricultural extension encouraged farmers to stay with the farmer groups mostly respondents (82%) of them answered in the affirmative. The total score of farmers' perceptions was 83.68 percent, so it was interpreted in the very good category. Based on interviews with farmers that agricultural advisors encouraged farmers at each meeting, especially the farmers who had joined the farmer group to continue working with them. In addition to making it easier for agricultural advisor to provide guidance, some farmers also said that the joining of the farmers' groups could make it easier for them to obtain production facilities such as a place to purchase fertilizers that have been provided by the extension agent and get assistance such as seeds and fertilizers from the government. Farmers' perceptions of extension workers support activities carried out by farmer groups, mostly respondents answered agree (87%). The total score of farmers' perceptions amounted to 82.63 percent, so that the interpretation of the value is classified as very good. Based on interviews in the field, farmers said that every

Table 6 Farmers' Perceptions of The Role of Agricultural Extension Workers as Motivators

No	Alternative Answers	Alternative Score	Number of Respondents	Percentage (%)	Total
1	The agricultural extension workers encouraged farmers to follow the extension				
	Strongly Agree	5	4	11	20
	Agree	4	25	66	100
	Undecided	3	9	24	27
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	147
	Total score	147/190 x 100% = 77.37% (Good)			
2	The agricultural extension workers encouraged farmers to apply quality seeds and fertilizers				
	Strongly Agree	5	5	13	25
	Agree	4	25	66	100
	Undecided	3	8	21	24
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	149
	Total score	149/190 x 100% = 78.42% (Good)			
3	The agricultural extension workers encouraged farmers to increase production of wet paddy rice				
	Strongly Agree	5	5	13	25
	Agree	4	27	71	108
	Undecided	3	6	16	18
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100%	151
	Total score	151/190 x 100% = 79.47% (Good)			
4	The agricultural extension workers encouraged farmers to continue to join farmer groups				
	Strongly Agree	5	7	18	35
	Agree	4	31	82	124
	Undecided	3	0	0	0
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	159
	Total score	159/190 x 100% = 83.68% (Very Good)			
5	The agricultura extension workers supported activities carried out by farmer groups				
	Strongly Agree	5	5	13	25
	Agree	4	33	87	132
	Undecided	3	0	0	0
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	157
	Total score	157/190 x 100% = 82.63% (Very Good)			
6	The agricultural extension workers encouraged farmers to continue to advance farmer groups				
	Strongly Agree	5	3	8	15
	Agree	4	33	87	132
	Undecided	3	2	5	6
	Disagree	2	0	0	0
	Strongly Disagree	1	0	0	0
	Total		38	100	153
	Total score	153/190 x 100% = 80.53 (Good)			

Source: Primary Data, 2023

activity carried out by farmer groups was supported by agricultural extension, such as savings and the *Yasinan* carried out by several farmer groups combined with farmer group meetings and farmer group mutual cooperation activities in cleaning ditches. Respondents predominantly answered in the affirmative about him encouraging farmers to continue advancing their farmer groups (87%). The total score of farmers' perceptions was 80.53 percent, so that the interpretation was classified as fair. The background of the perception was classified as fair regarding agricultural advisors encouraging farmers to advance farmer groups based on interviews with farmers. They encouraged farmers, especially during farmer group meetings, and promoted farmer groups, such as supporting farmer groups.

The role of them as motivators based on the assessment items was presented in Table 7. The question with the highest index, question four which was 83.68 percent. The lowest indexed question was question one which was

77.37percent. The total score obtained from six questions submitted to 38 respondents was 915. Percentage index number of farmers' perception was 80.26 percent, fair category. It indicated the perception of farmers to the role of the agricultural advisors as motivators was in the fair category. The result of this study was different from the results of the research (Faqih, 2014), and in line with the results of research (Rusman et al., 2023) that instructors act as motivators, meaning that instructors encourage farmers through various kinds of efforts that are useful for the development of farmers. that the agricultural extension works acts as motivators, meaning that they provided encouragement to farmers through various kinds of efforts that were useful for the development of farmers.

d. Correlation Analysis

In Table 8 indicated the results of the correlation analysis between farmer characteristics (age, education, and land size) and farmer perceptions of the role of agricultural advisors as dynamicators, facilitators, and motivators. The correlation between farmers' characteristics

Table 7 Summary of the number of scores and interpretation of farmers' perceptions of the role of agricultural extension works as motivators

No.	Questions	Total Score	Perception's Index (%)	Interpretation
1	Agricultural extension works encouraged farmers to attend counseling on rice crops	147	77.37	Good
2	Agricultural extension works supported farmers to use quality seeds and fertilizers	149	78,42	Good
3	Agricultural extension works encouraged farmers to increase rice crops production	151	79.47	Good
4	Agricultural extension works encouraged the farmers to remain join rice farmer groups	159	83.68	Very Good
5	Agricultural extension works supported the activities carried out by the farmer groups	157	82.63	Very Good
6	Agricultural extension works encouraged farmers to continue advancing their farmer groups	152	80.53	Good
Total score		915/1.140x100% = 80,26 % (Good)		

Source: Primary Data, 2023

Table 8 The correlation analysis between farmer characteristics and farmer perceptions of the role of the agricultural extension works

No.	Variable	Sig.	Rs	Information
Correlation between farmer characteristics and farmers' perceptions of the role of extension workers as dynamists				
1	Age	0.749	-0.054	Not significant
2	Education	0.970	-0.006	Not significant
3	Land area	0.356	0.154	Not significant
Correlation between farmer characteristics and farmers' perceptions of the role of extension workers as facilitators				
1	Age	0.546	-0.101	Not significant
2	Education	0.678	0.070	Not significant
3	Land area	0.733	0.057	Not significant
Correlation between farmer characteristics and farmers' perceptions of the role of extension workers as motivators				
1	Age	0.750	-0.053	Not significant
2	Education	0.078*	0.289	Significant ($\alpha=0,10$)
3	Land area	0.925	-0.016	Not significant
ρ (0,10) table = 0.271				
ρ (0,05) table = 0.321				

Source: Primary Data Analysis, 2023

and farmers' perceptions of the role of agricultural advisors as dynamicators, facilitators and motivators had a significance value greater than 0.05, and the calculated *rho* value was smaller than the *rho* table ($\alpha=0.05$). This implied that the age of farmers, farmer education, and farmer land size were not significantly correlated with farmers' perceptions on the role of agricultural advisors as dynamicators, facilitators or motivators. However, the effect of education on farmers' perceptions of the role as motivators was significant at $\alpha=0.10$ level. This was indicated by the value of *rho* (\bar{n}) calculated greater than the value of *rho* (\bar{n}) table ($0.289 > 0.271$). The finding of this research was in line with the results of the research (Sahripin & Puryantoro, 2020). The research finding on the relationship between farmers' age was not significant with farmer perceptions' was in line with the outcome of the study (Pramuditya & Prihtanti, 2019). Furthermore, the relationship between land size

and farmers' perceptions was in contrast to the results of this research (Pramuditya & Prihtanti, 2019) which stated that the relationship between land size and perceptions was significant. The result of this study was different from the research outcome (Sahripin & Puryantoro, 2020) which stated that the relationship between land size and perceptions was significant. The result of this study was different from the research outcome.

CONCLUSION

Based on the results of research and discussion of farmers' perceptions on the roles of the agricultural extension works on wet rice farming in Maluhu Village, Tenggara Subdistrict, Kutai Kartanegara Regency, it was concluded that farmers' perceptions on the role of the agricultural extension workers as dynamicators, as facilitators, and as motivators were in fair category. The perceptions of wet rice farmers were associated with farmer characteristics, namely age, education level, and land area.

Farmer's perception on the role of agricultural extension workers was fair, dominated by the age level of 50-59 years. The farmer's perception on the role of the agricultural advisors was fair based on their levels of education, dominated by elementary school education. The farmer's land size was mostly between 0.25 - 0.5 Ha. The analysis showed that farmers' age, education, and land tenure were not correlated with farmers' perceptions of the role of agricultural extension workers as dynamicators, facilitators, and motivators. However, farmer education was significantly correlated, at a 10% error level, to perceptions of the role of extension workers' roles as motivators.

REFERENCES

- Astuthi, M. M. 2022. *Peranan Penyuluh Pertanian dalam Pengembangan Kelompok Tani Ternak Karya Padang Kertha di Desa Apuan, Kecamatan Baturiti, Kabupaten Tabanan*. Dwijen AGRO, 12(1), 1–8.
- Ban, A. W. Van Den, & Hawkins, H. 2010. *Penyuluhan Pertanian*. Yogyakarta: Penerbit Kanisius.
- Faqih, A. 2014. *Peranan Penyuluh Pertanian Lapangan (PPL) dalam kegiatan pemberdayaan kelompok terhadap kinerja kelompok tani*. Agrijati, 26(1), 41–60.
- Halimah, S., & Subari, S. 2020. *Peran Penyuluh Pertanian Lapang dalam Pengembangan Kelompok Tani Padi Sawah (Studi Kasus Kelompok Tani Padi Sawah di Desa Gili Barat Kecamatan Kamal Kabupaten Bangkalan)*. Agriscience, 1(1), 103–114. <https://doi.org/10.21107/agriscience.v1i1.7794>
- Kabeakan, N. T. M. B. 2020. *Persepsi Petani terhadap Peran Penyuluh Pertanian Lapangan (Studi Kasus Petani Kakao di Desa Tanjung Gunung Kecamatan Laubaleng Kabupaten Karo)*. Jurnal Ekonomi Pertanian Dan Agribisnis (JEPA), 4(4), 908–917.
- Lini, L., Hamzah, A., & Abdullah, S. 2018. *Peranan Penyuluh Pertanian dalam Pengembangan Kelompok Tani di Kelurahan Benua Nirae Kecamatan Abeli Kota Kendari*. Jurnal Ilmiah Membangun Desa dan Pertanian, 3(5), 128-132.
- Nasriansyah. 2019. *Persepsi Petani terhadap Peran Penyuluh dan Gapoktan pada Usahatani Padi Sawah di Desa Bukit Raya Kecamatan Tenggarong Seberang Kabupaten Kutai Kartanegara*. Samarinda. Repository Universitas Mulawarman Samarinda.
- Pertanian, M. 2020. *Peraturan Menteri Pertanian Nomor 01 Tahun 2020 Tentang Alokasi dan Harga Eceran Tertinggi Pupuk Bersubsidi Sektor Pertanian Tahun Anggaran 2020*. Jakarta: Menteri Pertanian.
- Pramuditya, M. A. H., & Prihtanti, T. M. 2019. *Persepsi Petani Terhadap Budidaya Gandum Tropis*. AGRIC, 31(2), 176-90. <https://doi.org/10.24246/agric.2019.v31.i2.p176-190>.
- Ridwan, & Akdon. 2020. *Rumus dan Data dalam Analisis Statistika*. Bandung: Alfabeta.
- Rusman, Yusriadi, & Nurhaedah. 2023. *Peranan Penyuluh Pertanian dalam Pengembangan Kelompok Tani di Desa Lise Kecamatan Panca Lautang Kabupaten Sidrap*. Jurnal Agribis, 11(1), 34-54.

- Sahripin, & Puryantoro. 2020. *Persepsi Petani Terhadap Peran Penyuluh Dalam Peningkatan Produksi Pertanian*. Agribios:Jurnal Ilmiah, 18(1), 1–11. <https://doi.org/10.36841/agribios.v18i1.885>.
- Saputri, R. D., Anantanyu, S., & Wjiyanto, A. 2016. *Peran Penyuluh Pertanian Lapangan dengan Tingkat Perkembangan Kelompok Tani di Kabupaten Sukoharjo*. Jurnal Agrista, 4(3), 341–352.
- Seftiani, T., Aprianto, D., & Gabrienda, G. 2022. *Peran Penyuluh Pada Pengembangan Kelompok Wanita Tani (KWT) Di Kecamatan Selupu Rejang*. Jurnal Riset Rumpun Ilmu Tanaman, 1(1), 70-81. <https://doi.org/10.55606/jurrit.v1i1.213>
- Sipahutar, T., Hidayat, S., Girsang, M. A., Haloho, L., Lumbantobing, S.P., Simatupang, S., Nainggolan, P., Sembiring, P., Marpaung, M. S., & Napitupulu, D. 2022. *Characteristics and Analysis of Shallots Farming in Dolok Silau Simalungun, North Sumatra*. AGRIC, 34(2), 287–299. <https://doi.org/10.24246/agric.2022.v34.i2.p287-299>.
- Sugiyono. 2001. *Metode Penelitian Bisnis*. Bandung: CV. Alfabeta.
- Sugiyono. 2017. *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: CV. Alfabeta.
- Sujono, & Yahya, M. 2017. *Buku Ajar Pelaksanaan Penyuluhan Pertanian*. Pusat Pendidikan Pertanian Badan Penyuluhan dan Pengembangan SDM Pertanian Kementerian Pertanian. [http://repository.pertanian.go.id/bitstream/handle/123456789/14168/Pelaksanaan Penyuluhan.pdf?sequence=1&isAllowed=y](http://repository.pertanian.go.id/bitstream/handle/123456789/14168/Pelaksanaan%20Penyuluhan.pdf?sequence=1&isAllowed=y)
- Walén, Y. S., Abdurrahman, M., & Bano, M. 2021. *Persepsi Petani Terhadap Peran Penyuluh Pertanian dalam Meningkatkan Produktivitas Usahatani Jagung (Zeamays, L) di Desa Gelong Kecamatan Adonara Timur, Kabupaten Flores Timur*. Buletin Ilmiah IMPAS, 22(2), 142-151.
- Wibowo, H. T., & Haryanto, Y. 2020. *Kinerja Penyuluh Pertanian dalam masa Pandemi Covid-19 di Kabupaten Magelang*. Jurnal Penelitian Peternakan Terpadu, Vol.2(No.2), 79–92.
