

BRIDGING THE LOCAL FARMERS' SOCIO-ECONOMIC AND TECHNICAL KNOWLEDGE GAPS TO INCREASE AGRICULTURAL PRODUCE THROUGH AGRICULTURAL COMMUNICATION

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Abstract

The technical, socio-economic, and knowledge gaps among local farmers in most rural areas of Nigeria are too deafening to ignore. This paper, therefore, employs the use of a qualitative descriptive approach to conduct an in-depth review of available literature to examine agricultural communication and socio-cultural and economic factors that hinder effective farming practices among local farmers in many rural areas and villages in Nigeria. This study is guided by diffusion of innovation theory, which stresses that social change the new ideas and innovations cause, and two-step flow of information theory, which posits that messages of communication media move first to informed and exposed individuals, considered as opinion leaders who regularly get exposed to mass communication messages. This study concluded that video-mediated agricultural extension services should reach a larger number of farmers in the rural areas and villages because it can break illiteracy barriers. Farmers adopt new agricultural technologies and innovations much better when visuals are used to train them on the adoption of certain agricultural technologies and practices. Also, the use of mobile phone by extension workers or personnel to reach a host of local farmers is imperative, as on-the-phone conversation enables local farmers to ask questions and answers are supplied on grey areas.

Keywords: Local Farmers, Socio-Economic, Technical Knowledge, Gaps, Agricultural, Produce, Agricultural Communication

Introduction

Agriculture is a major source of job creation in developing economies (Zamisa and Taruvinga, 2022). Enhancing agricultural productivity through effective communication promotes socio-economic development in rural areas. Raising awareness through provision of high-quality information and training about new agricultural technologies, as (Ferrer et al., 2023) aver, has been extremely poor in rural areas of Nigeria. Compared to other developing nations of the world, Mathewos et al., (2023), Nigeria has the highest number of local farmers in the rural sector of her economy. The technical, socio-economic, and knowledge gaps among local farmers in most rural areas of Nigeria are too deafening to ignore (Garg and Singh, 2023). The integration of local farming practices and commercial farming process to make food available in large quantity in developing nations have yet to receive the adequate research attention of scholars of agriculture and other stakeholders (Garg and Singh, 2023). There are external and internal factors that affect the level of agricultural production in Nigeria. External factors, as Balogh et al., (2021) aver, are market and social environments. Adoption of certain agricultural practices, as Danladi et al., (2022) maintain, is greatly influenced by socio-economic parameters such as age, level of awareness, education, extension contact and family size. Market environment includes consumers, competitors, policies and regulations, while social environments include users' responsiveness to innovation and level of trust among major economic actors. The internal factors include lack of financial resources, absence of skilled and competent labour among others (Balogh et al., 2021). Rural populace who are mainly local farmers in Nigeria, have been faced with issues of depletion of natural resources, lack of state support, impoverishment and

inefficient organisation of rural development (Cokojilelka et al., 2021). Communication has always been a part of development strategies, including agriculture. Knowledge, attitude and practice are required for bountiful agricultural productions and harvests (Anitha et al., 2019). Lack of communication between extension workers and local farmers have negatively impacted agricultural production in rural areas of Nigeria (Anaang and Dwiki, 2023). Poor understanding of new agricultural practices by local farmers and slow response of extension personnel to issues that border on new inventions and innovations account for the tardy adoption of new technologies by local farmers in the rural areas of Nigeria (Anang and Dwiki, 2023).

Implementing new ideas and approaches to agricultural practices require communication between and among local farmers and extension personnel (Al-Ammary and Ghanem, 2023). The adoption of new innovations and inventions in farming cannot be effective in the absence of interpersonal and group communication in the rural areas. Traditional approach to farming practices is fast becoming a thing of the past (Al-Ammary and Ghanem, 2023). In spite of enthusiasm among local farmers in developing nations to contribute to socio-economic development of those nations in terms of agricultural yields, there are still issues regarding exposure to global best agricultural practices among local farmers (Abate et al., 2023). With worsening severe climate change, local farmers have to adopt modern technologies to increase agricultural production and yields in rural areas of Nigeria (Bayala et al., 2021). Due to socio-demographic changes, unavailability of labour and worsening climatic conditions, many farmers in rural areas have been forced to diversify their income-generation process through engaging in non-agricultural enterprises (Iqbal et al., 2021).

Literature Review

Agricultural Communication

No agricultural intervention programmes can succeed in the absence of effective communication between local farmers and the extension workers (Alif et al., 2022). Agriculture communicators possess the requisite skills to communicate agriculture-related information and messages to members of the public involved or not involved in agricultural practices (Calico et al., 2014). Agricultural extension agents are the information sources and the farmers are the information receivers in the rural areas (Rusdy and Sunartomo, 2020). Extension communication is said to be effective if the messages encoded by the extension agents are received and have caused behavioural or attitudinal changes in local farmers (Pasaribu and Novanda, 2022). Communication is crucial for local agricultural practices to promote agricultural development (Tegene et al., 2023). Agricultural communication presupposes journalistic write-ups published or broadcast, on behalf of media organisations, directed at a population that was engaged in farming (Wyss and Cletzer, 2023). The objective of agricultural communication, as Stanton and Fischer (2020) maintain, is to weave salient messages that transfer message objective and portray the agricultural industry in good light. Agricultural communication has been in existence from time immemorial where communication takes place between two farmers or a group of farmers (Wyss and Cletzer, 2023). There is a correlation between agricultural produce and agricultural communication.

Studies have shown that farmers prefer receiving their information from media that are engaging such as television and demonstrations or the use of mobile phones in communicating new methods and new innovations about agricultural practices

(Moyo and Salawu, 2019). Climate, economy and agricultural production are inextricably linked (Adum et al., 2021). Effective flow of information between local farmers and extension workers is crucial for the uptake of modern agricultural practices and improved access to markets, leading to development of African economies (Dzanku and Osei, 2023). Agricultural organisations are increasingly becoming aware of the importance of communication for enhanced local agricultural products (Wyss and Cletzer, 2023). Multi-channel communication strategies in influencing knowledge, attitude and practices of local farmers are more effective than a single medium (Etwire et al., 2023). Interpersonal communication or face-to-face communication strategies have proved to be more effective in knowledge transfer between extension workers and local farmers (Nwinami et al., 2023). Agricultural communication professionals must have a requisite skill in media convergence to be used to reach a greater number of agricultural sectors (Borron et al., 2015).

Knowledge Gaps and Agricultural Practice

Sustainable agricultural practices have become a source of serious concern for policymakers, researchers and local farmers (Omari et al., 2018). Literature has shown the importance of trust in situation characterised by limited knowledge (Gross and Roosen, 2021). Agriculturists and scholars have stressed the importance of integrating farmers' knowledge and perceptions into research programmes in order to initiate and maintain sustainable agricultural practices (Liebig et al., 2016). Studies have shown that access to education, more extension support and effective agricultural communication would make local farmers to employ new methods of farming (Igberi et al., 2022). A number of local farmers, as Khanna et al., (2023) posit, are reluctant to adopt precision

agriculture due to certain factors among which are the poor knowledge of the scheme, financial challenges and inefficient extension workers. Local farmers' perception and knowledge of new methods of farming, as studies have shown, revealed an incorrect identification, due to illiteracy and poor enlightenment campaigns (Fredetrick et al., 2022).

The gaps between knowledge and practice among local farmers have to be bridged by a more participatory and interactive training interventions on modern agricultural practices (Yunatari et al., 2015). Awareness about latest or modern agricultural production practices is extremely poor in rural areas of Nigeria due to certain factor among which are the incompetent extension workers, illiteracy on the part of the local farmers, poor social facilities and lack of agricultural facilities (Chakraborty et al., 2023). Limited farmers' knowledge in good agronomic practices is the main barrier to agricultural productions among local farmers in Nigeria (Alibu et al., 2022). There is a correlation between access to agriculture-related information and high agricultural produce (Abura et al., 2013). Increase local farmers' knowledge on modern methods of farming, as (Cramer et al., 2017) maintain, would enhance the nation's economic development. Good agronomic practices could increase agricultural productions among local farmers in rural areas of Nigeria (Alibu et al., 2023). Peer effects are increasingly becoming a means of educating and adopting new farming techniques and innovative ideas among farmers in rural areas of Nigeria (Amadu, 2023).

Local Farmers and Socio-Economic Factors

Local farming, as Tittonell et al., (2020) aver, represents about 30% of agricultural practices in the world. Agricultural practices represent the major driver of economies of

most nations of Africa and Asia (Kouame et al., 2022). Agricultural products, as Fredrick et al., (2022) maintain, are an important contributor to industrial development, employment generation, hunger eradication and poverty elimination. Agriculture serves a crucial role in the economy of developing nations. Farmers are the main contributors to the development of local economy of a nation as they own many farming lands (Kouame et al., 2022). To improve all sectors of the economy, local farmers, who play complementary agricultural roles, must adopt innovative strategies and techniques in the practice of agriculture (Khanna and Kaur, 2023). Contributions of agricultural sector to economic development, as Zamisa and Tarunviga (2022) note, rests largely on agricultural productivity. Health status, training, educational status, housing status and household income affect either positively or negatively agricultural practice by local farmers in Nigeria (Al Mahadi et al., 2022). A number of socio-economic factors such as age, distance to main city, family size income, farm experience and dependency burden, as Iqbal et al., (2021) maintain, account for major reasons for the adoption or rejection of new agricultural innovations and ideas. Gender inequality has affected agricultural productions in many rural areas of Africa (Abdulai et al., 2022).

Women farmers have no free access to modern technologies and modern innovative agricultural practices that could aid the agricultural produce (Abdulai et al., 2022). Gender has so much influence on the outcomes of agricultural interventions (Addison et al., 2023). Meeting and discussing new agricultural methods with women in most rural areas of Nigeria, as Abdulai et al., (2022) aver, is culturally an aberration. Gender, level of education and religion impact agricultural production in developing countries (Abubakari et al., 2023). Poverty level, as Donkor et al., (2022)

observe, is more conspicuous among local farmers, who constitute greater percentage of labour force in the rural agricultural sector. Most local farmers are poor and live in sub-Saharan African nations (Donkor et al., 2022).

Irrigation practices which have the capability to increase the local farmers' socio-economic power has been greatly affected due to climatic change and poor communication between extension personnel and local farmers about the viability of the irrigation system in the rural agricultural system (Tesfaye et al., 2021). As Tesfaye et al., (2021) observe, improved funding, could ease the burden of irrigation system, enhance adoption and increase productivity among local farmers. Considering local farmers socio-economic factors when designing and disseminating agriculture-related information to local farmers enhances agricultural productions and yields. To improve low-income families of local farmers to fertilisers and pesticides need to be subsidized by government through extension workers (Sitaker et al., 2020). Yearly, many local farmers suffer significant losses of agricultural produce due to non-availability of silos, storage facilities and poor preservation practices (Chuma et al., 2022). Crop-livestock integration has been an ideal sustainable agricultural practices agricultural practices in many developing economies of the world (Ryschawy et al., 2022). Nigerian government has designed various interventions aimed at increasing agricultural production, corruption, inadequate extension services and illiteracy have been a barrier in the attainment of interventions (Astari et al., 2019).

Local Farmers and Technical Factors

Technical knowledge, as (Mailumo et al., 2022) observe, is highly required among local farmers to raise agricultural productions. Technical knowledge transfer

that could aid agricultural production has not been routed through appropriate channels in rural areas, rather knowledge transfer is left for the incompetent extension workers to handle (Hyland et al., 2018). Although, various models and approaches are being used to provide technical support and assistance to improve agricultural productions among farmers (Owoeye et al., 2022), those intervention programmes have not been well communicated with the farmers in the rural areas of Nigeria. The level of technical efficiency of most farmers in rural areas of Nigeria is extremely poor (Shamebo et al., 2021). Mechanised farming used in most developed economy to produce a large quantity of agricultural yields are minimally used or not even used at all in most rural areas of Nigeria (Maikasuwa and Izo, 2022). Due to continued flooding and reduction in the availability of arable land for farming activities, peasant farming and land-based livelihood of most local farmers are becoming unsustainable (Dutta, 2022). Rural economy is dependent on agricultural practice and productions.

One of the challenges farmers in Nigeria and other developing countries face daily is lack of technical support from the government's extension service personnel (Abdulai et al., 2022). Lack of proper agriculture-related training, knowledge and opportunities have been an impediment to enhanced agricultural production among local farmers in rural areas of Nigeria (Maharjan et al., 2023). Enhancing technical assistance to farmers in rural areas would go a long way to change the traditional approach of farming in rural areas (Ferrer et al., 2023). Although, contract farming allows smallholder farmers a good market, enables to have access to inputs and technical, and consequently improve their welfare, not many Nigerian farmers are used to contact farming for bountiful agricultural productions (Ewusi Koomson et al., 2022).

Although, all environmental sectors are threatened by issues of climatic change, technical knowledge acquired and disseminated by extension workers to reduce the effects (Tareen et al., 2021). Most local farmers in Nigeria rely on rainfed agricultural productions for their sustenance and income (Kom et al., 2023).

Methodology

Nigeria has the highest number of local farmers in the rural sector of her economy. The technical, socio-economic, and knowledge gaps among local farmers in most rural areas of Nigeria are too deafening to ignore. The influence of communication on agricultural sector cannot be far to seek. Communication permeates all spheres of agricultural endeavour. From training local farmers to adopt new methods of planting, distributions of fertilisers and seeds by extension workers to training the local farmers on the use of pesticide. This paper employs the use of a qualitative descriptive approach to conduct an in-depth review of available literature to examine agricultural communication and socio-cultural and economic factors that hinder effective farming practices among local farmers in the rural areas of Nigeria. It further highlights technical knowledge approach to the issue agricultural practices among local farmers. Two theories were used to guide the study. The reviewed sources include reference books, journals, and other written materials linked to the issues.

Diffusion of Innovation Theory

Extension workers represent the disseminators of new ideas and innovation with farmers in the rural areas. These individuals have been trained to use the interpersonal communication skills to effect behavioural or attitudinal change in local farmers by persuading them to embrace certain modern agricultural practices (Anaeto, Onabajo and Osifeso, 2012).

Diffusion of innovation theory focuses of what individuals do with ideas and new innovations they receive. As Aina (2003) maintains, diffusion of innovation theory borders on whether the new ideas are adopted or rejected, and not just how information is received and passed. It equally stresses what social change the new ideas and innovations have precipitated (Aina, 2023).

Social change presupposes an alteration in the structure and functions of social system (Aina, 2023). For example, a group of farmers in a village may be trained by extension workers to apply pesticide to their farming processes, leading to increased yields during harvest. When new ideas are introduced, their adoption would be affected by the following: relative advantage, compatability, trialability, complexity and observability. Potential adopters of new ideas have been categorised as innovators, early adopters, early majority, late majority, and laggards (Aina, 2023). People who apply innovation diffusion ideas to developmental purposes adopt a two-way approach by combining mass media and interpersonal communication channels. Opinion leaders get their information from mass media, and transmit the contextualised messages down to the opinion-followers (Anaeto, Onabajo and Osifeso, 2012).

Two Step-Flow of Information Theory

The study is hinged on two-step flow of information theory because the theory emphasizes interpersonal means of information dissemination system, especially in the rural areas where extension workers interact face-to-face with the local farmers with the aim of enlightening them on modern agricultural practices. Media of mass communication have proved to ineffective in the information delivery system in the rural areas, due to some certain factors among which are the illiteracy on the part of local

farmers and absence of social facilities, including good motorable roads. Step-flow theory, according to Anaeto, Onabajo and Osifeso (2008), states that mass media effects are influenced by existing social relationships as well as rival sources of information and power. The assumption here is that mass media messages move first to informed individuals regarded as opinion leaders who frequently get exposed to mass communication messages.

From the opinion leaders, information and knowledge flow through interpersonal channels to individuals, who had less exposure, and are dependent upon informed individuals for their information (Anaeto, Onabajo and Osifeso, 2008). Opinion leaders are active information seekers who pass information and share knowledge with less active information seekers regarded as opinion followers who consider the opinion leaders as influential (Aina, 2003). In this instance, extension workers are more informed than local farmers. Extension workers share information and other messages to leaders of local farmers, who in turn, make the information available to their colleagues in the rural areas.

Conclusion

Video-mediated agricultural extension services reach a larger number of local farmers in the rural areas and it can break illiteracy barriers unlike a conventional agricultural extension approach usually adopted by government. Farmers adopt new

agricultural technologies and innovations much better when visuals are used to train them on the adoption of certain agricultural technologies and practices, and therefore, video-mediated agricultural extension services should be used in training the farmers in the rural areas about new agricultural innovations.

Although, some constraints continue to hamper agricultural productions among local farmers in rural areas of Nigeria, public-private partnership initiatives should be taken to ensure that local farmers are given loans, build storage facilities and extension workers are trained and retrained for effective communication and information delivery system of new methods, ideas, and new innovations and modern methods of agricultural practices to ensure food security in Nigeria.

Mobile phone information dissemination system has the capability to perform better the functions of itinerant extension workers in most rural areas, as it has the potential to reduce gaps in knowledge between large and small farmers by creating awareness and information about new methods of agricultural practices and agricultural global best practices. Besides, farmers should have adequate knowledge and positive attitudes aimed at obtaining assistance and support from various stakeholders in a bid to maintain sustainable agricultural practices (Azman et al., 2013).

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