Communication, Media, and Marketing Journal
ISSN 3065-0976
Volume 11 Issue 3
July – September 2023
Impact Factor: 6.37
Enquiry: contact@continentalpub.online
Published by Continental Publication | http://continentalpub.online/index.php/cmmj

PROMOTING RURAL DEVELOPMENT: ASSESSING COMMUNICATION STRATEGIES TO IMPROVE LIVELIHOODS IN THE KILIMANJARO REGION, TANZANIA

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Abstract: *Agriculture stands as a cornerstone of Ethiopia's economy, yet persistent challenges in productivity and self-sufficiency persist, largely attributed to fragmented land cultivation and inadequate farming systems. Despite being home to a predominantly agrarian population, Ethiopia has struggled to achieve agricultural self-sufficiency, primarily due to low productivity levels. In response to this pressing issue, the Ethiopian government has implemented agricultural extension programs, leveraging communication strategies to drive transformative change. These initiatives have been instrumental in disseminating crucial information and skills to farmers since the 1950s, aiming to enhance resource utilization and technological adoption. This study delves into the pivotal role of agricultural extension in bolstering production and empowering farmers, shedding light on its evolution and impact within the Ethiopian context. Drawing on insights from Alemu (2017), Mekonnen et al. (2016), Gerba (2018), Belay (2003), and NAEP (2001), the research elucidates the multifaceted dimensions of agricultural extension services, emphasizing their significance in equipping farmers with the knowledge and tools necessary to optimize production outcomes. By synthesizing empirical evidence and policy frameworks, the study offers valuable insights into the challenges and opportunities inherent in agricultural extension programs, underscoring their potential to drive sustainable agricultural development and socioeconomic progress in Ethiopia.*

Keywords: *Agriculture, Ethiopia, agricultural extension, productivity, sustainable development.*

INTRODUCTION

Agriculture is a major source of income for the Ethiopian economy. Most of its population sustains its life on subsistent agriculture, cultivating fragmented plots of land (Alemu, 2017). Though the farming community comprises the highest segment of the population, the country has never attained self-sufficiency in agricultural production. Ethiopia has not yet fed its citizens because of a poor farming system, resulting in low agricultural productivity (Mekonnen et al., 2016). To combat this recurrent problem, the Ethiopian government set out a strategy called agricultural extension programs that use communication to induce change (Gerba, 2018). As a prevailing issue of insufficient agricultural production in the country, agricultural extension has become important to uplift agricultural production since the 1950s (Belay, 2003). Its role is to provide information to farmers by making available knowledge and skills on the better use of resources and technological options. The ultimate

goal of extension service would be to help farmers take greater advantage of production (NAEP, 2001). Communicators must give the farming community suitable innovations and agricultural technologies (Rivera and Kalim, 2003). The communication approach used when providing agricultural services is crucial for educating farmers (Rogers, 2003). DAs and experts should transfer and exchange practical information through a properly programmed communication approach. Agricultural communication aims to support farmers and solve problems, advancing community participation in the development process (Nyakuni et al., 2001). Genuine engagement, free and open discourse, and two-way communication have all been praised in the context of multiplicity theory (Sylvester, 2016; Ilu and Olawale, 2014; Tufte and Mefalopulos, 2009). This study examines communication interventions to find out whether they are participatory and if agents' working environment allows the practice of participatory communication in the specified region. Additionally, it investigates some elements related to communication intervention. It attempts to answer the following questions: To what extent are the communication approaches in place inclusive in light of the participatory approach? How widely are various methods of communication used? What degree of information-seeking behavior did development agents demonstrate?

MATERIALS AND METHODS

The primary sources of information are development agents working in rural areas. Development agents are chosen for the study because they have first-hand knowledge of the problem as they work with farmers daily (EATA, 2017). This descriptive study used a quantitative approach to solicit information from the agents. First, the Sidama region was selected. The selection of the region was deliberate, considering the diversity in agricultural production methods. The area is found in the southern part of Ethiopia. Sidama region encompasses thirty [1]woredas. These woredas are divided into two sections based on the productivity and compatibility of the ecology, namely the areas where only cash crops are growing and those where both cash crops and food are cultivated. The Cluster Random sampling approach was used to identify two woredas from the category. Accordingly, Dara and Hawassa Zuria woredas were selected. Hawassa Zuria woreda is among those where only cash crops are grown, and Dara woreda is from an area where food and cash crops are grown. Dara Woreda has twenty [2]kebeles, while Hawassa Zuria has twenty-three. Three development agents (DAs) are assigned in each kebele. These DAs have received training from colleges either in animal science, plant science, or natural resource management. All respondents were selected to fill out the questionnaire. Each development agent working in the 43 kebeles filled out the survey questionnaires. One hundred twenty-nine questionnaires were distributed, of which nine were discarded due to incompleteness. Survey items developed by Jira (2014) were modified and used. Interpretation of mean values was made using cut-points adopted from Btawee (1987): 1.00-1.50 (low), 2.51 to 3.50 (moderate), 3.51 to 4.50 (high), and 4.51 to 5 (very high) (Table 1).

RESULTS AND DISCUSSION

Respondents' demographic information (Table 2) shows that 81.7% were men and 18.3% were women, which indicates that the sector is male-dominated. Age-wise, while 64.2% were between 20 and 30, 20.8% of respondents were between the ages of 31 and 40; the remaining fell in the category above 40. That is over 80% of the total population of younger agents. Regarding education, 51.7% had a diploma,

[1] Most administrative matters and decisions are handled within the Ethiopian governance structure, located directly above Kebele.
[2] Beneath Woreda, a kebele is the smallest administrative entity in the nation.

and an equally significant number had a bachelor's degree (BA). As stated in Ethiopian agricultural policy, DAs who get three years of training on various knowledge and skills from Agricultural Technical and Vocational Education Training (ATVET) colleges can assist farmers concerning their profession (EATA, 2017). It was observed that a significant number of DAs are upgrading their educational status to BA level to secure better-paying jobs. Yet many DAs were also taking courses in agriculture at various universities in the summer programs.

Regarding specialization, the Ministry of Agriculture (MoA) intended to deploy three DAs who had graduated from ATVET colleges with three specific fields: Plant science, natural resource management and animal science (Berhanu, 2009). Thus, the composition of DAs trained in plant science, natural resources, and animal science were 48, 35 and 27%, respectively. The figure shows that most DAs have received professional training in plant science. Regarding marital status, 76.7% of DAs were married, while the remaining 23.3% were single. The inference is that most of them have settled life in their work sites. Regarding work experience, while 38.3% of respondents had less than five years of experience, 30.8% had 6 to 10 years of experience; this proves that the research participants have adequate agricultural extension job experience and have the expertise to offer reliable details about the agricultural sector.

Utilization of participatory communication approaches

In the genre of development communication, scholars came up with a better attitude and appreciation for the participatory communication approach (Gerba, 2018; Tufte and Mefalopulos, 2009). One recognition of the participatory communication approach in development endeavors is that it centers on people and looks into multiple issues (Acunzo et al., 2014; Melkote and Steeves, 2001). Furthermore, the inclusive nature makes it appropriate and acceptable in many developmental activities (Zikargae et al., 2022; Servaes, 2002).

Respondents were asked whether they believed that participatory communication would help increase crop production; a mean value of 4.33 indicated a high level of agreement with the statement (Table 3). The implication is, therefore, the presence of understanding among the respondents that they believe participatory communication is vital to enhance crop production. In the second item, they were asked about whether they approach farmers using participatory communication. The mean result for the level of agreement was 3.68, which is not quite strong. Although it can be deduced from the score that some respondents felt their engagement with farmers was participatory, a sizable portion of respondents were unable to certify that they consistently employ a participatory communication method. When asked whether the use of a participatory approach has created a developed sense of ownership among farmers, the level of agreement was significant (M=4.22); this implies that if farmers are involved, they will build a sense of ownership, and the strategy will encourage active participation. In response to the statement that inquired whether Das (development agents) discuss agricultural issues with farmers to prioritize farmers' concerns, a mean value of 3.65 was obtained. The result is not very high. The figure indicated a significant level of agreement on the part of respondents that they did not discuss with farmers to prioritize and include their concerns during interventions. The other item that inquired whether DAs carried out agricultural activities based on consensus and genuine participation with farmers has a mean value of 3.64. The implication is that, thus, DAs accomplish agricultural activities not entirely based on consensus and not through a participatory communication approach.

In response to the statement that inquired whether DAs draft annual plans together with farmers, the level of the agreement with the mean value was 3.75, which is not very high. From the score, it can

be drawn that a sizable portion of DAs did not develop annual plans with farmers using a participatory approach. When asked whether they identify problems together with farmers through dialogue, the level of agreement was not very high (M=3.62). The implication is that not all DAs have a culture of identifying problems with farmers through dialogue. The core point of participation is to deal with farmers in identifying issues and consequently planning various activities with full community involvement. The other item that inquired respondents was the usualness of farmers' participation in prioritizing problems to include their needs in the annual plan. The mean result for the level of agreement was 3.67. By implication, several DAs did not usually include farmers' needs in the yearly plan. An item that inquired respondents about the responsibilities farmers take to execute their share of tasks based on mutual understanding has a mean value of 3.63, which does not agree with the Likert scale measurement; this indicates not all farmers' share of tasks is being executed based on a high level of mutual understanding; this can result from a lack of genuine participatory communication. The implication is that DAs did not usually discuss tasks and activities to make farmers feel responsible.

Table 1. Interpretations using Likert scale mean cut point Poolnar Btawee.

S/N	Mean scores measurement scale intervals/ cut points	Value
1	4.51-5.00	Excellent/very good/very high
2	3.51-4.50	Good/high
3	2.51-3.50	Average/moderate/medium
4	1.51-2.50	Fair/low
5	1.00-1.50	Poor/very low

Table 2. Demographic variables.

S/N	Variable		Frequency	Percentage
		Female Male	22	18.3
1	Gender		98	81.7
		Total	120	100
2	Age (years)	20-30	77	64.2 20.8
		31-40	25	10.8
		41-50	13	
		>50	5	4.2
		Total	120	100
3	Education level	Diploma	59	51.7
		Degree	58	48.3
		Total	120	100
4	Ability to use local language	Cannot use	1	0.85 0.85
		Use to some extent	1	98.3
		Able to use effectively	118	
		Total	120	100

		Married	92	76.7
5	Marital status	Unmarried	28	23. 3
		Total	120	100
		0-5	46	
		6-10	37	38.3 30.8
6	Work experience (years)	11-15	9	7.5
		>15	28	23.3
		Total	120	100
		3	84	70
	Duration of college	4	22	18.3
7	education (years)	5	14	11.7
		Total	120	100
		Plant science	48	40
		Natural resource	35	29.2
		Animal science	27	22.5
8	Area of specialization	Irrigation	7	5.8
		Rural Development and Agricultural Extension	3	2.5
		Total	120	100

Table 3. Utilization of participatory communication.

Descriptive statistics

S/N	Variable	N	Min.	Max.	Mean	Std. Dev.
1	A participatory communication approach would help increase agricultural production.	120	3	5	4.33	0.540
2	I usually utilize a participatory communication approach whenever I communicate with farmers.	120	2	4	3.68	0.502
3	Practically, I observed that the participatory communication approach helps develop a sense of ownership among farmers	120	3	5	4.22	0.638
4	I always discuss agricultural issues with farmers to give priority to their concern	120	3	4	3.65	0.479
5	All agricultural activities are being done based on consensus and genuine participation	120	3	4	3.64	0.482
6	In drafting the annual plan, farmers participate fully	120	2	4	3.75	0.454
7	Farmers, together with us, identify problems through dialogue.	120	3	5	3.62	0.522
8	Farmers usually participate in prioritizing problems to include their needs in the annual plan.	120	3	4	3.67	0.473
9	Based on mutual understanding, farmers take responsibility for executing their share of the task.	120	2	5	3.63	0.564
10	Whenever innovation comes out, farmers are introduced through a participatory communication approach	120	2	4	3.63	0.501
11	New plans and activities from higher experts and officials would be executed through dialogue and interactivity	120	3	4	3.63	0.484
	Valid N (listwise)	120				

Min.: Minimum; Max.: Maximum; Std. Dev.: Standard deviation.

Communication delivery system

Communication delivery systems can occur and flow through different means (Coldevin, 2003). It could be through interpersonal, group, or mass media (AESE, 2017). DAs must walk from farmer to farmer and have private discussions about issues. In-group methods, farmers can get knowledge and exchange information through experience-sharing tours, demonstrations, farmers' days and field visits (Oakley and Garforth, 1985). Interpersonal communication can be the most effective communication method in rural areas because it plays an essential role in learning and change (Coldevin, 2003). The potential of mass media to convey information and raise awareness of new concepts among a large segment of society is also recognizably crucial (Oakley and Garforth, 1985). Methods of communication could be selected based on certain factors. The selection of the most appropriate communication methods depends on the context, goals, message type, society's education level, etcetera (Nyakuni et al., 2001).

DAs use various communication methods to provide agricultural knowledge and services to the community. In many cases, interactions between farmers and DAs occur person-to-person or in groups. In this regard, respondents were asked whether they visit farmers home to home regularly (Table 4); the mean value of 3.87 was obtained. The level of agreement was not entirely high. It implies that not all DAs visited farmers frequently and communicated one-to-one. The other moderate result obtained from the respondent was on the item that asked whether they regularly arranged field day trips. The mean level of agreement value was 3.37, which was not high. The result implied that there was no regular trend of field visits. The importance of field visits would allow farmers to learn from the actual scene undertaken by farmers or other bodies and have immediate feedback (Oakley and Garforth, 1985). Field trips help farmers get insight or comprehend the purpose through group and interpersonal communication methods. The third item asked respondents whether they usually arrange model farmers' experience-sharing sessions. With a mean score of 3.22, it has an average level of agreement with the statement. The conclusion drawn from the outcome would be that DAs did not organize experience-sharing conferences regularly. When asked whether they arranged a session where farmers could discuss with agricultural experts, the level of agreement was not highly significant (M=3.34). Therefore, there was no common practice of putting up this session where farmers and experts could interact and discuss agriculture. The other item that asked respondents whether they encourage farmers in a group to listen to radio programs focusing on agriculture has a mean value of 3.30. The outcome did not correspond to the statement's substantial degree of agreement. The meaning obtained from the mean value in this attribute tells that DAs did not usually encourage farmers to listen to agricultural radio programs. Advising and inspiring farmers to listen to agricultural radio programs will make them discuss issues they have heard of, which will be very helpful in understanding the issues more. A less significant result was obtained (the mean value was 3.18) from the inquiry that asked respondents whether they arrange video/TV/screen shows focusing on agriculture regularly. The implication is that DAs were not satisfactorily operationalizing mass media as a communication delivery system. In general, the utilization of multiple communication delivery systems was significantly less.

Confidence in communicating with farmers

Confidence in communication is very crucial. In agricultural communication, information delivered to farmers should be clear and free from ambiguity. DAs need to develop confidence to communicate with

farmers concisely. The primary responsibility of DAs' interaction with farmers is to induce change by using communication as an instrument (Norton and Alwang, 2020). DAs' priority would be providing pertinent information to the farmers, making them feel the use of resources, and adopting technological innovations (NAEP, 2001). Confidence in communication strengthens the communicators' courage to look for solutions to problems *(*Azmandian*,* 2010).

The mean value for an item that asked respondents whether they always read to communicate with farmers confidently is 3.67 (Table 5); the score's level of agreement with the statement is not high. Related to this inquiry, a mean value of 3.75 was obtained for the other question that sought to determine whether DAs typically look for new valuable innovations; the level of agreement was not high, resulting from the absence of a high level of engagement in reading and updating their agricultural knowledge, which causes DAs to lack the confidence needed when communicating with farmers.

The other item inquired whether respondents have ample information in their field of specialization. The mean score for the level of agreement was 3.63; this shows the hesitance among DAs on whether they can confidently respond to farmers' inquiries. Regarding DAs' expertise and efficiency of communication, they were asked whether they were well equipped with communication skills that could help exchange information confidently. The mean value was 3.68, and from this, one can infer that a significant number of DAs lack the communication skills required to persuade farmers to adopt innovations. The last item in this list of inquiries was the one that asked whether they use multiple communication methods to be a good communicator. The mean result for the level of agreement was 3.63, which was not strong. The implication is, thus, that a significant number of DAs felt they were not using various communication methods.

Table 4. Communication delivery system.

Descriptive statistics					
S/N Variable	N	Min.	Max.	Mean	Std. Dev.
1 I regularly visit farmers home to home	120	2	5	3.87	0.647
2 I regularly arrange a field day trip	120	2	4	3.37	0.517
3 I usually arrange model farmer experience sharing session	120	2	4	3.22	0.505
4 I arrange a session at which farmers discuss with agricultural experts	120	2	4	3.34	0.510
5 I encourage farmers to listen to a radio program that focuses on agriculture in group	120	2	4	3.30	0.495
6 I arrange video/TV/screen shows that focus on agriculture on a regular base	120	2	4	3.18	0.430
Valid N (listwise)	120				

Min.: Minimum; Max.: Maximum; Std. Dev.: Standard deviation.

Table 5. Confidence in communicating with farmers.

Descriptive statistics					
S/N Variable	N	Min.	Max.	Mean	Std. Dev.
1 I always read to communicate with complete confidence	120	2	5	3.67	0.653
2 I usually search for new, useful innovations	120	2	5	3.75	0.538
3 I have ample information in my field of specialization	120	2	5	3.63	0.662
I am well equipped with communication skills that could help to exchange information		2	5	3.68	0.686

4 confidently	120				
5 Practically, my knowledge of my profession is rich in dealing with farmers	120	2	5	3.58	0.644
6 The utilization of multiple methods of communication makes me a good communicator	120	2	5	3.63	0.647
Valid N (listwise)	120				

Min.: Minimum; Max.: Maximum; Std. Dev.: Standard deviation.

Information seeking behaviour

Information-seeking behavior is non-stoppable because the information we communicate is continuously updated and improved every time, and people should seek out and consume information to update their knowledge level (Padmvati, 2018). Agricultural information enhances experts' knowledge and skills (Gudeta et al., 2021). In particular, DAs' information-seeking behavior should be high, and it is imperative. To better serve the rural population, DAs' motivation can be understood by looking at how they search for new ideas or research findings. DAs must have up-to-date knowledge and skills to deal with farmers. The primary purpose of seeking agricultural information is to improve the performance of development agents by acquiring new knowledge and skills. It helps them to master agricultural information (Nurhayati and Salampessy, 2020).

Concerning information-seeking behavior, respondents were asked about their regular interaction with researchers and their attempts to get new information (Table 6). With a mean value of 2.94, the response shows a low level of agreement with the statement. It implies that DAs did not interact highly with researchers and have not developed a trend of getting new information regularly. The second attribute that asked respondents about their readiness to discuss agricultural issues with their colleagues has a mean value of 3.63, which confirms that not all DAs have a strict culture of discussion on agricultural issues. In response to the statement about the habit of DAs listening to agricultural radio programs, the mean value reads 2.89, which is low. The value shows the absence of a strong culture of listening to agricultural programs. When asked whether they attended training and workshops, the level of agreement was significant (M=4.00), implying that DAs are ready to attend training and workshops whenever available. Participating in the training and workshop would help DAs acquire and update their knowledge and skills (Nurhayati and Salampessy, 2020). The other item inquired respondents whether they watch television programs related to agriculture. The mean value obtained from the respondents was 2.83, which lacks strong agreement with the statement. The man score shows that Das usually don't watch agricultural television programs. The average score of the items reveals that DAs' tendencies to seek out information are not particularly strong.

Table 6. Information seeking behaviour.

Descriptive statistics						
S/N	Variable	N	Min.	Max.	Mean	Std. Dev.
1	I interact with researchers and try to get new information regularly	120	2	5	2.94	0.677
2	I am ready to discuss agricultural issues with my colleagues	120	2	5	3.63	0.870
3	I listen to radio programs that focus on agricultural issues	120	2	4	2.89	0.646
4	I attend trainings and workshops	120	2	5	4.00	0.635
5	I watch television programs related to agriculture	120	2	5	2.83	0.669
	Valid N (listwise)	120				

Min.: Minimum; Max.: Maximum; Std. Dev.: Standard deviation.

Table 7. Self-esteem and assertiveness of development agents.

	N	Mean	Std. Dev.
1 Farmers have confidence in my professional knowledge	120		4.16	0.367
2 I am satisfied with the feedback I get from farmers after I communicate with them	4	5	4.08	0.278
120				
3 I have sufficient knowledge and can carry on my job effectively	120	4	5	4.11	0.312
4 I am helpful to the farmers	120	4	5	4.10	0.301
5 I am a respectful person in the community	120	3	5	4.11	0.338

Min.: Minimum; Max.: Maximum; Std. Dev.: Standard deviation.

Self- esteem and assertiveness of development agents

Positive self-esteem can make people confident in their thoughts and actions; on the contrary, negative selfesteem may result in doing something with a lack of steady thoughts and actions. Assertiveness and selfworth are interrelated (Nair, 2016). Building excellent communication skills requires assertiveness and selfworth (Perera, 2021). Successful extension agents are skilled workers who successfully carry out their duties in supporting farmers. Extension agents must become more knowledgeable, talented and competent in technical subject matter and communicative skills (Kaynakçı and Boz, 2019). Effective communication requires combining their knowledge, good relationships with the farmers they work with, and positive self-esteem. They must possess adequate knowledge and skills (Kaynakçı and Boz, 2019).

One of the questions addressed to the respondents was whether or not farmers trust the professional expertise that DAs have acquired (Table 7) the level of agreement with the mean value was 4.16, which is good. The implication is that DAs believe that farmers have confidence in the knowledge DAs possess. The other item inquired DAs about the level of satisfaction they get from farmers' feedback after communicating with them, the mean result for the level of agreement is 4.08, which was high. The mean score shows that DAs are satisfied with the feedback they received from farmers after communicating with them. The satisfaction level can be interpreted here by DAs' observation of farmers' reactions to the advice they received from DAs. When asked whether they have sufficient knowledge and can carry on their job effectively, the level of agreement was high (M=4.11). The implication is that DAs feel they have adequate knowledge to do their job effectively. The fourth item asked respondents whether they were helpful. The mean result for the level of agreement was good

(M=4.10). Thus, the implication is that DAs believe they are valuable to the farmers. In the other item, respondents were asked whether they are respectful in the community. The mean value obtained for this inquiry was 4.11, which agrees with the statement quietly. The interpretation would be, therefore, DAs feel that they are a respectful and helpful person in the community.

Workload effects on the use of participatory communication

Working as a development agent demands more effort and continuous follow-up activities, mainly providing farmers with knowledge and information (Nurhayati and Salampessy, 2020). Engaging in agricultural activities and communicating about them is not easy. It is a prolonged process with a particular goal of achievement; DAs keep delivering knowledge and information until a significant portion of the farming community can understand and decide to adopt and utilize agricultural technologies and innovations. DAs' tasks, duties and responsibilities are enormous (Nurhayati and Salampessy, 2020). They are responsible for visiting all farmers regularly and frequently. They should know the problems and challenges that farmers face every time. At the same time, DAs must approach farmers properly; their communication approach should be inclusive. Working as a development agent has a burden in accomplishing daily activities (Nurhayati and Salampessy, 2020).

When asked whether they can manage their activities properly on the given workdays, with a mean value of 4.38 (Table 8), they demonstrated a high level of agreement with the statement and indicated that DAs can manage their tasks and activities in a given time. Similarly, the item that asked respondents whether the burden of job responsibility did not affect them in utilizing the participatory communication approach also has a significant level of agreement with the mean value (4.21). The implication is that DAs feel that deploying a participatory communication approach is not affected by the burden of job responsibility. Concerning DAs' capacity, respondents were asked whether they could address the farmers' requests through a participatory communication approach. Its mean value was 4.19 and was strong; DAs could address farmers' demands through a participatory communication approach. In response to the statement that inquired whether DAs visit farmers on their farmland regularly and discuss with them through a participatory approach, the mean value of 4.21 was obtained. It indicates the presence of a high level of agreement with the statement. The working environment demands DAs to manage their time visiting farmers, which is challenging regularly. However, as the implication from the mean value entails, the burden does not affect DAs in visiting and communicating with farmers through a participatory approach. The last item asked respondents if they had seen better achievement as they carried out their jobs through a participatory communication approach. The mean result for the level of agreement was 4.17, which is significantly substantial. DAs have achieved better when carrying out their activities through a participatory communication approach. As a result, the workload had a less significant impact on the use of participatory communication; in other words, it did not considerably hinder DAs from communicating with farmers in this way.

Table 8. Work load in utilizing participatory communication.

Descriptive statistics

S/N	Item	N	Min.	Max.	Mean	Std. Dev.
1	I can manage my activities properly on the given workdays	120	4	5	4.38	0.486
2	The burden of job responsibility doesn't affect me in the utilization of a participatory communication approach	120	4	5	4.21	0.408
3	I am capable of addressing the requests of farmers through a participatory mode of communication	120	4	5	4.19	0.395
4	I visit farmers on their farmland time by time and discuss with them through a participatory approach	120	4	5	4.21	0.408

5	As I carry out my job description through a participatory communication approach, I have seen better achievement	120	4	5	4.17	0.374
	Valid N (listwise)	120				

Min.: Minimum; Max.: Maximum; Std. Dev.: Std. deviation.

Conclusion

The study shows that DAs do not often use participatory communication in their daily tasks, but they think it would assist in boosting agricultural output. DAs believe that a participatory communication method would help increase agricultural production. A proper communication approach based on genuine participation would help communicators to reach a
mutual consensus. In fact, in the DAs-farmers interaction, all farmers may not accept all ideas and information raised by DAs equally (Rogers, 2003). However, discussing issues of concern through a participatory approach makes the communicators feel comfortable. It is crucial for the participatory approach that public participation in discussion and conversation be at a high level (Zikargae et al., 2022); this allows one to see the various issues that affect the community (Servaes, 2002; Paolo, 2003). On the other hand, the workload had a lesser impact on the use of participatory communication; in other words, it did not significantly prevent DAs from using this method.

DAs did not have a high level of confidence in communicating with farmers. As explained previously, confidence in communication is vital in exchanging information clearly and concisely. DAs who lack confidence find it difficult to communicate effectively. The utilization of multiple communication delivery methods was significantly less. DAs' tendencies to seek out information were quite limited. DAs did not engage in a great deal of interaction with researchers, nor did they establish a pattern of consistently obtaining new information. DAs demonstrated a decreased inclination towards tuning in to agricultural programmes; typically, they avoid watching agricultural television shows. Talking about agricultural issues with colleagues is one approach to acquiring knowledge and information. According to the study, there is a decrease in agricultural conversations among colleagues.

The researchers would like to make the following recommendations regarding the findings. DAs must effectively implement a participatory communication strategy. DAs must overcome the setbacks that make them less confident. The efficient use of numerous communication methods is crucial to assist the rural community sufficiently. It is necessary to increase information-seeking behavior; DAs must continuously improve their competence level by seeking knowledge about agriculture from diverse outside sources.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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