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Local Voices for Cocoa Production: Experiences of Ghanaian Cocoa Farmers on Community Radio

Enoch Kwame Tham-Agyekum[1], Fred Ankuyi[1,], John-Eudes Andivi Bakang[1], Nicholas Quayson[1], Derick Okantah[1], Treve Hope[1], Joash Osei-Nyarko[1], Ross Richmond Wesley[1]*
1) Department of Agricultural Economics, Agribusiness and Extension, KNUST-Kumasi.
**) Corresponding Author: fredankuyi@gmail.com*

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***Abstract*—Local radio has played a significant role in keeping local cocoa farmers informed about their farming activities. However, the experiences of these local farmers who should be the real owners of community radio have not been captured. It would be possible to increase cocoa production if the experiences of local cocoa farmers were given the attention needed. Using a quantitative research approach, the multi-stage sampling technique was used to select 385 respondents. Data were analyzed using frequencies, percentages, means, standard deviations and Kendall's coefficient of concordance. Results show that farmers were undecided about their reliance on community radio and the role it plays in disseminating agricultural information. However, they understood the agricultural-related information disseminated on community radio. They agreed that the content and presentation of community radio programs were suitable for them but were undecided on the transmission quality and community involvement. Interference from local leaders was the most severe challenge facing farmers' use of community radio. In order to improve extension delivery there is a need for policymakers and agricultural extension stakeholders to implement programs that will encourage farmers to set up and rely on community radio as a great alternative source of information for their farming activities. This is also necessary to improve the currently low contact of extension agents with farmers, thus, reducing the extension farmer ratio.**

Keywords*—community radio, community involvement, comprehension, content, local voices, production quality.

I. INTRODUCTION

Improving agricultural production requires the use of agricultural information. The success of dissemination of agricultural information relies mainly on the type and level of use of mass media especially radio in the mobilization of farmers for development [1, 2, 3]. Agricultural scientists and planners in underdeveloped nations realize that the development of agriculture and the adoption of new farming methods in agriculture could be accelerated with the effective use of mass media. Electronic media such as radio and television have been acclaimed to be the most effective media for diffusing new farming information to the masses [1, 48].

Radio is one of the best ways to inform farmers about new agricultural technologies and innovations, and it does it more quickly than human connections. The choice of mass media is crucial in nations with extremely low literacy rates, especially in rural areas. In this setting, radio plays a critical role in quickly disseminating contemporary agricultural technologies to both educated and unskilled farmers in farming communities. Farmers require adequate knowledge and exposure to the most recent technologies in such circumstances. The media is crucial in ensuring that farmers are aware of the most recent agricultural technologies and information to properly and consistently use radio to propagate all these revolutionary farming approaches [1, 23].

The significance of community radio for farmers and the development of agriculture cannot be ignored. It spreads many innovations in agricultural farming for the farmers in their local languages and produces expert comments, opinions, and suggestions on new techniques, and methods for harvesting and seeding the crops [3]. Local languages are used in community radio programming to overcome the language barrier and expand their audience by reaching a wider range of listeners. These radio stations foster community engagement and support by broadcasting in local languages, which also foster a sense of ownership and belonging. Information transmitted in a language that communities can comprehend typically empowers such communities [2].

In various nations, the word "community radio" has slightly different connotations. In addition to public and commercial radio broadcasting, it is regarded as third-tier broadcasting because it is owned, operated, and regulated by a community and is meant to serve the needs and ambitions of that community [3]. In Latin American countries, community radio, often known as "the peoples' radio," has become the voice of the underprivileged and voiceless, including landless

peasants, underdeveloped indigenous communities, and labor organizations [4].

A community radio station is run by the community and broadcasts content that is relevant to the community. It may also refer to a collection of individuals who have a shared interest but do not necessarily occupy the same geographical area. As a result, it might be administered or controlled by a single group, a group that also includes others such as women, farmers, children etc. The high level of participation in administration and program production sets community radio apart from other media. Additionally, the main sources of funding for its operation are local institutions and private community members. Community radio is the property of the community's residents, and as such, it should serve the community [2].

According to Chapman, [2] community radio can help isolated rural farming groups communicate agricultural information more effectively. When local languages are used to communicate directly with farmers and listener groups, the participatory aspect of communication strategies can help agricultural extension activities [5]. Community radio remains the most significant medium for communicating with the rural population of undeveloped countries [6] and serves as a tool for agricultural and rural development. By giving farmers relevant knowledge, it seeks to improve their way of life [2].

Community radios are used as information dissemination tools by governments, non-governmental organizations, civic organizations, and women organizations to disseminate information to the local population about development in fields including agriculture, education and health [3,7,8]. As a result of the content being produced by and for the community, it improves the locals' quality of life [9]. By having organizational structures that reflect the community the radio station serves, it can broadcast programs and materials that are pertinent to the neighborhood [10].

Community radio is accessible to rural areas, is inexpensive, and does not require specialized knowledge to operate. As a result, community radio typically serves as a medium for informing underprivileged, illiterate individuals who reside in remote rural locations. With little in the way of funding, infrastructure, or talent requirements, it may reach out to a wide range of communities. Because community radio entails community organization, shared thinking, and decision-making, all of which have significant promise for empowering communities and creating a democratic society, community empowerment is realized [11]. They offer a way for people, groups, and communities to share their experiences, tell their own unique stories, and actively participate in creating and contributing to media [12].

Participation by the community is the source of community radio's power and popularity. According to Chapman [2], residents in rural areas without telephones use the radio to publicize gatherings, camps, funerals, and marriages. By teaching and organizing communities around development efforts, listeners' lives are improved. In terms of content, production quality, and community involvement, community radio faces hurdles in producing successful and high-quality programs.

In Ghana or Africa as a whole, community radio is still a developing concept in terms of numbers and popularity. However, it has evolved in various ways across the country. Since it is widely known that the effectiveness of extension services plays a critical role in determining the long-term viability and productivity of the agricultural sector [13], the role of community radio in bridging the wide gap between extension workers and farmers (1:1500) cannot be ignored. Due to this gap, the country's present extension service has had limited success in providing farmers with timely and pertinent agricultural information. Community radio may play a significant part in the lives of rural farmers as a tool of power in transforming their lives, as relevant and timely information is crucial in agriculture [14].

According to Masuki [15], one of the main factors influencing agricultural production is access to relevant information and expertise. In Nepal, Wabwire [11] proved that community radio could significantly improve the lives of the community's residents. Salau [16] conducted a study on the efficacy of community radio programs in helping farmers and rural dwellers improve their farming activities. Mu-azu and Shivram [17] studied the preference of radio audience for local dialect programs over other similar content programs and concluded radio broadcast in local dialect plays a pivotal role in bridging the communication gap between government and rural communities. Anyadike [18] also looked at local dialect radio programs for rural development and social integration. Currently, there is little or no empirical information on how cocoa farmers' voices are represented on community radio agricultural programs. Therefore, this study seeks to assess the extent to which cocoa farmers rely on and comprehend agricultural-related information disseminated via community radio, assess farmers' perception of community radio agricultural programs in terms of the content, transmission quality, presentation and community involvement, assess farmers' perception on the contribution of community radio in disseminating agricultural-related information and ascertain the challenges faced by cocoa farmers in accessing agricultural-related information from community radio.

II. Materials And Methods

Atwima Nwabiagya North Municipal, the study area, is located roughly between latitudes 10 45' and 20 00' West and between latitudes 6o 32' and 6o 75' North. It is one of the Ashanti Region's thirty (30) political and administrative districts. It shares common borders with Ahafo Ano South and Atwima Mponua districts to the West, Offinso Municipal to the North, Amansie-West and Atwima Kwanwoma districts to the South, and Kumasi Metropolis and Afigya Kwabre District to the East. It covers 294.84 square kilometres. Nkawie serves as the Municipal capital.

The study used a quantitative research design, thus, survey [20]. The target population for this study included all cocoa farmers in the Atwima Nwabiagya Municipality who listen to community radio agricultural programs. Since the actual

population size of farmers was not known, Cochran's formula was used to calculate the sample size [19].

Cochran's formula is; $n_o = \frac{z^2pq}{e^2}$

Where; n_o = the sample size

Z = is the selected critical value of desired confidence level.

p = the estimated proportion of an attribute that represents the population

q = 1 – p

e = the desired level of precision (i.e., the margin of error)

The z score for the 95% confidence level selected is 1.96

p = 0.5

q = 1 – 0.5 = 0.5

e = 0.5

$$n_o = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

$$n_0 = 385$$

The sample size for the study was three hundred and eighty-five (385) cocoa farmers in the Municipal. The multi-stage sampling technique was employed for the study. In the first stage, the purposive sampling technique was used to select Atwima Nwabiagya Municipal. This was because of the presence of community radio stations that broadcast agricultural-related programs. In the second stage, simple random sampling was used to select four communities (Kontomire, Hyiahu, Kapro and Paroso). In the third stage, cocoa farmers were selected from each of the four (4) communities using the snowball sampling technique. The snowball technique was used because the study was only interested in the cocoa farmers who listen to community radio agricultural programs. Such cocoa farmers could only be found through leads from colleague cocoa farmers.

This study made use of structured questionnaires in collecting data. Each item in the questionnaire was created to answer a particular objective. The questionnaire contained closed-ended questions. A period of thirty days (i.e., one month) which started on the 10th of June 2022 and ended on the 14th of July 2022 was used in the collection of the data from the study area.

A three-point Likert-scale type ranging from 1= Disagree, 2= Neutral, and 3= Agree was used to assess farmers' reliance and comprehension of cocoa production information, assess farmers' perception of community radio agricultural programs in terms of the content, transmission quality, presentation and community involvement. To investigate the perceived contribution of community radio cocoa production programs in the dissemination of information, a three-point Likert-scale type ranking (1= Low, 2= Moderate, 3= High) was used. The data was analyzed using descriptive statistics; percentage, frequency, mean (M) and standard deviation (SD). To ascertain the challenges that farmers face in accessing agricultural information from the community radio, Kendall's coefficient of concordance was used.

$$W = \frac{12S}{p^2(n^3-n)-p^T}; 0 \leq w \leq 1$$

Where S is the sum of the squared deviation for each challenge and is given as

$S=\sum_{i=1}^{n}(R_1 - \bar{R})^2$

R_1 is the total rank for the ith challenge.

$\bar{R}$ is the mean value for each total ranked challenge.

P is the number of respondents.

n is the number of challenges to be ranked.

T is the correction factor for this tie.

III. Results And Discussion

A. Socio-Demographic Characteristics of Cocoa Farmers

The results (table I) show that the mean age of cocoa farmers was 52.20 years with 21 years and 88 years being the minimum and maximum ages respectively. This suggests that cocoa farmers who listen to agricultural-related programs on community radio are ageing. Omoare [21] also found the mean age of farmers to be 52.8 years. On average, the household size of cocoa farmers ranged from 1 to 20 with a mean household size of 5.58. An average of six (6) members in a household suggests a relatively large household. In another study by [21], they found a higher household size i.e., eight (8) members among farming households. The advantage in such cases is the easy access of farmers to cheap labour or workforce [22]. The average farm size of respondents was 7.59 acres. The farm size ranged from one (1) acre to 38 acres. The finding is consistent with [26] who also found a relatively large farm size being used by farmers (i.e., 7.10 acres).

About 53% of the cocoa farmers who listen to agricultural programs on community radio were males whereas the females were 46.80%. This shows that the listenership of agricultural programs on community radio is male-dominated. However, the percentage of female farmers is still encouraging and it can be said that both men and women are actively involved in cocoa farming and listen to agricultural programs on community radio [24]. According to McMahon [24], the increase in obligations to male and female farmers has led to their equal participation in cocoa production. Both depend on farming as a source of income so that they may meet family needs, feed families, and provide for children's needs, thus they both participate in agricultural activities. The outcomes also convey a sense of local gender equality.

About 89.6% of the cocoa farmers who listen to agricultural programs on community radio were Christians, 8.6% of the respondents were Muslims while the traditionalists were 1.8%. The finding is similar with [25] who reported that the majority (76.50%) of cocoa farmers in their study were Christians. The results further revealed that 69.9% of the respondents were married, 9.6% were single, and 6% and 14.5% were divorced and widowed respectively. With respect to the marital status of cocoa farmers, [21,26] also found that about 68.8% and 83.40% of cocoa farmers respectively were married.

In terms of education, 21.6% of the cocoa farmers who listen to agricultural programs on community radio had completed primary education, 29.6% and 17.9% had attended Junior High School and Secondary High School respectively. Only 2.6% had tertiary education while about 28.3% did not have any formal education. The results show that the majority of the cocoa farmers who listen to agricultural programs on community radio have had some level of formal education, although most of them were below the tertiary level. It can be inferred that obtaining a basic education, or being capable of reading and writing is a good sign of a farmer's capacity to assimilate information about agriculture from radio and come up with solutions to production issues. One of the major factors frequently linked to the employment of technology, such as radio for agricultural information, is education. Farmers in rural areas benefit when new agricultural technologies are disseminated over the radio [23].

The majority (61.6%) of the cocoa farmers who listen to agricultural programs on community radio practice sharecropping, 27% farm on family lands, 10.6% own their lands and 0.8% represented those with lease/rent land arrangements. The result differs from that of [25] who reported that 82.50%, 15.50%, and 1% of cocoa farmers were landowners, caretakers and sharecroppers respectively.

TABLE I. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF COCOA FARMERS

Continuous Variable	**Min.**	**Max.**	**Mean**	**Std. Dev.**
Age	21 years	88 years	52.20 years	14.33
Household size	1	20	5.58	2.95
Farm size	1 acre	38 acres	7.59 acres	5.91
Discrete Variables	**Frequency**	**Percentage (%)**		
Sex				
Male	205	53.20		
Female	180	46.80		
Religion				
Christian	345	89.60		
Muslim	33	8.60		
Traditionalist	7	1.80		
Marital status				
Married	269	69.90		
Single	37	9.60		
Divorce	23	6.00		
Widowed	56	14.50		
Level of Education				
Primary	83	21.60		
JHS	114	29.60		
SHS	69	17.90		
Tertiary	10	2.60		
No formal education	109	28.30		
Land ownership				
Own	41	10.60		
Sharecropping	237	61.60		
Family venture	104	27.00		
Lease/rent	3	0.80		

Source: Field Data, 2022

B. Farmers' Reliance on Community Radio for Agricultural Information

Cocoa farmers were asked to indicate their reliance on community radio for various information on cocoa production. From table II, farmers' reliance on community radio for information is mostly on pruning activities (M=2.55, SD=0.79). This shows that community radio serves as a vital source of information to farmers concerning pruning. Farmers' least reliance on community radio for agricultural-related information is in the area of postharvest activities (M=2.04, SD=0.93). With an overall mean of 2.31, it can be said that farmers were generally undecided on their reliance on community radio for agricultural information. As a new and developing concept, it can be said that farmers are still not adept at its use. Additionally, the activities of community extension agents could be so high that farmers still rely on them for their information needs. This is confirmed by [27] who indicated that the presence of other media and the quality of the programs and their relevance to the audience may be a contributing factor to why farmers' reliance on community radio is neutral. Mhlaba and Yusuf [28] also asserted that the majority of resource-poor farmers have been helped to embrace various technologies and so the likelihood of spreading their reliance on such technologies is high, causing reliance on community radio to be low. Consequently, community radio cannot successfully distribute and illustrate technologies to the satisfaction of cocoa farmers and so its promotion is not intended to substitute extension services; rather, it is intended to supplement extension services for the effective delivery of extension services to farmers [50].

TABLE II. FARMER'S RELIANCE ON COMMUNITY RADIO FOR AGRICULTURAL INFORMATION

Statements	**Disagree F (%)**	**Neutral F (%)**	**Agree F (%)**	**Mean**	**Std. Dev.**
Pruning activities	107 (27.80)	69 (17.9)	209 (54.30)	2.55	0.79
Disease and pest control	85 (22.10)	38 (9.90)	262 (68.10)	2.46	0.83
Availability of cocoa farm implements	87 (22.60)	49 (12.70)	249 (64.70)	2.42	0.84
Fertilizer application	101 (26.20)	36 (9.40)	248 (64.40)	2.38	0.87
Availability of varieties/planting materials	106 (27.50)	38 (9.90)	241 (62.60)	2.35	0.88
Cocoa bean quality	113 (29.40)	37 (9.60)	235 (61.00)	2.32	0.90
Type of crops which can be inter-cropped with cocoa	107 (27.80)	69 (17.90)	209 (54.30)	2.26	0.87
Alternative livelihood	101	107	117	2.20	0.83

	(26.20)	(27.80)	(46.00)		
Government financial support schemes	60 (15.60)	214 (55.60)	111 (28.80)	2.13	0.65
Postharvest activities	160 (41.60)	50 (13.00)	175 (45.50)	2.04	0.93
Overall Mean: 2.31					

Source: Field Data, 2022

C. Farmer's Comprehension of Agricultural Information on Community Radio

Cocoa farmers were asked to indicate their comprehension of the various agricultural-related information disseminated through community radio. From table III, farmers' comprehension of community radio programs is mostly on pruning activities (M=2.73, SD=0.62). This implies that farmers understand the things they are taught about pruning through community radio. Farmers' least comprehension of information via community radio is in the area of government financial support schemes (M=2.28, SD=0.64).

The other five (5) agricultural-related information cocoa farmers showed comprehension in were disease and pest control (M=2.67, SD=0.68), availability of cocoa farm implements (M=2.66, SD=0.67), fertilizer application (M=2.57, SD=0.77), availability of varieties/planting materials (M=2.57, SD=0.77) and cocoa bean quality (M=2.55, SD=0.78). With an overall mean of 2.53, it can be said that farmers generally comprehend the agricultural-related information disseminated via community radio. Ajani and Nwubuya [29] argued that if farmers understand the things they are taught, it is likely to improve the adoption of the innovations recommended through community radio. Thus, when comprehension level is increased, information is retained better. Additionally, understanding agricultural programs can be an effective way of raising awareness for various farming projects and technologies. Farmers' ability to comprehend agricultural programs may address a variety of social issues impacting their farming activities [30].

TABLE III. FARMER'S COMPREHENSION OF AGRICULTURAL INFORMATION ON COMMUNITY RADIO

Statements	**Disagree F (%)**	**Neutral F (%)**	**Agree F (%)**	**Mean**	**Std. Dev.**
Pruning activities	37 (9.60)	29 (7.50)	319 (82.90)	2.73	0.62
Disease and pest control	46 (11.90)	35 (9.10)	304 (79.00)	2.67	0.68
Availability of cocoa farm implements	44 (11.40)	42 (10.90)	299 (77.70)	2.66	0.67
Fertilizer application	66 (17.10)	33 (8.60)	286 (74.30)	2.57	0.77
Availability of varieties/planting materials	68 (17.70)	28 (7.30)	289 (75.10)	2.57	0.77
Cocoa bean quality	70 (18.20)	33 (8.60)	282 (73.20)	2.55	0.78
Type of crops which can be inter-cropped with cocoa	58 (15.10)	85 (22.10)	242 (62.90)	2.48	0.74
Alternative livelihood	74 (19.20)	62 (16.10)	249 (64.70)	2.45	0.79
Postharvest activities	103 (26.80)	43 (1.20)	239 (62.10)	2.35	0.87
Government financial support schemes	39 (10.10)	201 (52.20)	145 (37.70)	2.28	0.64
Overall Mean: 2.53					

Source: Field Data, 2022

D. Farmer's Perception of the Content of Agricultural Programs on Community Radio

Farmers were asked to assess the content of the agricultural programs they listen to on community radio (Table IV). Cocoa farmers agreed that messages are broadcast in the language they understand (M=2.89, SD=0.44). This is supported by [2, 28] who reported that community radio communication is more efficient at informing farmers when it uses the native dialect and the proper accent. This improves communication between extension agents and farmers [27]. Farmers' understanding level is increased and the information is retained better when they are communicated in their local dialect. The use of local language fulfils one of the key tenets of community radio [50].

Farmers also agreed that "messages are easily understood" (M=2.72, SD=0.68), "I am able to explain the messages I learn to other farmers" (M=2.65, SD=0.71) and "agricultural messages are repeated for emphasis" (M=2.61, SD=0.77). Community radio stations are structured in a way to provide public interest activities to their listeners. Thus, it is not surprising to find that farmers easily understand the messages and they are able to explain it to others [51]. The statement with the least mean score was "the messages are adult-centered" (M=2.15, SD=0.94). This implies that agricultural programs on the radio do not consider farmers as adults hence they do not utilize adult teaching methods. For farmers' voices to be relevant in community radio, the content of their agricultural-related programs needs to be adult-centered.

An overall mean of 2.51 shows that the respondents agreed on the suitability of the content of agricultural information transmitted through community radio. According to Melkote and Steeves [31], suitable content developed for community radio would enable people to analyse the situations they find themselves in, organize and manage their thoughts and finally make educated decisions to improve their living conditions. This type of information will be critical for rural and agricultural development. Good content from agricultural radio programs aids farmers in self-preparation for the farming season facilitates understanding and addresses pertinent concerns of farmers [32].

TABLE IV. FARMERS' PERCEPTION OF THE CONTENT OF AGRICULTURAL PROGRAMS

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)	Mean	Std. Dev.
Messages are broadcast in the language I understand	19 (4.90)	3 (0.8)	363 (94.30)	2.89	0.44
Messages are easily understood	50 (13.00)	8 (2.10)	327 (84.90)	2.72	0.68
I am able to explain the messages I learn to other farmers	52 (13.50)	31 (8.10)	302 (78.40)	2.65	0.71
Agricultural messages are repeated for emphasis	67 (17.40)	15 (3.90)	303 (78.70)	2.61	0.77
The messages engage our attention	97 (25.20)	18 (4.70)	270 (70.10)	2.45	0.87
The messages discussed are relevant to our needs and interest	92 (23.90)	34 (8.80)	259 (67.30)	2.43	0.85
The messages help me to prepare ahead for the next farming season	132 (34.50)	41 (10.60)	212 (55.10)	2.21	0.92
The messages are adult-centered	147 (38.20)	35 (9.10)	203 (52.70)	2.15	0.94
Overall Mean: 2.51					

Source: Field Data, 2022

E. Farmer's Perception of Transmission Quality

Cocoa farmers were asked to indicate their perception of the quality of the transmission of agricultural programs on community radio. From table V, the highest mean was "transmission of agricultural-related information can be heard from any location in the community" (M=2.56, SD=0.79). This means that cocoa farmers agreed that the transmission of agricultural-related information can be heard from any location in the community.

Respondents were undecided on "duration of transmission of agricultural-related information is convenient" (M=2.38, SD=0.91). Transmission of agricultural programs needs to consider the attention span of farmers since they may not devote all their time to listening. This is because, without the listener, the broadcaster is in a vacuum, simply talking to him or herself. Therefore, programs should not exceed their stipulated time [33]. Farmers were undecided on the convenience of the time of agricultural programs transmission (M=2.34, SD=0.88) and day of agricultural transmission (M=2.29, SD=0.92). Generally, cocoa farmers were undecided on the transmission quality of community radio agricultural programs as indicated by the overall mean of 2.39. Haruna [33] recommended a higher transmission quality for radio programs to increase patronage and listenership.

TABLE V. FARMER'S PERCEPTION OF TRANSMISSION QUALITY

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)	Mean	Std. Dev.
Transmission of agricultural-related information can be heard from any location in the community	73 (19.00)	25 (6.50)	287 (74.50)	2.56	0.79
Duration of transmission of agricultural-related information is convenient	112 (29.10)	13 (3.40)	260 (67.50)	2.38	0.91
Time of agricultural program transmission is convenient	105 (27.30)	44 (11.40)	236 (61.30)	2.34	0.88
Day of agricultural program transmission is convenient	122 (31.70)	29 (7.50)	234 (60.8)	2.29	0.92
Overall Mean: 2.39					

Source: Field Data, 2022

F. Farmer's Perception of Presentation of Agricultural Information

Cocoa farmers were asked to indicate their perception of the presentation of agricultural programs on community radio. From table VI, the highest mean was "presenters speak a local language only" (M=2.66, SD=0.74). The use of local language for the presentation of agricultural information on community radio is key. Since most technology users and audiences are in rural areas, the use of local languages and dialects becomes indispensable. There is therefore the need to customize the technology and create content with local participation to suit the requirements of local communities [34]. This is supported by different studies conducted by [17, 18] who established that local dialect broadcast on radio can have an impact on the development of rural communities by improving awareness and knowledge of solutions to the community's development problems. Intervention programs must package information in the local languages of the target groups to enhance listenership, interest and positive behavioral change [50].

Cocoa farmers agreed that presenters use innovative teaching styles (M=2.58, SD=0.79) and presenters speak audibly (M=2.56, SD=0.79). The statement with the least scores was "presenters pronounce words well" (M=2.29, SD=0.92). Mckee [35] stated that development communication requires the sensitivity of dialect to cultural diversity and the specific context to avoid problems and failures of development projects (community radio). An overall mean of 2.51 suggests that farmers agreed that the presentation of agricultural programs is suitable for them.

TABLE VI. FARMER'S PERCEPTION OF THE PRESENTATION OF AGRICULTURAL INFORMATION

Statements	Disagree F (%)	Neutral F (%)	Agree F (%)	Mean	Std. Dev.
Presenters speak local language only	61 (15.80)	9 (2.3)	315 (81.80)	2.66	0.74
Presenters use innovative teaching styles	75 (19.50)	10 (2.60)	300 (77.90)	2.58	0.79
Presenters speak audibly	73 (19.00)	25 (6.50)	287 (74.50)	2.56	0.79

Presenters show courtesy in his speech	108 (28.10)	18 (4.70)	259 (67.30)	2.39	0.89
Presenters pronounce words well	112 (29.10)	13 (3.40)	260 (67.50)	2.38	0.91
Overall Mean: 2.51					

Source: Field Data, 2022

G. Farmer's Perception of Community Involvement

Cocoa farmers were asked to indicate their perception on community involvement in agricultural programs on community radio. From table VII, the statement with the highest mean score on community involvement was "meetings or discussion are held between the stations and community groups" (M=2.36, SD=0.81), followed by "community members walk into the radio to ask anything related to content" (Mean=2.34, SD=0.88.) The statement with the least mean was "communities are invited to tell their own diverse stories and to share experiences on various content" (M=1.81, SD=0.89). In general, farmers were neutral on their involvement in the community radio stations (Overall Mean=2.07). This means that community ownership and involvement which is one of the tenets of community radio has relatively been overlooked and farmers' consent is not inculcated in the design or implementation of community radio programs. Local voices have been muted. According to a study by [17], about 90% of farmers do not participate in the production of community radio programs.

Although numerous community radios are springing up in rural Ghana, the concept and its proper operating guidelines are still not in vogue. This is because most community radios in Ghana are owned by private businessmen who have organized localized content to help develop their communities. It may therefore take some time to realize proper community ownership of community radio systems. The ownership and programming of a community radio station as well as the community it is permitted to serve must define it. Its programming must be accessible to and inclusive to the community, and it must take into account the unique needs and interests of the listenership it is authorized to reach [27, 36, 51, 28]. This will increase the message effect, practical implementation [27], give them more power and confidence [36], participation in decision-making and enhancement of social capital [28].

TABLE VII. COMMUNITY INVOLVEMENT

Statements	**Disagree F (%)**	**Neutral F (%)**	**Agree F (%)**	**Mean**	**Std. Dev.**
Meetings or discussion are held between the stations and community groups.	83 (21.60)	82 (21.30)	220 (57.10)	2.36	0.81
Community members walk into the radio to ask anything related to the content given	104 (27.00)	48 (12.50)	233 (60.50)	2.34	0.88
Community members are allowed to call into programs	49 (12.70)	219 (56.90)	117 (30.40)	2.18	0.63
Community members participate as staff and volunteers in the station's broadcasting operations	111 (28.80)	149 (38.70)	125 (32.50)	2.04	0.78
They consult for community's interest in their content design	138 (35.80)	97 (25.20)	150 (39.00)	2.03	0.87
Community members participate as staff and volunteers in the station's production of agricultural programs	118 (30.60)	154 (40.00)	113 (29.40)	1.99	0.78
I have the right to choose messages to be broadcast	132 (34.30)	138 (35.80)	115 (29.90)	1.96	0.80
Community members participate as staff and volunteers in the station's management	134 (34.80)	151 (39.20)	100 (26.00)	1.91	0.78
Community members are invited to tell their own diverse stories and to share experiences on various content	193 (50.10)	71 (18.40)	121 (31.40)	1.81	0.89
Overall Mean: 2.07					

Source: Field Data, 2022

H. Contribution of Community Radio Stations to The Dissemination of Agricultural Information to Cocoa Farmers

Cocoa farmers were asked to indicate their perception of the contribution of community radio in the dissemination of agricultural information. From table VIII, the statement with the highest mean score was "they give information related to disease control" (M=2.46, SD=0.84). This was followed by "they give information related to pest control" (M=2.42, SD=0.86), "farming practices such as weeding, pruning, harvesting etc, are discussed on the community radio" (M=2.37, SD=0.89), "better farming methods such as row planting, crop rotation, intercropping/ mixed crops are given" (M=2.25, SD=0.93), "agricultural information from the community help farmers to improve production with quality in order to acquire more profit. Although "community radio is convenient to be used for marketing my produce" (M=1.93, SD=0.81) has the least mean score, Freeman [37] rather showed that community radio is a channel that encourages farmers to sell their produce at the correct price rather than having their interests neglected by middlemen.

TABLE VIII. CONTRIBUTION OF COMMUNITY RADIO STATIONS TO THE DISSEMINATION OF AGRICULTURAL INFORMATION TO COCOA FARMERS

Statements	**Disagree F (%)**	**Neutral F (%)**	**Agree F (%)**	**Mean**	**Std. Dev.**
They give information related to disease control	86 (22.30)	36 (9.40)	263 (68.30)	2.46	0.84
They give information related to pest control	94 (24.40)	34 (8.80)	257 (66.80)	2.42	0.86
Farming practices such as weeding, pruning, harvesting etc. are discussed on the community radio	106 (27.50)	32 (8.30)	247 (64.20)	2.37	0.89
Better farming methods such as row planting, crop rotation, intercropping/ mixed crops are given	128 (33.20)	31 (8.10)	226 (58.70)	2.25	0.93
Agricultural information from	149	60	176	2.07	0.92

the community helps farmers to improve production with quality in order to acquire more profit	(38.70)	(15.60)	(45.70)		
Post-harvest handling and diversification content is shared on the community radio	142 (36.90)	85 (22.10)	158 (41.0)	2.04	0.88
Methods of preserving cocoa products are shared on the community radio	150 (39.00)	72 (18.70)	163 (42.30)	2.03	0.90
Information on improved seed varieties is shared by the community radio	136 (35.30)	39 (10.10)	210 (54.50)	2.19	0.93
Community radio is used for marketing my produce	142 (36.90)	129 (33.50)	114 (29.60)	1.93	0.81
Overall Mean: 2.20					

I. Challenges That Farmers Face in Accessing Agricultural Information from The Community Radio

The information in Table IX demonstrates that all farmers concurred that the first major challenge was "interference from local leaders concerning radio operations". Since the idea behind community radio is to let groups of people work together to create, produce, and broadcast shows, the interference from local leaders will not allow community members to participate in the operations of the community radio [7,40]. Locals must participate in programs that discuss how they have benefited from implementing contemporary farming techniques, and they can also learn from programs created and presented by other farmers [7]. In essence, community radio programs must feature the voices of the local community because it is the most empowering aspect of community radio [41,42].

Farmers also agreed on challenges such as "poor sound quality", "time of broadcasting agricultural information" and "intermittent power outage" as 2nd, 3rd and 4th. "Difficult to understand programs produced" and "programs not interesting" were ranked 6th and 7th by the cocoa farmers. Bresnahan [42] also reported that "community radio programs are not interesting" as a challenge. When topics treated are alien to farmers, they tend to see them as not interesting. Familusi and Owoeye [43] stated that the complex nature of the subject matter for discussion sometimes makes it difficult to understand. Again, it could be that the resource persons who handle the programs use terminologies which farmers find difficult to comprehend. Adikwu [44] also agrees that programming content which makes it difficult for people to listen to community radio programs can lead to the closure of the community radio station. Poor equipment maintenance could also lead to poor sound quality [46].

Financial management was ranked 8th by the farmers. For long-term survival, community radio stations must produce their revenue. These radio stations get their revenue from donations, volunteers, churches, international aid organizations, and occasional advertising. Although South Africa has approved hundreds of applications for community radio, few stations can stay on the air for an extended period due to funding concerns. This has led to several difficulties, including the need to cover monthly operating costs and the inability to maintain tools and functional technologies. Because of this, it is challenging to maintain personnel compensation, guarantee their retention, and keep up with content and program research. Due to this, local listeners suffer and leave for other, more financially stable radio stations, including those on the national and international scale, which most likely do not suit their needs [47].

TABLE IX. KENDALL'S COEFFICIENT OF CONCORDANCE OF CHALLENGES FACED BY FARMERS

Challenges	**Mean Rank**	**Ranking**
Interference From Local Leaders Concerning Radio Operation	4.80	1st
Time of Broadcasting Agricultural Information	4.42	2nd
Intermittent Power Outage	3.84	3rd
Poor Sound Quality	3.78	4th
Poor Transmission of Programs	3.76	5th
Difficult to Understand Programs Produced	3.75	6th
Programs Not Interesting	3.66	7th
Financial Management	3.58	8th
N: 385 Kendall's Wa: 0.40 Chi-Square: 92.84 Df: 6 Asymp. Sig.: 0.00		

Source: Field Data, 2022

IV. CONCLUSIONS AND RECOMMENDATIONS

Knowledge of how local voices of farmers are represented on community radio is crucial for effective extension service delivery to enhance growth in productivity, improve livelihood, and reduce poverty. We conclude that farmers are generally undecided about their reliance on community radio for agricultural information. They have an appreciable understanding of the agricultural-related programs hosted on community radio. They perceive that the content and presentation of community radio programs are suitable for them but not on the transmission quality and community involvement. Although community radio programs have been well documented to teach, educate, and urge farmers to adopt new farming techniques in order to enhance production, the farmers were neutral about the role community radio plays in the acquisition and dissemination of agricultural information. Interference from local leaders was the key challenge militating against farmers' use of community radio.

Given that farmers were undecided on their reliance on community radio and the role of community radio in the dissemination of information, there is a need for policymakers and agricultural extension stakeholders to implement programs that will encourage farmers to rely on community radio as a great alternative source of information for their farming activities. This is also necessary to improve the currently low contact of extension agents with farmers, thus, reducing the extension farmer ratio. It was established that

farmers understood the agricultural programs hosted on community radio. Therefore, they must be assisted by extension agents to adopt the practices being disseminated through community radio (comprehension is not enough). The transmission quality of community radio programs needs to be improved by engaging the opinion of cocoa farmers on the suitability of the time, day and duration of the agricultural programs. Community extension agents need to be trained to improve their presentation to enhance the adoption of the innovations disseminated. Rural communities must be encouraged and assisted by the Ghana Cocoa Board to set up their own community radio to drive ownership and participation in the programs by their farmers. This will halt the challenge of interference by community leaders. This will also aid the sharing of unique experiences and stories about various topics community members are passionate about. Locals will then be able to actively contribute to community radio and not just be passive consumers of news and opinions as is currently the case in most community radio stations. At the end, local voices will contribute to cocoa production via community radio.

REFERENCES

[1] Nazari R, Hasbullah A. H. 2008. Investigation The Farmers' Degree Of Access Their Attitudes Towards Information And Communication Technology In The Efficient Use Of Modern Ways Of Irrigation In Kohgiloye And Boyer Ahmad Province. Research Paper Presented At World Conference On Agriculutural Information And It.

[2] Chapman R, Blench R, Kranjac-Berisavljevic G, Zakariah A. 2003. Rural Radio In Agricultural Extension: The Example Of Vernacular Radio Programs On Soil And Water Conservation In N. Ghana. Agren Network Paper, 127.

[3] Nirmala Y. 2015. The Role Of Community Radio In Empowering Women In India. *Media Asia*, 42, 41-46.

[4] Sharma A. 2012. Radio and Television Broadcasting. New Delhi: India.

[5] Narro A J. Hornsby E R. 2020. Good Day, Southeastern – We are Live: Livestreaming as an Opportunity for College Radio Stations to Expand Programming, *Journal of Radio and Audio Media, 29(2),* 274-285

[6] Olorunnisola A A. Mohammed W F. Moore S. 2020. Community Radio in Contemporary South Africa – Deconstructing Complexities in Demarginalization, *Journal of Radio and Audio Media, 29(2),* 286-303

[7] Mhagama P. 2016. The importance of participation in development through community radio: A case study of Nkhotakota community radio station in Malawi. *Critical Arts, 30*(1), 45-61.

[8] Milan S. 2009. Four steps to community media as a development tool. Development in Practice 19(4/5): 598–609.

[9] Wadia A. 2007. Broadcast Management In India: Major Guidelines And Policy Frameworks, Kanishka Publishers.

[10] Fleming C. 2009. The Radio Handbook, Routledge.

[11] Wabwire J. 2013. The Role Of Community Radio In Development Of The Rural Poor. New Media And Mass Communication, 10, 40-47.

[12] Al-Hassan S, Andani A, Abdul-Malik A. 2011. The Role of Community Radio In Livelihood Improvement: The Case Of Simli Radio. Field Actions Science Reports. The Journal Of Field Actions, 5.

[13] Kimaro W H, Mukandiwa L, Mario E Z J. (Eds.). 2010. Towards improving agricultural extension service delivery in the SADC region. Proceedings of the Workshop on Information Sharing among Extension Players in the SADC Region, Dar es Salaam, Tanzania.

[14] Muswede T. 2015. Approaches to" Xenophobia" interventions in Africa: common narratives through community radio in South Africa. *TD: The Journal for Transdisciplinary Research in Southern Africa, 11*(4), 220-231.

[15] Masuki K, Kamugisha R, Mowo J, Tanui J, Tukahirwa J, Mogoi J, Adera E. 2009. Role Of Mobile Phones In Improving Communication And Information Delivery For Agricultural Development: Lessons From South Western Uganda. Workshop At Makerere University, Uganda, 2010. 22-23.

[16] Salau S. 2007. A comparative study of Audience perception of FRCN Kaduna and Enugu Hausaand Igbo programs on Agriculture for Development: Nigeria. ACCE Biannua l journal, Vol. 5 No. 1

[17] Mu-azu I A, Shivram G P. 2017. The Impact of FM Radio Broadcast in Local Dialect on Rural Community Development in Ghana, Journal of Applied and Advanced Research 2017, 2(3): 114–121

[18] Anyadike O D, Olemadi N C, Odoemelam C C. 2015. Local Dialect Radio Programs, rural development and Social Integration: The Case of Nsukka Alua, Radio Nigeria, Enugu Programme. Mediterranean J. Social Sciences,6 (4, S2): MCSER Publishing, Rome, Italy.

[19] Cochran W G. 1997. Sampling Techniques, 2nd Ed., New York: John Wiley and Sons, Inc.

[20] Mugenda OM, Mugenda AG. 2003. Research Methods: Quantitative and Qualitative Approaches. Acts Press Nairobi.

[21] Omoare A M, Oyediran W O, Fakoya E O. 2016. Comparative assessment of cocoa farmers' knowledge and attitude to trainings on good cultural management practices (CMP) in Ogun and Ondo States, Nigeria. *International Journal of Agricultural Extension and Rural Development Studies*, 3(3), pp.36-51.

[22] Denkyirah E K, Okoffo E D, Adu D T, Bosompem O.A. 2017. What are the drivers of cocoa farmers' choice of climate change adaptation strategies in Ghana? *Cogent Food & Agriculture*, *3*(1), 1334296.

[23] Antwi E, Tham-Agyekum E A, Colecraft A D, Laryea O E, Bakang J E A, Boansi D, Owusu A B. 2022. Communicating with Radio: Examining the Experiences and Perceptions of Farmers in Ghana.

[24] McMahon D. 2021. In Tune with the Listener: How Local Radio in Ireland has Maintained Audience Attention and Loyalty. *Online Journal of Communication and Media Technologies*, 11(3), e202112. https://doi.org/10.30935/ojcmt/11085

[25] Frimpong-Manso J, Tham-Agyekum E K, Aidoo D C, Boansi D, Jones E O, Bakang J E A. 2022. Cooperative Membership Status and Adoption of Good Agronomic Practices: Empirical Evidence from Cocoa Farmers in Atwima Mponua District, Ghana. The Bangladesh Journal of Agricultural Economics, 43(1), pp.1-17.

[26] Aidoo R, Fromm I. 2015. Willingness to Adopt Certifications and Sustainable Production Methods among Small-Scale Cocoa Farmers in the Ashanti Region of Ghana

[27] Hailu G, Khan Z R, Pittchar J O, Ochatum N. 2017. Assessing The Radio Programming And Potential Role Of Preferred By Farmers Radio Stations To Disseminate Agricultural Technologies In Eastern Uganda. International Journal Of Agricultural Extension, 5, 29-42.

[28] Mhlaba P, Yusuf S F G. 2020. Prospects Of Community Radio Broadcast As Agricultural Extension Service Delivery Tool To Smallholder Farmers In South Africa

[29] Ajani E N, Nwubuya E A. 2013. Constraints to effective communication among extension agents in Anambra State, Nigeria. Journal of Agricultural & Food Information, 14(1): 18-25.

[30] Gorman M, Keogh O, Clarke P. (2018). The Use and Potential of Local Radio for Agricultural Extension in the West of Ireland. International Journal of Agricultural Extension, 51-59.

[31] Melkote S R, Steeves H L. 2015. Communication For Development: Theory And Practice For Empowerment And Social Justice, Sage Publications India.

[32] Bessette G. 2006. Facilitating Dialogue, Learning And Participation In Natural Resource Management. People, Land & Water: Participatory Development Communication For Natural Resource Management, 3-31.

[33] Haruna A, Salau S, Baba D. 2013. Farmers' Perception of NAERLS Agricultural Radio Programs in Northern Nigeria, Nigerian Journal of Agricultural Extension, 17 (1)

[34] Mody B. 1991. Designing Messages for Development Communication: An AudienceParticipation-Based Approach, Newbury Park, CA; Sage.

[35] Mckee N. 1999. Social Mobilization and SocialMarketing in Developing Communities: Lessons for Communicators. Southbound.

[36] Wagg H. 2004. Empowering youth with radio power:" Anything goes" on CKUT campus-community radio. Journal of Radio Studies, 11(2): 268-276.

[37] Freeman B C. 2020. How'd They Do? Exploring Experts' past Opinions of College Radio's Future, *Journal of Radio and Audio Media, 29(2),* 342-356

[38] Mwaniki F N, Gichuki C, Mwangi M, Mburia P, Wandago B. 2017. Addressing Challenges In Communicating Adaptation Practices To Smallholder Farmers In Kenya Through A Radio Intervention.
[39] Djankov S, McLeish C, Nenova T A, Shleifer 2001. Who Owns the Media? *Journal of Law and Economics*, *46*, 341-358.
[40] Fraser C, Estrada S R. 2001. Community Radio Handbook, Unesco Paris.
[41] Türkoglu N. 2011. Mediated public voices need theory to be heard. *CM Komunikacija i mediji*, *6*(21), 141-158.
[42] Bresnahan R. 2007. Community radio and social activism in Chile 1990–2007: Challenges for grassroots voices during the transition to democracy. *Journal of Radio Studies*, *14*(2), 212-233.
[43] Familusi E B, Owoeye P O. 2014. An assessment of the use of radio and other means of information dissemination by the residents of Ado-Ekiti, Ekiti-State, Nigeria. Library philosophy and practice.
[44] Adikwu D A B. 2022. Effectiveness of Farm Radio Broadcast in the Promotion of Yam Minisett Technology among Farmers in Benue State, Nigeria
[45] CIMA (Centre for International Media Assistance) .2007. Community Radio Its Impact and Challenges to Development. Working Group Report. Available at: http: http://www.cima.ned.org/wp-content/uploads/2015/02/ CIMA-Community_Radio-Working_Group_Report_0.pdf (accessed 15 July 2022).
[46] Sewlal R. 2014. The Role And Rise Of Community Radio In The Development Of Democracy In South Africa: 20 Years Of Democracy. Rhodes Journalism Review, 2014, 24-26.
[47] Megwa E R. 2007. Bridging The Digital Divide: Community Radio's Potential For Extending Information And Communication Technology Benefits To Poor Rural Commuinities In South Africa. *The Howard Journal Of Communications*, 18, 335-352.
[48] Hermansky J. 2022. Impact of Community Radio on Community Development in the United States. Capstone Collection. 3248. https://digitalcollections.sit.edu/capstones/3248
[49] Dahal S. 2013. Power, empowerment and community radio: Media by and for women in Nepal, Women's Studies International Forum, Volume 40, 44-55
[50] Andani M A I, Antwi-Boateng O. 2021. FM stations' role in rural development: The case of northern Ghana. *Perspectives on Global Development and Technology*, 20(4), 336-357. https://doi.org/10.1163/15691497-12341599
[51] Keefer P. Khemani S. 2014. Mass media and public education: The effects of access to community radio in Benin, *Journal of Development Economics*, 109, 57-72