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The Role of SUAFM Radio in Disseminating Agricultural Information: A Case of Farmers in Morogoro Region, Tanzania

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Abstract

Rationale of the Study - This study examined how SUA FM Radio addresses the agricultural information needs of farmers in Mvomero District, Morogoro Region, Tanzania.

Methodology – The study employed a cross-sectional survey design, collecting data from 204 farmers in Mlali, Mzumbe, and Wami Dakawa through questionnaires and focus group discussions. Data were analysed using SPSS Version 20, and an ordinal logit regression model was employed.

Findings – *SUA FM is a key source of agricultural information, with over 80% of farmers expressing satisfaction with its* content. However, the study identified information gaps in areas such as agricultural credit, market access, and post-harvest handling, which limited its overall effectiveness. Younger farmers relied more on SUA FM, whereas more educated farmers used a wider range of information sources beyond radio. Factors such as sex, occupation, and farming experience had minimal impact on radio use.

Implication – The study suggests that satisfaction with content significantly drives radio usage and recommends that SUA FM Radio expand its coverage to include neglected topics while adapting its content to attract older, more educated audiences. Improving these areas could boost listenership and improve agricultural practices among a wider group of farmers.

Originality – This is an original study examining the role of SUA FM radio as a source of agricultural information among farmers in Mvomero District, Morogoro Region. SUA FM radio is based at Sokone University of Agriculture, one of the leading universities in agricultural and allied sciences in Africa. This makes SUA FM radio an interesting area to explore.

Keywords

SUA FM Radio, agriculture information, agriculture in Mvomero, ICT in agriculture, farmers' information needs

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1 Introduction

Across the world, agriculture continues to be the mainstay of many developing economies, with millions of people depending on it for food security and livelihoods (Kapari et al., 2023). Smallholder farmers produce up to one-third of the world's food supply globally, yet they remain challenged by climate change, pests and diseases, access to inputs, and, critically, access to reliable agricultural information (Khatri et al., 2024; Tambo et al., 2023). According to Shitaye et al. (2024) access to up-to-date and accurate agricultural information is essential to help farmers make informed choices at all stages of production, from land preparation and harvesting to accessing the market. If farmers are informed, they are more likely to adopt improved technologies, to respond effectively to threats to their production and to optimise their productivity (Ndimbwa et al., 2021).

In many rural settings in Africa, Asia and Latin America, farmers rely heavily on farm extension services, which are still underfunded and inadequate to meet the growing needs for information (Nthama & Oladele, 2024). This gap requires the use of alternative platforms to disseminate information, and among the different media available, radio has consistently been one of the most effective alternatives in reaching rural farming communities, especially those with low literacy rates and limited digital infrastructure (Salam & Khan, 2020; Tegene et al., 2022). The affordability, accessibility and broadcasting capability of radio stations in local languages make them a key tool in bridging the information gap between researchers and farmers (Adeyeye et al., 2024).

In the global context, Tanzania, as a case study, has more than 65% of the Tanzanian population employed in agriculture, and agriculture is a key sector for economic growth in the country (Mushi et al., 2024). However, like many developing countries, Tanzanian farmers, especially in Morogoro Region, lack access to timely, reliable, and practical agricultural information (Salehe & Magesa, 2024; Sawe, 2023). In response to this gap, Sokoine University of Agriculture created SUA FM Radio, an agricultural station that translates science into farmer-friendly content through a variety of agricultural programs that help smallholder farmers increase productivity, adapt to climate change, and participate in markets (Kalungwizi et al., 2013).

This study thus explores the use of SUA FM Radio to disseminate agricultural information to farmers in Morogoro Region, Tanzania, especially in Mvomero District. It thus contributes to the global discussion on the potential of locally-based, farmer-centred media initiatives to enhance agricultural knowledge systems in developing regions and provides lessons for countries with similar agricultural systems.

2 Problem Statement

SUA FM Radio, a regional station formed by SUA, is uniquely situated at the centre of excellence in agriculture, dedicated to delivering scientific, modern agricultural knowledge in simple language (Kalungwizi et al., 2013; Mhlaba & Yusuf, 2020). However, there is limited empirical evidence on how it fulfils its role as an agricultural information source among farmers, and whether farmers in Mvomero District rely on it as their primary source.

Several studies have examined the utilisation of radio as a medium for disseminating agricultural information to farmers; however, these studies vary in complexity and depth. For example, Mtega (2018) investigated the contribution of radio to agricultural communication. In contrast, Raza et al. (2020) conducted a more in-depth analysis of the effectiveness of radio, particularly in developing countries. Das (2022) subsequently explored how radio can effectively reach smallholder farmers with limited resources and access. Additionally, Msangi (2020) provided a comprehensive analysis of the role of radio in promoting various agricultural activities in rural areas of Dodoma, Tanzania, through engaging anecdotes and community insights. Nevertheless, there is a lack of research on a specific local university-affiliated radio station, such as Sokoine University of Agriculture, which boasts a whole team of agricultural researchers and experts, thereby enabling students and faculty to explore and enhance local farming skills.

Therefore, there was a strong need to explore the role of SUA FM Radio as a source of agricultural information and to assess how well it meets farmers' needs to support agricultural transformation among farmers in Tanzania. The study hence investigated the role of SUA FM radio as a source of agricultural information among farmers in Morogoro Region, Tanzania. The following objectives guided the research:

i. To examine the way farmers' agricultural information fulfilment influences the usage of SUA FM Radio as an information source in Mvomero.
ii. To assess the extent to which socio-demographic factors influence the usage of SUA FM Radio as an information source in Mvomero district.

3 Literature Review

The literature was reviewed in accordance with the study's objectives.

3.1 The Usage of Radio as a Source of Agricultural Information

Radio is the most preferred medium of communication among farmers in rural Tanzania (Mubofu & Andrew, 2020). This is because it overcomes barriers related to literacy and geographical location, allowing farmers to receive information even in remote

areas and to access other media such as television and newspapers. (Ndimbwa et al., 2021). Community radios, in particular, have been praised for their role in disseminating localised and relevant agricultural content, tailored to the needs of specific audiences (Mansour, 2024).

Several studies around the world show that radio broadcasts a wide range of agricultural topics based on agricultural production, from post-harvest handling to markets (Giulivi et al., 2023). These programs typically use participatory forms such as call-ins, interviews, and radio dramas to engage listeners and to understand them better (Mansour, 2024). Radio's ability to allow engagement between broadcasters and listeners is important because it allows farmers to ask questions, share their knowledge with others, and contribute to each other's learning (Florence & Rabiu, 2024).

Mvomero District residents, whose economy depends on agriculture, benefit from agricultural information on the radio (Mtega, 2021). Most farmers in the district are smallholders who depend on rain-fed agriculture and often face low production, pests and diseases, and limited market information access (Mligo et al., 2022). Due to these limitations, radio became an important source of agricultural knowledge for rural farmers in the Morogoro Region, especially Mvomero, because it is inexpensive, accessible, and easy to use (Gebre et al., 2023). However, the extent to which farmers have used it as an agricultural information source in the district is limited. This motivated this study.

3.2 Farmers' information needs

Farmers need different kinds of agricultural information to become more productive and resilient to various challenges, and radio remains an important medium for transmitting such information, especially in rural areas. According to Mabula and Wema, (2024), other most relevant information needs include land preparations, planting, weeding, proper harvesting times, pest and disease control, land preservation, as well as storage, market access and mitigating the impacts of climate change. Radio programs deliver such information in a variety of ways, including local news items, the insights of experts and segments through which farmers can participate (Msangi, 2020). When farmers integrate this knowledge and make informed decisions, they are more likely to increase yields (Shukla & Ansari, 2024; Wale & Mkuna, 2023).

A study by Ovharhe et al. (2020) and Antwi-Boateng et al. (2023) found that many farmers in rural areas lack these resources and are unable to translate them into action due to low literacy and a scarcity of extension service workers. The market is as important as production. According to Choruma et al. (2024) and Magesa et al. (2020), farmers

require prompt information on crop prices, market demand forecasts, and trends to avoid exploitation by middlemen. In addition to climate change, weather and climate-related information have become more important to farmers in this era of climate change impacts (Parsi & Maleksaeidi, 2021).

Government assistance and accessibility to financial services are equally important but are frequently underreported. Capital is essential for facilitating farmers' access to better seeds, the use of modern tools, and the purchase of other important inputs. To achieve that, they need to know how to access capital and obtain loans from financial institutions, as well as better ways to utilise them (Crone & Mhihi, 2016; Mpeku & Urassa, 2022). The study conducted by Mpogole et al. (2020) found that most of these farmers fail to access loans because they are not aware of the procedures to follow and the importance of loans. Agriculture production can increase and help rural communities to eradicate hunger and poverty by applying the agricultural information provided by the radio (Mushi et al., 2024). The extent to which these kinds of information are provided by SUA FM Radio is not known. This required a thorough study to examine this.

3.3 Socio-demographic factors that influence the usage of Radio as an agricultural source of Information

Age, education level, sex, income, and ownership of a radio device are some of the demographic and contextual factors that affect farmers' access and use of agricultural radio programmes (Midamba & Ouko, 2024). These demographic factors also have a great contribution to listening to radio programs or not, and to a certain extent (Achichi et al., 2023). Apart from younger farmers and those who are more educated, having more opportunities to gain knowledge and understand technical language, women who engage in farming face the challenge of accessing resources due to their traditional gender roles within the family (Libent et al., 2024).

Usage of information provided is also largely influenced by the timeliness of the information; if it is site-specific and relevant to what the farmer needs (occupationally relevant) in their immediate agricultural situation, then they are more likely to use that information (Wale & Mkuna, 2023). Timely agricultural information is more important when aligned with the agricultural calendar (Gebre et al., 2023).

4 Theoretical Framework

The Uses and Gratifications Theory (UGT) is a media theory that focuses on how individuals actively seek out and use media to satisfy specific needs and desires. Unlike traditional media theories that view audiences as passive recipients, UGT emphasises the audience's active role in selecting media sources based on personal goals, such as seeking information, education, entertainment, or social interaction (Oluwafunmil & Abimbola, 2024). It assumes that individuals are aware of their needs and choose media content that best serves those needs (Lee & Wang, 2023). In farming, farmers' choice of which radio station to listen to often stems from a deliberate attempt to gain useful, practical knowledge to improve their livelihood.

This theory aligns well with the objectives of this study, which investigates how farmers in Morogoro Region use SUA FM Radio as a source of agricultural information. The study explores the motivations behind farmers' engagement with SUA FM Radio, including the need for up-to-date farming advice and agricultural information. It assesses how effectively the station fulfils these needs compared to other sources. UGT provides a strong theoretical foundation for understanding farmers' personal, purposeful, and need-driven media consumption behaviours, making it ideal for analysing the use and perceived value of SUA FM Radio in disseminating agricultural knowledge.

5 Conceptual Framework

From the uses of the Uses and Gratifications Theory (UGT), the independent variable is how well the SUA FM radio meets farmers' agricultural information needs, and the dependent variable is their usage level of the station. Farmers are more likely to listen regularly if the station satisfies needs like climate change information, seed varieties, and best farming practices (Libent et al., 2024). Socio-demographic factors are included as controls, as they may affect radio usage.

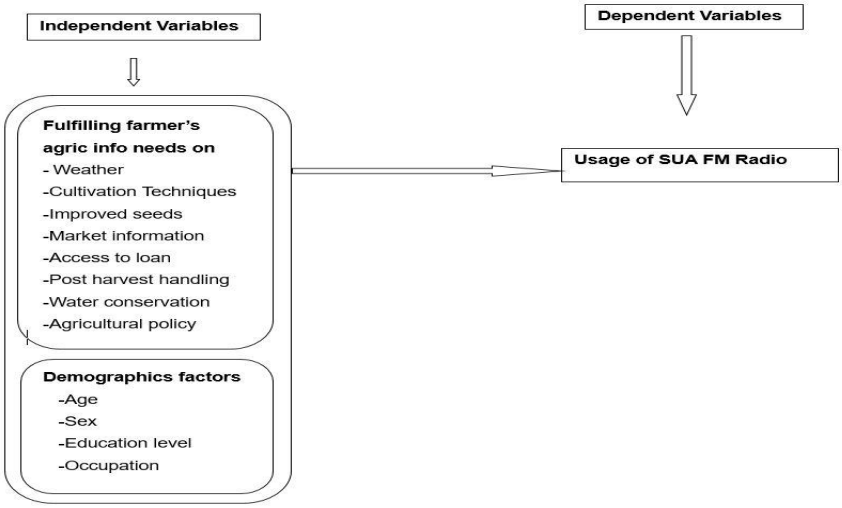

Figure 1: Conceptual Framework. Source: Researcher's construct 2025

6 Research Methodology

This study was conducted in Mvomero District, Morogoro, Tanzania, covering 7,325 km² divided into four divisions, thirty wards, 130 villages, and 686 hamlets. According to the 2020 census, the district's population was 421,741, with 110,940 households, and 172,741 farmers (URT, 2024). Mvomero is located at 6°26' S, 37°32' E. A 2019 study shows agriculture employs over 80% of residents. The district was chosen because of its reception by SUA FM Radio, making it the most suitable location for this research.

This study used a mixed-methods approach, blending quantitative surveys with farmers to assess the prevalence and patterns of SUA FM Radio usage, with qualitative interviews to investigate their motivations, preferences, and obstacles in obtaining agricultural information. The combination of the two approaches provided a more thorough understanding of SUA FM Radio's role as an agricultural information resource in the Morogoro Region. The research used a cross-sectional design, meaning that data were collected at a single point in time from a specific sample of the population. This approach is particularly effective for revealing patterns of behaviour and relationships among various variables. Salter (2023) acknowledges this, noting that cross-sectional studies are popular due to their cost-effectiveness and ease of operation, especially for community-based assessments like this. The study population is a subset of the target population from which the sample is actually selected (Stratton, 2021). Population is defined as an entire group of objects that a researcher wants to study and about which the researcher plans to generalise findings. In this study, the targeted population was 78,299, distributed across three wards: Mzumbe, Wami Dakawa, and Mlali.

The study used a multi-stage sampling technique. SUA FM Radio is registered as a district-level entity, so Morogoro Region was chosen first because its signals reach the area better than those of other regions. Secondly, Mvomero District was selected because it receives SUA FM Radio signals than other districts in Morogoro, making it ideal for the study. At the third stage, three wards, Wami Dakawa, Mzumbe, and Mlali, were selected for their clear SUA FM Radio reception, but have several farming challenges, including low production due to poor farming practices. Farmers who listened to SUA FM Radio were identified through lists obtained via phone calls and house visits to determine which farmers were active listeners. Those who actively listened were randomly selected and given questionnaires.

Primary data were collected using qualitative (an interview guide used during Focus Group Discussions (FGDs)) and quantitative (a questionnaire) methods. The quantitative data were analysed by using the Statistical Package for the Social Sciences (SPSS) version 20 to

obtain frequencies and percentages. The results were presented in Figures and Tables to identify associations. The themes were grouped based on study objectives. To measure the frequency of listening to SUA FM Radio, a five-point Likert scale ranging from Never (1) to Always (5) was used to assess how often respondents met their agricultural information needs across various aspects. Again, the total score for each construct was computed by summing the responses to obtain the index score (Mwalukasa, 2023). The low value implies low fulfilment, while the high value implies high fulfilment of needs. Since the dependent variable in this study, the use of SUA FM Radio as a source of agricultural information, was ordinal, this study used an ordinal logit regression model to determine the influence of fulfilling information needs on its use.

The ordinal regression equation used for analysis was as follows:

$$Logit(P(Y \leq j) = \alpha + \beta_1 X_1 + \beta_2 X_2 + ... + \beta 6 X 6_i$$

Where:

J are ordered categories (5) Always, (4) Often, (3) occasionally, (2) rarely, (1) Never). α = Y intercept,

βi = regression coefficients,

Xs = a set of predictors.

Y - Dependable variable (Radio use) ranges from 1 to 5, corresponding to five-point scale levels

X1… X6- Explanatory (independent) variables

X1 = Information needs fulfilment index score

X2 = Sex of respondent (1= Male, 2=Female)

X3=Age of respondent (years)

X4 = Education level of respondent (coded as 1 =No formal, 2=Primary, 3=Secondary, 4=Diploma, 5=Bachelor, 6=postgraduate)

X5 = farmer experience in years

X6 = Farmer occupation (1=farming only, 2=farming and trading, 3=farming and employment)

Further, prior to running the ordinal regression, the model's assumptions were tested for the proportional odds assumption (testing parallel lines) to assess the model's validity.

7 Results

The study findings are discussed below:

7.1 Social-demographic characteristics of respondents

Table 1 shows the social-demographic characteristics of the study population.

Table 1: Social-demographic characteristics of respondents

		Frequency	Percentage
Marital status	Single	49	24.0
	Married	129	63.2
	Divorced	26	12.7
Sex	Male	103	50.5
	Female	101	49.5
Education level	No formal education	44	21.6
	Primary education	112	54.9
	Secondary education	39	19.1
	Diploma/certificate	5	2.5
	Bachelor degree	4	2.0
	Postgraduate degree	0	0.0
Age	18-25	39	19.1
	26-35	55	27.0
	36-45	42	20.6
	46-55	33	16.2
	56+	35	17.2
Occupational	Farmer	199	98.0
	Trade	18	8.9
	Civil servant	5	2.5

Source: Researcher and Farmers in the study area (2025).

From Table 1, the majority were married who were 129 (69.2%) and unmarried (single and divorced) 75 (30.8%), indicating a stable family life often associated with long-term engagement in agriculture as a primary means of livelihood, which is consistent with national trends where agriculture employs a large number due to the availability of land and favourable climate conditions. Respondents were nearly equally distributed by gender, with 103 (50.5%) men and 101 (49.5%) women farmers seeking agricultural information via SUAFM Radio. Most respondents were only able to complete primary education 112 (54.9%) or lacked formal schooling entirely 44 (21.6%). The results on age show disparity of age groups whereby those who are 26-35 years of age were 55 (27%), followed by 36-45, who were 42 (20.6%), 18-25, 39 (19.1%) and least, those aged above 56 were 35 (17.2%).

7.2 Influence of Agricultural Information Fulfilment on the Use of SUA FM Radio

7.2.1 Farmer's Agricultural Information Needs

Before assessing the extent to which SUA FM Radio fulfils farmers' agricultural information needs, it was essential to understand the farmers' agricultural information needs in the study area. Results on farmers' general agricultural information needs captured during FGDs are presented in Table 2.

Table 2: Farmers' general information needs by crops grown

Type of Information	Information Details
Improved Seed Varieties	Information on high-yielding, drought-tolerant, and disease-resistant crops.
Crop Cultivation Techniques	Best practices for ploughing, spacing, and preparing land.
Pest and Disease Control	Identification, prevention, and control of major pests and diseases.
Water conservation techniques	Efficient water use practices.
Post-harvest handling	Correct harvesting time, methods to reduce losses, drying, and handling techniques.
Marketing information	Up-to-date market information, buyer linkages, cooperative marketing, and price trends.
Weather Forecasts	Seasonal forecasts enable farmers to plan their activities accordingly.
Agricultural policies and regulations	Awareness of support programs, input subsidies, and extension services.
Access to agricultural credit/ loans	Information on how to access agricultural loans, savings, and insurance schemes.

Source: Researcher and Farmers in the study area (2025).

From Table 2, farmers needed information on crop cultivation techniques, pest and disease control, improved seed varieties, and market and weather forecasts.

One farmer in Mlali ward said during FGDs:

> *"For me, I do not like listening to credit or loan information on the radio because I fear debts, and I do not really trust those financial institutions. When I listen, I may be attracted to go for loans."*

7.2.2 Extent of farmers' fulfilment of agricultural information from SUA FM Radio

The results in Table 3 demonstrate how effectively SUA FM radio addresses farmers' needs for agricultural information.

Table 3. Extent of farmers' fulfilment of agricultural information from the SUA FM Radio

SN	Information Need	Completely Fulfilled	Mostly Fulfilled	Moderately Fulfilled	Slightly Fulfilled	Not Fulfilled at All
1.	Crop cultivation techniques	32(15.7%)	97(47.5%)	66 (32.4%)	7 (3.4%)	2 (1.0%)
2.	Improved seed varieties	31 (15.2%)	103(50.5%)	60 (29.4%)	5 (2.5%)	5 (2.5%)
3.	Pest and Disease Control	28 (13.7%)	86 (42.2%)	74(36.3%)	11(5.4%)	5 (2.5%)
4.	Market Information	23 (11.3%)	45 (22.1%)	82 (40.2%)	40(19.6%)	14(6.9%)

5.	Weather Forecasts	30 (14.7%)	55(27.0%)	84(41.2%)	20 (9.8%)	15(7.4%)
6.	Access to Agricultural Loans/Credit	23(11.3%)	29(14.2%)	49(24.0%)	32(15.7%)	71(34.8%)
7.	Post-Harvest Handling	33(16.2%)	44(21.6%)	92(45.1%)	24(11.8%)	11(5.4%)
8.	Water Conservation Techniques	28(13.7%)	41(20.1%)	95(46.6%)	24(11.8%)	16(7.8%)
9.	Agricultural Policies Regulations	33(16.2%)	38(18.6%)	73(35.8%)	27(13.2%)	33(16.2%)

Source: Researcher and Farmers in the study area (2025)

Table 3 indicates that over half (65.7%) of respondents reported that their agricultural information needs related to SUA FM, particularly regarding improved seeds, crop cultivation techniques, and pest and disease control, were largely fulfilled. Results indicate that the most commonly fulfilled information needs pertain to the use of improved seeds.

Furthermore, a review of SUA FM's program schedule and the overall agricultural information needs of farmers in Mvomero District reveals that SUA FM Radio plays an important role in disseminating agricultural knowledge to farmers. The station broadcasts a variety of programs, such as agriculture documentaries on different agricultural practices, a farm school, Invention in agriculture, and extensive coverage of women's and youth sensitisation on best farming practices, market opportunities, weather forecast, and gender inclusion. These kinds of programs and real updates on information and knowledge of best farming practices make a vital contribution to agricultural production and farmers' livelihoods.

7.3 The influence of demographic factors on the usage of SUA FM Radio as a source of agricultural information

Table 4 presents the findings of the ordinal logistic regression analysis, which examined the influence of SUAFM Radio on farmers' needs being met as a source of agricultural information. The proportional odds assumption was checked using the parallel lines test, and the model was judged valid because the Chi-square value was not significant ($p > .05$), indicating that the assumption holds. The model fit also improved significantly, with the -2 Log Likelihood dropping from 601.082 (null model) to 573.340 after accounting for the independent variables. This improvement was statistically significant (Chi-Square = 27.741, $df = 7$, $p < .001$), indicating that the included variables help explain variation in radio usage. The model's explanatory power is validated by Cox and Snell R^2 (12.6%), Nagelkerke R^2

(23.0%), and McFadden R^2 (4.6%), demonstrating that the independent variables account for a minor but considerable fraction of the variance in farmers' use of SUA FM Radio for agricultural information.

Table 4: Ordinal logistic regression on the influence of demographic factors in fulfilling information needs on the usage of SUA FM Radio as a source of agricultural information

Factors	Estimate	Std. Error	Wald	Df	Sig.	Odd Ratio
Fulfilling information needs a score	.091	.022	16.666	1	.000	1.10
Male (Reference female)	.355	.260	1.876	1	.171	1.43
Age	-.026	.012	4.201	1	.040	0.97
Education level	-.303	.174	3.029	1	.012	0.74
Farming experience	.015	.016	.802	1	.371	1.02
Civil (Reference Farming only)	-1.513	.918	2.716	1	.099	0.22
Trade (Reference Farming only)	.880	.461	3.644	1	.056	2.41

Cox and Snell=.127 Nagelkerke=.13 and McFadden=0.046

-2 Log Likelihood (intercept only =601.082, Final =573.342), Chi-Square =27.741, df=7, p=0.000

The dependent variable has an odds ratio of 1.1. This means that a 1% increase in this variable increases SUA FM usage by 1.1. Similarly, during FGDs, one respondent reported:

> *"I frequently listen to the SUA FM agricultural program because it gives me the information I need for agricultural activities, such as improved seeds and climate change."*

The beta coefficient for age was -0.026 and was significant, with an odds ratio of 0.99. This implies that as age increased by 1 year, the SUA FM Radio decreased by 0.99 in its ability to access agricultural information. The findings mean young farmers are actively listening to SUAFM Radio to seek knowledge for improving production, and they have greater ability and exposure to modern technologies than older farmers, who are low in technology use. In contrast, older farmers may rely more on traditional methods and interpersonal sources rather than broadcast media.

Furthermore, the results showed that the beta coefficient for education was negative (-0.303) and the odds ratio was 0.74, and the variable was statistically significant ($p < 0.05$). This implies that a one-unit increase in education statistically increases the likelihood of using SUA FM Radio by 0.74. This means that educated respondents had lower odds of using SUA FM Radio to access agricultural information. In line with the results from the discussion, one respondent said:

> *"Not all the time I depend on SUA FM Radio, sometimes I consult other sources to get relevant information, and nowadays technology gives us many options".*

This implies that farmers with access to a variety of sources have low usage of SUA FM Radio. This means that while SUA FM Radio is broadly accessible, more educated farmers sometimes depend on other sources of information. Other socio-demographic variables, such as sex, farming experience, and occupation, were not statistically significant (P>0.05).

8 Discussions

8.1 Influence of Agricultural Information Fulfilment on the Use of SUA FM Radio

The findings revealed that farmers' agricultural information needs for farming ensure better crop health and adapt to changing environmental conditions. Masele (2023) maintains that techniques such as proper spacing, timely planting, pest and disease control, and soil fertility management help farmers achieve higher yields, reduce losses, and use available resources more efficiently.

The results show that most farmers do not prefer agricultural credit and loan information due to apprehensions about debt, a lack of trust in financial organisations, or an inadequate understanding of the potential advantages of these services. This substantiates the potential reasons for farmers deeming agricultural credit information as the least essential, as supported by Moahid & Maharjan (2020) and Raza et al. (2023) who noted that numerous smallholder farmers rely on conventional farming techniques with limited investment, making them reluctant to take on financial risks despite the opportunity to enhance productivity and income through access to credit.

8.2 Extent of farmers' fulfilment of agricultural information from SUA FM Radio

The study revealed that the majority of respondents reported that their agricultural information needs, including improved seeds, crop cultivation techniques, and pest and disease control, were largely met. The high level of fulfilment regarding improved seeds may be because, in response to climate change, one key adaptation strategy is to use seeds tolerant of changing climate conditions. The findings contrast with the study conducted by Rahman et al. (2020) who found that they are not uninformed of agricultural programs via the radio.

Agricultural Information on credits and loans was the least needed among respondents, with slightly more than half reporting it was not fulfilled at all. This result means that information about agricultural loans and credits receives little airtime on SUAFM Radio. Such information sometimes requires a deep understanding, even when aired on the radio, to help someone decide how much to

take and which institution to go to for loans. The finding aligned with the study by Min and Yohane (2024), who found that most farmers do not choose to take out credits and loans, not because they do not need loans for their farming, but because of ignorance of the best financial institutions for them and of the proper utilisation to improve production.

8.3 Influence of socio-demographic factors in fulfilling information needs on the usage of SUA FM as a source of agricultural information

The results showed that farmers' information needs were significantly met when using SUA FM Radio to access agricultural information ($p < 0.050$). The results are consistent with those of Garba et al. (2021) who found that farmers who were informed by the radio always listened to it and trusted it. This implies that farmers who perceive that the radio fulfils their needs continue to listen and use the SUA FM Radio to enrich themselves with agricultural information. This result contradicts prior studies that reported variation in the use of radio as a source of agricultural information, where older people preferred radio more than younger people (Moshe et al., 2017). Again, this contradicts a study conducted by Mhlaba & Yusuf (2020), who found that, among other smart technologies, radio is the only user-friendly media available to elderly persons. In terms of education, this study's findings are consistent with a study by Rehman et al. (2022) that highly educated farmers have access to a greater variety of agricultural information compared to their less educated counterparts.

9 Conclusion

The findings of this study show that the extent to which farmers' agricultural information needs are met significantly influences their use of SUA FM Radio as an information source in Mvomero District. Farmers who reported higher satisfaction with information on various topics were more likely to listen to SUA FM Radio frequently and to apply the knowledge they gained. Conversely, areas with lower levels of fulfilment, such as access to agricultural credit, market information, and post-harvest handling, were associated with decreased usage and satisfaction.

The results show that demographic parameters such as age and education level play an important role in SUA FM Radio usage as a source of agricultural information, where younger farmers are more likely to use SUAFM Radio, suggesting they are more connected with media technologies and seek out information to enhance their farming operations to increase production, income and reduce poverty. Education levels, on the other hand, were negatively associated with radio utilisation because higher education levels are associated with more alternative sources of agricultural information. While sex, occupation, and experience did influence radio use, these variables were not statistically significant.

10 Recommendations

Based on the findings, it is advised that SUA FM Radio expand and diversify its agricultural programming to include more detailed, practical information on critical yet currently underserved areas, such as agricultural credit, market access, and post-harvest handling. Strengthening content in these areas would maximise the station's utility and appeal to a wider farming audience seeking knowledge they can apply.

To foster inclusivity among diverse demographic groups, particularly older and more educated farmers, program developers should incorporate advanced topics into the broadcast schedule. These could include developments in agricultural technologies, climate-smart agricultural practices, and changes in agricultural policies and regulations. Such content can help bridge the gap between traditional and progressive farming audiences.

Recognising that farmers with higher education levels often utilise multiple information channels, SUA FM Radio, in partnership with ICT collaborators, should develop multi-platform strategies to enhance content accessibility. This may include integrating mobile apps, social media sites, and SMS updates to expand access and make content available beyond traditional radio.

11 Implications of the study

11.1 Theoretical Implication

The study provides a significant theoretical contribution by extending the Uses and Gratifications Theory (UGT) within the context of agricultural information dissemination through community-based university radio. While UGT traditionally explores how audiences actively select media based on their needs, this study empirically demonstrates how the degree of information fulfilment, particularly on improved seeds, crop cultivation techniques, and pest management, directly predicts radio usage among farmers. This reinforces UGT's core assumption that audiences are purposive and goal-oriented media users. Additionally, the study reveals that demographic variables, such as age and education, moderate gratification patterns, with younger and less educated farmers showing greater reliance on SUA FM Radio. These findings broaden the theoretical understanding of UGT by showing that, in rural agricultural environments, gratifications are shaped not only by motivational factors but also by environmental constraints, access to alternative sources, and trust in institutional media. Thus, the study enriches media theory by demonstrating how need fulfilment and demographic dispositions jointly shape media consumption in low-resource, information-dependent contexts.

11.2 Practical Implication

Practically, the findings offer clear direction for improving agricultural communication through SUA FM Radio and similar rural broadcasting platforms. Since farmers reported high satisfaction with information on improved seeds, crop cultivation techniques, and pest and disease control, program developers should continue strengthening these segments with more detailed, timely, and locally contextualised content. Equally important is the need to redesign and intensify programming in areas with low fulfilment, particularly in credit access, market information, and post-harvest handling, since these gaps reduce overall listenership and limit the station's practical value. The study also shows that older and more educated farmers rely less on SUA FM Radio, suggesting the need for tailored strategies such as expert interviews, advanced agricultural technologies, and integration with digital platforms (SMS, WhatsApp updates, or social media clips). By aligning program content with farmers' diverse needs and technological capabilities, SUA FM Radio can improve uptake of agricultural innovations, enhance decision-making, and ultimately strengthen farmers' productivity and resilience.

11.3 Policy Implication

At the policy level, the study underscores the need to strengthen institutional and national support for agricultural information services delivered through community- and university-based radio stations. The findings show that radio is a critical and widely accessible channel for smallholder farmers, particularly those with lower education and limited access to digital technologies. Therefore, policymakers in agriculture and communication should invest in expanding rural radio coverage, improving signal quality, and supporting partnerships between agricultural research institutions and broadcasters. Furthermore, gaps identified in market information, credit access, and post-harvest management indicate the need for policy frameworks requiring coordinated dissemination of essential agricultural information across media platforms. Ministries responsible for agriculture, finance, and cooperative development may consider collaborating with SUA FM Radio to ensure that farmers receive accurate, timely, and farmer-friendly information on loan products, market prices, climate forecasts, and government programmes. Such policy interventions would enhance national extension systems, reduce misinformation, and support evidence-based farming practices that contribute to agricultural transformation and rural livelihoods.

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