

Perceived Effectiveness of Multimedia Platforms in Promoting Rural Development Awareness in Borno State, Nigeria

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Abstract

This study investigated the perceived effectiveness of multimedia platforms in promoting rural development awareness in Borno State, Nigeria. The study adopted a cross-sectional survey research design. The population of the study was made up of 46 rural development stakeholders. The study sample consisted of 46 respondents: 19 community leaders, 12 media practitioners, and 15 NGO workers within Biu Local Government Area, Borno State, Nigeria. A structured questionnaire titled Multimedia Campaigns Questionnaire on Awareness about Rural Development among Community Dwellers (MCQARDCD) was used for data collection. The instrument was subjected to scrutiny by three experts. Corrections and observations made by the experts aided the final production of the instrument. The reliability of the instrument was established using Cronbach's Alpha method to measure the internal consistency. A reliability index of 0.96 was obtained. Three research questions and one hypothesis guided the study. Descriptive statistics of mean and standard deviation were used to answer the research questions, and ANOVA was used to test the hypothesis. The findings show that respondents generally agreed that multimedia campaigns have significantly enhanced rural dwellers' awareness of rural development programmes and that platforms such as radio, social media, visual materials, and testimonial presentations are among the most effective multimedia platforms for creating awareness among rural dwellers. It was recommended that appropriate multimedia platforms should be used by government and non-governmental organizations in disseminating information in rural communities for awareness and development.

Introduction

Rural development is a critical priority in developing nations, particularly in Africa, where a substantial proportion of the population resides in rural areas characterized by poverty, infrastructural deficits, and limited access to essential services. (Ogbeide-Osaretin & Ebhote 2020). The conceptualization of rural development has evolved from narrow sectoral interventions to comprehensive, multi-dimensional strategies aimed at improving the quality of life and

economic well-being of rural populations through enhanced access to economic opportunities, infrastructure, education, healthcare, and social services, as found in the work of (Aker & Ksoll 2018). In Nigeria, it has been observed that over 50% of the population lives in rural areas, and that rural development has assumed renewed urgency in the face of persistent challenges including poverty, food insecurity, climate change, and conflict-induced displacement (Furomfagha 2024). The Northeast region, particularly Borno State, presents a unique and complex context where decades of insurgency, environmental degradation, and socio-economic marginalization have devastated rural livelihoods, weakened social structures, and created a protracted humanitarian crisis requiring comprehensive rehabilitation and development interventions (Udoudom, Okon, Pam, & Brown, 2024). Sustainable rural development requires more than the provision of physical infrastructure and social services; it also depends on the ability of rural populations to obtain, understand and use relevant information for making decisions and participating in development processes. The United Nations has emphasized the importance of improving rural people's access to information, education, extension services, knowledge and training to support sustainable development planning and decision-making. It also recognizes information and communication technologies (ICTs) as important infrastructure for rural development. Within this context, communication constitutes a fundamental element of the rural development process. Development programmes may be well designed, adequately funded and technically appropriate, yet their benefits may be limited when intended beneficiaries are inadequately informed about their objectives, opportunities, procedures and expected outcomes. Communication for Development (ComDev) therefore emphasizes communication processes that facilitate informed decision-making, knowledge sharing, stakeholder engagement and participation in development initiatives. The Food and Agriculture Organization (FAO) describes ComDev as a participatory approach that combines communication processes, local media and digital technologies to support inclusive rural communication services. Such communication is particularly important in rural settings where geographical isolation, inadequate infrastructure, language differences, low literacy and limited purchasing power may restrict access to conventional information sources (Food and Agriculture Organization of the United Nations [FAO], 2026). The changing communication environment has expanded the range of media through which rural development information can be disseminated. Traditionally, rural populations have depended considerably on interpersonal communication, community meetings, radio and other locally accessible media (Adeyeye, Salawu & Adesina, 2024). The increasing availability of mobile phones, social media, online platforms, audiovisual materials and other digital technologies has, however, created opportunities for combining traditional and emerging communication channels. Rather than treating individual media as isolated channels, multimedia communication allows complementary forms of audio, visual, textual and interactive content to be used in communicating development messages. This integrated approach can potentially increase the reach, accessibility and attractiveness of development information while providing opportunities for feedback and community participation. Radio remains particularly relevant in rural communication (Njoku, 2025). The FAO identifies radio as one of the most widely used media in rural areas and emphasizes its capacity to provide information in local languages and to facilitate community participation. Rural radio can also be integrated with low-cost ICTs and other media to broaden access to knowledge and development information (FAO, 2026). Evidence from Nigeria similarly demonstrates the continuing importance of communication technologies for rural communities. For example, Okon (2015), in examining ICTs for rural community development in Nigeria's Niger Delta region,

argued that the contribution of ICTs to rural development depends substantially on their social and cultural embeddedness. The study consequently emphasized the need for communication approaches that fit the circumstances and information needs of local populations. The significance of combining different media is further supported by evidence from African development communication research. A review of interactive radio and social networking sites found that these platforms can contribute to knowledge dissemination, agricultural learning, education and the communication of health-related information among underserved communities. However, the review also cautioned against assuming that the effects of these media are uniform across African contexts because differences in infrastructure, access and local conditions affect their usefulness (Komodromos, 2021). Similarly, research on communication technologies among Nigerian small-scale farmers has identified radio, television, mobile phones and other ICTs as important sources of information while also highlighting capacity, infrastructure and technical constraints that can limit their use (Ajani & Agwu, 2012). These findings suggest that the mere availability of multimedia technologies does not necessarily translate into effective rural development communication. The effectiveness of multimedia communication is consequently dependent on several contextual factors, including accessibility, affordability, technological infrastructure, digital literacy, language, cultural appropriateness, credibility of information and opportunities for audience participation. FAO emphasizes that rural communication services need to respond to the information needs and circumstances of rural populations and that communication technologies are most useful when they are appropriately adapted to local contexts (FAO, 2016). This is particularly important where communities experience limitations in electricity supply, internet connectivity, communication infrastructure and access to digital devices. Consequently, evaluating multimedia platforms requires attention not simply to whether particular platforms exist, but also to whether rural populations actually access them, regard them as useful and credible, and perceive them as contributing to their understanding of development initiatives. The Nigerian context makes this issue particularly important. Rural communities across the country continue to require timely and understandable information relating to agriculture, health, education, livelihoods, social services, government programmes and other development opportunities. Recent research on communicating agricultural innovations to Nigerian rural farmers, for instance, argues for communication approaches that are more skilful, effective and interactive in order to facilitate knowledge diffusion and adoption (Ejem, Aremu, Ajakaiye, Ben-Enukora, Akerele-Popoola, Ibiwoye & Olaniran, 2023). Earlier evidence from rural development research in Nigeria also demonstrated that grassroots information dissemination could strengthen development consciousness and support community development initiatives. These findings reinforce the argument that communication should be considered not merely as a supporting activity but as an integral component of rural development planning and implementation. The importance of communication is especially evident in Borno State, where development communication operates within a distinctive social and security environment. Communities affected by prolonged insecurity and displacement may face disruptions to infrastructure, livelihoods, social services and conventional information networks. In such circumstances, reliable communication channels can help connect communities with information about development programmes, available services and opportunities for participation. A recent study conducted in conflict-affected areas of Borno State found that residents considered radio a particularly trusted and effective channel for promoting sustainable development, while social media was regarded as useful for awareness creation but comparatively less credible. The study consequently recommended an integrated

approach involving radio, social media and opinion leaders (Mu'azu & Mingyi, 2025). The present study is therefore concerned with the perceived effectiveness of multimedia platforms in promoting rural development awareness in Borno State, Nigeria. Evidence from Nigeria and other African contexts indicates that communication technologies can support rural development, but their contribution is mediated by social, cultural, infrastructural and institutional conditions. Okon (2015) demonstrates the importance of considering the social embeddedness of ICTs, while FAO's rural communication framework stresses inclusive, demand-driven and context-sensitive communication services. Consequently, understanding which multimedia platforms rural stakeholders perceive as effective, which channels are frequently accessed and how these platforms contribute to awareness can provide useful evidence for the design of more responsive rural development communication strategies. The issue is particularly significant for policymakers, development agencies, non-governmental organizations, community leaders and media practitioners operating in Borno State. Empirical information about preferred and effective communication platforms can assist development actors in designing messages that are accessible, locally relevant and capable of reaching different categories of rural populations. It can also help organizations determine where traditional media such as radio should be retained or strengthened and where newer digital and audiovisual platforms can complement existing communication systems. Despite the growing body of literature on ICTs, rural communication and development communication, there remains a need for context-specific empirical evidence concerning the perceived effectiveness of integrated multimedia platforms for rural development awareness in particular settings. Studies conducted in other Nigerian regions cannot automatically be generalized to Borno State because differences in geography, infrastructure, security conditions, media access, language and community characteristics may shape patterns of communication. The recent Borno State evidence concerning radio, social media and sustainable development further suggest that different platforms may perform differently in relation to awareness and credibility. The present study therefore seeks to contribute empirical evidence from Borno State by examining how multimedia platforms are perceived in relation to the promotion of rural development awareness.

Research Questions

The following research questions will guide this study:

1. What is the current level of awareness among the rural dwellers regarding rural development as influenced by multimedia campaigns?
2. What multimedia channels do rural dwellers most frequently use to access information on rural development?
3. Which multimedia platforms are most effective in creating awareness among rural dwellers about rural development?

Hypothesis

Based on the research questions, the study will test the following hypothesis at the 0.05 level of significance:

1. There is no significant difference in the mean scores of responses of community leaders, media practitioners, and NGO workers on the strategies employed in improving awareness of the rural development programme among rural dwellers.

Methodology

The study adopted a descriptive cross-sectional survey research design. The population comprised 46 rural development stakeholders. The study sample consisted of 46 respondents: 19 community leaders, 12 media practitioners, and 15 NGO workers simple random sampling were employed to select the sample from the target population. A structured questionnaire titled Multimedia Campaigns Questionnaire on Awareness about Rural Development among Community Dwellers (MCQARDCD) was used for data collection. The instrument was subjected to scrutiny by three experts. Corrections and observations made by the experts aided the final production of the instruments. The comments and suggestions of the three experts showed that the instrument is valid with a Kendall's Coefficient of Concordance of 0.890 and 0.889 for the instruments. The reliability of the instrument was established using Cronbach's Alpha method to measure the internal consistency; the instrument was administered to 46 respondents who would not be part of the sample selected for the main study, but had similar characteristics. The instrument was administered once, which provided a reliability estimate for the instrument composed of items that are scored dichotomously and an essay test having items of varying point values that respond such as "strongly agree to strongly disagree. A reliability index obtained was 0.96, which is considered reliable (Ugodulunwa, 2020). Descriptive statistics of mean and standard deviation was used to answer research questions, with a critical mean score of 2.50 which served as the benchmark for decision-making and ANOVA was used to test hypothesis.

Findings

Research Question One: What is the current level of awareness among the rural dwellers on rural development as influenced by multimedia campaigns?

Table 1

Means and Standard Deviations of the Responses on the Level of Awareness of Rural Development as Influenced by Multimedia Campaigns in Borno State

S/N	CL			M.P			NGO		
	$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark
1.	3.51	.52	Agree	3.30	.82	Agree	3.35	.98	Agree
2.	3.00	.76	Agree	3.81	.03	Agree	3.31	.63	Agree
3.	2.13	.89	Disagree	2.38	1.21	Disagree	2.15	.89	Disagree
4.	3.13	.83	Agree	2.86	1.03	Disagree	3.23	.59	Agree
5.	1.93	1.03	Disagree	2.00	1.00	Disagree	2.31	1.18	Disagree
	Grand Total	2.74			2.87			2.83	

Key

CL = Community Leader

MP = Media Practitioner

NGO = Non-Governmental Organization

Table 1 presents the mean analysis of community leaders', media practitioners', and NGO workers' responses on the level of awareness of rural development among rural dwellers on community grounds. From the table, the three groups of respondents agree on the level of awareness for items 1, 2, and 4, with all corresponding means above the benchmark mean of 2.50; these represent 60% of the items. However, the respondents disagreed on items 3 and 5, with corresponding means

below the benchmark mean of 2.74, 2.87 & 2.83, and all agreed on 2.50. This implies they agree that multimedia campaigns have balanced awareness of rural development among rural dwellers.

Research Question Two: What multimedia channels do rural dwellers most frequently use to access information on rural development?

Table 2

Means and Standard Deviations of the Most Frequently Used Multimedia Channels to Access Information on Rural Development in Borno State

S/N	CL			M.P			NGO		
	$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark
1.	3.53	.52	Agree	3.55	.52	Agree	3.38	.65	Agree
2.	2.33	1.18	Disagree	2.09	.30	Disagree	2.00	.82	Agree
3.	3.20	.41	Agree	3.73	.41	Agree	3.54	.52	Agree
4.	1.93	1.03	Disagree	2.09	.54	Disagree	2.23	1.01	Disagree
5.	2.33	.98	Disagree	1.64	.67	Disagree	1.77	.88	Disagree
6.	3.33	.92	Agree	3.27	.79	Agree	3.08	.85	Agree
	Grand Total	2.74			2.73			2.67	

Key

CL = Community Leader

MP = Media Practitioner

NGO = Non-Governmental Organization

Table 2 presents the mean analyses of the Community leaders, media practitioners, and NGO workers' responses on the frequently used multimedia channels by rural dwellers to assess information on rural development in the study area. From the table, the three groups agree on 3 media channels in items 1, 3, and 6 as the most frequently used channels, with all corresponding means above the criterion mean of 2.50. The items represent 50% of the term. They disagree on items 2, 4, and 5, with corresponding means below the criterion mean. These items represent 50% of the items. Their grand means (2.74, 2.73, 2.67) are all above the criterion mean of 2.50. Therefore, recommended that future rural development communication efforts prioritize frequently used channels while exploring strategies to enhance access to and adoption of underutilized channels.

Research Question Three: Which multimedia platforms are most effective in creating awareness among rural dwellers about rural development?

Table 3

Means and Standard Deviations on the Most Effective Multimedia Platforms for Creating Awareness Among Rural Dwellers about Rural Development in Borno State

S/N	CL			M.P			NGO		
	$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark	$\bar{X}$	SD	Remark
1.	3.20	.56	Agree	3.73	.47	Agree	3.31	.63	Agree
2.	2.27	1.16	Disagree	2.27	1.10	Disagree	1.92	.76	Agree
3.	3.67	.49	Agree	3.45	.69	Agree	3.54	.52	Agree

4.	2.20	1.01	Disagree	2.45	.93	Disagree	1.69	.86	Disagree
5.	2.40	1.18	Disagree	2.27	.91	Disagree	2.08	.95	Disagree
6.	3.13	.83	Agree	3.55	.52	Agree	3.82	.51	Agree
7.	3.53	.56	Agree	3.27	.65	Agree	3.38	.65	Agree
8.	3.20	.56	Agree	2.91	.94	Agree	3.00	.82	Agree
Grand Mean	3.12			3.44			3.32		

Key

CL = Community Leader

MP = Media Practitioner

NGO = Non-Governmental Organization

Table 3 presents the mean analysis of community leaders', media practitioners', and NGO workers' responses on the influence of multimedia campaigns on the attitudes of rural dwellers towards rural development in the study area, used to create awareness among rural dwellers about rural development. From the table, the three groups of respondents agree on 5 most effective platforms on items 1, 3, 6, 7, and 8 as the most effective for creating awareness, with all core respondents' means above the criterion mean of 2.50. These items represent 62.5% of the items. However, they disagree on items 2, 4, and 5, with corresponding means below the criterion mean. The items represent 37.5% of the items. The grand means of $\bar{X} = 2.95$, 2.99, and 2.84 are all above the criterion mean of 2.50. This means that these multimedia platforms, such as Radio, social media, visual materials, and testimonial presentations, are the most effective platforms for creating awareness among rural dwellers about rural development.

Discussion

The study examined how multimedia platforms are perceived in relation to the promotion of rural development awareness in Borno State, Nigeria. Findings revealed that respondents generally perceived multimedia campaigns as contributing to improved awareness of rural development programmes among rural dwellers. This finding is consistent with previous research demonstrating the contribution of multiple communication channels to knowledge dissemination and rural learning. Musebe, Watiti, Duah & Okuku (2019) found that the use of radio, print materials, and video in agricultural campaigns in Nigeria increased farmers' exposure to and understanding of agricultural messages. The authors also reported that farmers perceived the use of multiple formats as reinforcing learning. The finding also corresponds with evidence from the FAO's rural communication initiatives, which indicate that integrated communication approaches combining radio and interpersonal support can produce greater knowledge gains than a single communication channel. Respondents identified radio, television, social media, and other selected channels as commonly used for accessing rural development information among rural dwellers. This finding is supported by Njoku (2025), who found that radio and television were among the most accessible media channels for agricultural information among cassava farmers in Ebonyi State, Nigeria. Similarly, Adeyeye, Salawu & Adesina (2024) reported that radio served as an important source of agricultural information among farmers in Benue, Nasarawa, and Plateau States.

The findings also showed that respondents agreed that platforms such as radio, social media, visual materials, and testimonial presentations are among the most effective multimedia platforms for creating awareness among rural dwellers. This finding is supported by empirical evidence

demonstrating the contribution of both traditional and digital communication channels to rural learning and information dissemination. Komodromos (2021), in review of interactive radio and social networking sites in Africa, reported that these platforms contributed to knowledge dissemination in agriculture, health, education, and governance. The findings suggest that radio and social media can provide opportunities for rural audiences to obtain development information and participate in communication processes.

Conclusion

The study investigated the perceived effectiveness of multimedia platforms in promoting rural development awareness in Borno State, Nigeria. Based on the findings of the study, multimedia campaigns is perceived as effective in contributing to improved awareness of rural development programmes among rural dwellers, and that radio, television and social media are commonly used for accessing rural development information among rural dwellers. Therefore, it is concluded that platforms such as radio, social media, visual materials, and testimonial presentations are among the most effective multimedia platforms for creating awareness among rural dwellers.

Recommendation

Considering the findings of the study, the following recommendations were made:

1. Government and non-governmental organizations should use multimedia campaigns in dissemination information in rural communities for awareness and development
2. Charitable organizations and individuals should help in providing or subsidizing radio, television and GSM to the rural dwellers for easy and effective transmission of information for rural development
3. Network providers should discount their services fees in rural areas.

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