



THE EFFECTIVENESS OF MASS MEDIA IN AGRICULTURAL EXTENSION AND DEVELOPMENT

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ABSTRACT

Mass media will always be considered as an important element needed to effectively transfer technologies which are intended to foster production of agricultural produce. In a bid for farmers to profit from these innovations, there must be accessibility and effective education on the utilization and application in different farming systems or practices. Mass media are critical in disseminating useful information to aid the farmers make knowledgeable decisions in respect to agricultural activities. This paper classifies mass media as encompassing print, broadcast and the digital media. For a successful implementation of an agricultural development programme, the level and extent of the usage of the mass media is paramount. The Broadcast media, that is, Radio and Television is known as the most effective medium of mass communication in disseminating knowledge and information to farmers. The paper states that the utilization of printed materials in disseminating information about agriculture is not appropriate for instructing farmers whose education are limited; moreover, information arranged to be circulated to a general audience might fall short of usefulness to every farmer across different communities. The study concludes that with the burning need for agricultural extension information and education by farmers, the mass media becomes even more necessary.

Keywords: *Communication, Media, Agriculture, Development, Extension*

Introduction

In simple terms, Agricultural Extension is the process of putting across important information to farmers or rural people, supporting them to obtain

essential information, skills and knowledge necessary to effectively employ the transferred technologies and information to improve their work productivity and enhance rural development. Extension is seen as a communication function. “Extension” is the deliberate utilization of communication and information to assist individuals make thorough decisions and follow through with sound judgement. It is a conscious interaction tool and a communication process. Extension entails communicating information, technologies and even innovations to aid individuals form precise judgements and churn out correct decisions (Van den Ban and Hawkins, 1996; Leeuwis and van den Ban, 2004).

Maunder (1973) says agricultural extension is a service or system which helps farmers, via instructional procedures, to improve their farming techniques and methods, so as to increase income, efficiency and productivity, to better their living standard and improve upon social standards and education.

Zakaria (2017) alludes that Agricultural Extension’s focus is tripartite: Firstly, as a discipline, it dealing with the attitude of persons. Its contents are educational and its approach is purposive. Irrespective of if their content covers agronomy, medicine (preventive and social medicine), education, engineering, public health etc, extension is continuously aimed at farmers.

Secondly, as a process, agricultural extension pursues the course of influencing the attitudes of the rural population via exchange of education and information. The purpose is to help farmers make a living, improve the physical and mental standard of living of rural localities, and build welfare of rural communities. The success of an extension activity necessitates an atmosphere of mutualism in trust, togetherness and esteem of the other from both extension workers and persons in rural communities.

Thirdly, as a service, agricultural extension helps in portraying a government department, an institution or non-governmental organization as being of important to the community it supports through information dissemination, researches, education taxes and/or donations.

As the world continues to pursue the attainment of the Sustainable Development Goals (SDGs), agriculture is one of the sectors playing a front-row role towards attainment of the goals. Inasmuch as big gains have been achieved in the last couple of decades in the development of agriculture, hunger still constitutes a problem to the world and rural populations still face the poverty. Africa, especially, the sub-Saharan region, development has

been slow, hence necessitating calls for determined efforts across all frontages, and agriculture is playing a principal role. Agriculture in third world countries is faced with rapid variations and unparalleled challenges. The need for knowledge in the sector is apparent to the world more than ever. Urban markets trends, globalization, consumption pattern variations, climate change, constraints of land and water, clamor for renewable of energy sources and alternative energy sources such as biofuels, new viruses and diseases are catalyzing agricultural development through researches. The Private sector is also progressively taking its role, as well as civil societies. The sector is now characterized by breath-taking innovations (Derissa, 2008).

Agricultural Extension is transforming responses to several issues and challenges leading to developments. It is worth-noting the vital role agricultural extension services plays in catalyzing the processes of agricultural innovation. They can assume in the boundary-spanning function and assist in linking farmers to numerous technical and non-technical amenities and markets. These are the key channels for sharing knowledge. Communication is an essential chunk of any agricultural extension programme. Communication seats at the fore of this educational intervention, and it makes for the bedrock of extension work. Agricultural extension programmes are meant to channel through the communication process which makes for information dissemination, from the sender, via a channel, to the receiver, with feedback also in the entire process.

Review of Literature

Agriculture stands as an important backbone of the economy of many African countries as it contributes significantly to the Gross Domestic Product (GDP) and export incomes of countries (Msuya, 2017). In Ethiopia, agriculture provides for about 47% of its GDP, and 60% of export income (World Bank, 2011). In Tanzania, agriculture contributes about 50% of the GDP and 75% of export accruals (Leyaro & Morrissey, 2013). For Uganda, it contributes about 37% of the country's GDP and 19% of the its exports. The CIA World Fact Book (2012) records that the agricultural sector contributed 28.3% of GDP in Ghana in 2011. For South Africa, even though it contributed a relatively small 3% to national GDP, agriculture is still an important provider of jobs, particularly in rural settlements and also a major foreign exchange earner. It is also a veritable provider of food and a

source of employment opportunities to a good number of the Sub Saharan African population (Diao et al., 2007) in Nigeria, agriculture is largely subdivided into four parts—crop production, livestock, fishing, and forestry. Crop production is the largest compartment and it provides for approximately 87.6% of the agriculture’s total output. Behind crop production is livestock, fishing and forestry with 8.1%, 3.2% and 1.1% respectively. Agriculture is still the biggest sector in Nigeria, as it contributed an average of 24% to the nation’s GDP between 2013 – 2019. Furthermore, the sector provides job for over 36% of Nigeria’s labour force, which means the sector as the largest employer of labour in Nigeria (Oyeniran, 2020).

Between 2016 and 2019, the cumulative agricultural imports of Nigeria stood at N3.35 trillion, which is four times higher than the N803 billion agricultural exports within the same period (NBS, PWC Analysis, 2020). In spite of the rich available agricultural resource of Nigeria, however, the agricultural sector has been growing at a slow pace. In Nigeria, less than 50% of the country’s cultivable agricultural land is being cultivated. Additionally, most of the lands are used by farmers who whose production techniques are elementary, thereby the yields are low. These farmers are faced with varying challenges which includes inability to access modern inputs, inaccessibility to credits, reduced access to markets, environmental degradation, insufficient researches and extension programmer, lack of infrastructure etc. (Manyong, 2003).

The Concept of Agricultural Extension

Agricultural extension constitutes an important strength in agricultural development and a social innovation factor. Even though present-day extension models emanated from the last two centuries, the historical trace of extension goes back to about over 4,000 years due to the evolution experienced (Demiryurek, 2014). There are recorded proofs of extension services in ancient Egypt, Greece, Mesopotamia but the word “extension” in its contemporary meaning was first applied to define a non-formal public education in Britain in the second period of the 19th century. In 1850s, it was first stated as how educational needs of individuals living in densely-populated industrial cities in England. Extension is a multidisciplinary subject. It is a combination of communication, educational methodologies and group techniques in the promotion of agricultural and rural development.

This includes transfer of technology, facilitation, and advisory services as well as adult education and information services.

The first contemporary extension service is attributed to activities that occurred in Ireland around the mid-19th century. Between the period of 1845 and 1851, the Irish potato crop was destroyed by fungal diseases and there was a severe famine (Great Irish Famine). The British Government organized for hands-on tutors to travel down to communities and teach small-scale farmers how to cultivate different crops. This drew the attention of German government officials, as they put together their own scheme of roving tutors. By the time the 19th century ended, the idea was adopted by Italy, Denmark, the Netherlands and France, (Jones and Garforth, 1997).

As captured by Zakaria (2017), Agricultural Extension is principally about the dissemination of beneficial, real-world information relating to agriculture, everyday application of such information to help farmers scrutinize their issues. Extension programs are undertaken in informal settings, with adults as key recipients and assisting farmers in utilizing the technical knowledge acquired to proactively solve difficulties of their own. It is about assisting individuals on how to use information in a bid to improve productivity.

As postulated by Beardsley (2016), the main aim of Agricultural Extension is to educate individual members of the community, advice and aids them with knowledge and methods of modern agriculture, putting into perspectives the economic and social conditions of the person and other persons collectively.

Conceptualizing Development Communication

Edwards (1993) recognizes the term, “development” as being about the improvement of the lives of individuals in a society. Todaro (1994) also refers to development as a concept that is not exactly an economic phenomenon but instead a multi-dimensional process that comprises shakeups and reorganization of the total economic and social systems. These scholarly postulations on development suggest a relative comprehension of development. This implies that, development can be seen as a process of bettering the standards of living of a group of individuals. All development goals and priorities of societies require social and behavioural change, especially around the promotion of positive behaviour adoption, practices and creating new attitudes including changing undesirable norms or

establish new ways of life. Lunenburg (2010) defines communication as the process of transferring information and shared meanings from one individual to another.

Servaes (2002:4) puts development communication as the, “sharing of knowledge aimed at reaching a consensus for action that takes into account the interests, needs and capacities for all concerned”. Melkote & Steaves (2001) definition of Development Communication settles that it is the deliberate and strategic use of different types of communication and mediated channels to champion positive change amongst persons and societies at the community (micro) and national (macro) levels. The United Nations postulates a wider definition of Development Communication. It posits that it is a “process that allows communities to speak out, express their aspirations and concerns, and participate in the decisions that relate to their development” (General Assembly Resolution 5/172, article 6).

Agricultural Extension: Agriculture’s Game-Changer

Agricultural extension service is one of the main channels of solving food insecurity and rural poverty. Agricultural extension has the power to transfer technology, back rural adult education, aid farmers in solving problems and ensuring farmers get actively participate in the information system and agricultural knowledge (Christoplos, 2020).

FAO (2010) says extension is the structure that is meant to smoothen farmers’ access to information, organizations and other market players to knowledge, technologies and information; it facilitates farmers’ interface with associates either in research, agribusiness, education and other relevant organizations; this is to support them to grow their own organizational, technical and management skills and practices.

This means an extension is seen as a key instrument for making agriculture, other associated activities as well as other economic activities to be more effective and efficient, so as to meet up with the desires of the individuals. It is regarded as a tool for the promotion of safe and valuable agricultural products. Bonye et al (2012) posit that agricultural extension is primarily about bringing improvement to farmers’ knowledge to bolster rural development; hitherto, it has been set aside as an important component for transfer of technology. Agricultural extension is a huge part of facilitating development as it contributes a large role in agricultural and rural development activities.

Yao et al (2018) in their research found that, in terms of mechanisms, agricultural extension services meaningfully bolsters the utilization of improved farming methods which needs low monetary investment. According to their study, farmers who reside in eligible villages are 9.2% more likely to apply manure (organic fertilizer) and 3% more likely to use irrigation on their land in comparison to those who live in ineligible villages. Bonye et al (2012) maintain that extension offers an information source on new knowledges for agricultural communities which if implemented has the power to improve yield, proceeds and living standards. Providers of extension service deliver an innovations novel to farmers, and function as catalysts to hasten up rate of adoption, regulate change and try to prevent certain persons in the structure from halting the process of diffusion. To impact farming, extension workers educate farmers however concentrating on early adopters, as laggards would adopt the new knowledge later from farmers who are early adopters. Via extension, challenges of farmers are picked out for indepth examination and direction in policy (Alemu et al, 2016).

Swanson (2008) argues that service of extension is beyond transfer of information for the development of a community via human and social capital development, skills improvement and knowledge on processing and production, accessibility to markets and trading, organization of farmer-producer groups, and collaborating with farmers on management of supportable natural resource. Extension services tries to eliminate market challenges such as inaccessibility to credit schemes and market structures that makes for impediments on farmers.

Agricultural extension services have logged mixed accounts of successes (Van den Berg & Jiggins 2007; Aker 2011; Davis et al. 2012). Research studies have investigated extension effects on input utilization (especially seed variations, pesticide use and fertilizers), on output (measurements made by crop production per hectare, value of crop, and net incomes from agriculture); findings are positive and negative (Yao et al, 2018). For instance, study from Bindlish & Evenson (1997) revealed that Training and Visit (T&V) extension programs have increased harvests in Kenya, Burkina Faso and in India (Feder & Slade 1986), and improved the production value per hectare in Zimbabwe (Owens, Hoddinott & Kinsey 2003). However, Hussain, Byerlee & Heisey (1994) after their research posited that T&V had limited effects, had at best limited effects in Pakistan. Some studies found

that field schools significantly grew the knowledge and usage of pesticide (Godtland et al. 2004; Tripp,; Van den Berg & Jiggins 2007; Wijeratne & Piyadasa, 2005) however other studies revealed that the impacts were small- especially as it relates to the relatively high costs per-farmer (e.g. Feder, Murgai & Quizon 2004). A study from Davis et al. (2012) on field school programs with similarities in Kenya, Tanzania and Uganda. The study findings were generally positive however it recorded varying effects on yields and profits. Aside rendering services physically, Van Campenhout (2017) finds that agricultural extension services delivered through phones, and/or other ICT devices, impacted households' choices of crop, but however, it did not increase yields (Yao, 2018).

The Mass Media as a Tool for Agricultural Extension

In Kaduna state, media programmes like “Noma Yanke Talauçi” on FRCN, “Agric Panorama” on KSMC Radio, “Agroscope” on KSMC TV are few amongst many other media contents providing extension function via the mass media. Agriculture is becoming increasingly dependent on information; hence, accessibility to information is necessary and a vital resource for agricultural development (Rodman, 2006). To successfully improve agricultural production, grow revenue, create more employments and ensure the agricultural sector achieve its aim in furtherance to improving rural and even national development, the communication system adopted in implementing various agricultural programs is paramount. The mass media are the very key communication channels that plays an important role in creating positive changes. Mass media are important constituents required for effective technologies transfer intended to enhance production in agriculture (Okwu and Daudu, 2011). For farmers to profit from such knowledge, they must have access to mass media and acquire knowledge on how to effectively use the information in their farming practices. Extension agencies utilize various media in transferring information which enhanced agricultural technologies to the farmers. Mass media channels are valuable in getting across agricultural information to an extensive audience in the shortest possible time. They are important as channels through which agricultural information get to farmers, as well as constituting means of delivering notification to farmers on latest developments or emergencies. They are also vital in motivating farmers to build interests in latest ideas and practices (Ani et al., 1997). Obinne et al. (2000) put that the mass media

carries out this function through its agenda-setting power for critical topics, knowledge transfer, forming opinions and behavior change. The media also creates awareness to diffuse personal value system that favours innovations, mobility achievement and consumption (Nwachukwu, 2003). Agricultural extension service delivery also entails communicating findings from research and improving agricultural practices to farmers. The effectiveness with which this technology, information and practices are delivered to farmers also plays a part in determining the level of productivity. Extension agencies have raised concern about appropriate media and approaches to employ so as to achieve efficiency in sending agricultural information to farmers. Hence, extension is a communication process, through which several members and stakeholders are linked to exchange information essential for sustainable agricultural growth (Ani, 2007).

To a large extent, mass media serves as a veritable instrument for information dissemination in agriculture. Agricultural extension/information delivery is also a process of communicating improved skills, better practices, new innovations, latest technologies and essential knowledge to farmers. Thus, agricultural extension as a service assists individuals, particularly farmers via instructive procedures to better their farming techniques and practices, increasing output, efficiency, revenue, improving their standards of living and bettering the social, economic and educational standards of rural life (Ogunbameru 2001).

Nazari and Hassan (2011) suggest that information is vital for success in the operations and management of agriculture activities. Mass media have the capacity to bring about positive behaviour change (Guenther and Swan, 2011). The financial implication of extension service via mass media appears to be considerably moderate compared to person-to-person and group methods (Zaria and Omenesa, 1992). In Nigeria, various medium of mass communication are used to convey agricultural information to farmers as laid down by the national policy on agriculture. The channels used include agro magazines, newsletters, newspapers, radio and television, among others (Dare, 1990).

Electronic Media in Agricultural Extension

Mahmood and Sheikh (2005) state that awareness creation is the first step towards the process of adoption. Electronic & print media plays a very significant roles in awareness creation about new technologies in agriculture

among farmers. Electronic media spreads agricultural technologies to the farmers faster than other form of mass media (Obinne et. al., 2000). Chief amongst them, the radio; radio is seen as the most preferred medium of mass media in Nigeria (Omenesa, 1997; Ekumankama, 2000). Omenesa (1997) observes that radio program are usually timely and capable of reaching audiences in very remote areas. The unavailability of infrastructures such as roads, electricity, portable water does not directly hinder radio signals. He added that illiteracy is not a barrier to radio messages since such messages can be presented in different local languages. It is perhaps because of these advantages radio possesses that many institutions accord high importance to it, as a medium to reach farmers. Amongst other sources of information, radio and TV also depicts value for dissemination of information (Okwu and Daudu, 2011). Radio is a popular medium for information and entertainment as well as behaviour change. It plays an important role in technology dissemination (Ejembi et al., 2006; Prathap and Ponnusamy, 2006). Television is also an important broadcast medium for this function (Bhattacharjee, 2005). The latent value of TV as a medium for information dissemination should be tapped in to for the benefits of farmers (Nazari and Hassan, 2011).

The Print Media in Agricultural Extension

Amongst several mass media channels, newspapers and magazines are two commonly found print media. They play an important role in the communication of information about agriculture amongst the literate farmers. The increase in literacy rate in the country offers new prospects for putting into use the print medium of mass communication. It is relatively inexpensive and individuals can decide to buy and read at their convenience. It is sometime called permanent medium because the messages are imprinted permanently with good storage value which makes printed matters suitable for future reference and researches (Ogunbameru, 2001). The reporting of diverse subject matters by newspapers and magazines are almost comparable with regards to agriculture, agricultural marketing, animal husbandry, horticulture, agricultural engineering and cooperatives. According to Ekumankama (2000), in his research, many of the sugarcane farmers sampled checked pamphlets, magazines, and newspapers to get information regarding sugarcane production technologies. These were regarded as the most suitable forms of print media for adoption of sugarcane production

technologies (Abbas et. al., 2003). Farm publications have proven to be effective means for information dissemination, especially to introduce new technologies. Khushk and Memon (2004) posit that production and distribution of printed matters help farmers in the transfer of new information and technologies. Printing helps to preserve the technologies in the form of books/booklets, magazines, newspapers and brochures

The New Media and Agricultural Extension

The Internet has transformed the world into a global village as it has reduced the distances of information exchange (Dare, 1990). Kelsey et al. (2002) say the development in technologies like the internet has aided in creating opportunities, accessibility and solutions to pertinent and critical issues. Electronic mailing and websites have increased the scope of media by increasing the sphere of access (Tawari, 2006). Therefore, the need to exploit the interactivity power of the internet (Leeuwis and Van den Ban 2004) and internet has paved the way for expansion of extension activities (Bamka, 2000; Kallioranta et. al., 2006). Telephones have increased the chances of reaching individuals living even in remote areas. It contributes in developing farmers' linkages with other individuals including extension experts. Telephone Help Lines facilitate the mechanism for getting information/assistance regarding people's problems by using toll free numbers (Malhan and Rao, 2007). Mobile phones have provided multi-dimensional benefits to rural individuals and have helped in interaction, accessibility, and quick/timely information exchange. In addition, its importance is clear in the sense of urgency and emergency (Sife et al., 2010). Kenny (2002) said despite possessing critical importance, internet has faced various obstacles like network infrastructure, language barrier, and illiteracy. Khan (2010) affirms computer illiteracy and lack of interest pose a major obstacle in using the internet amongst farmers in Nigeria.

Constraints to Extension Service Delivery

According to Saleh et al (2018), there are numerous obstacles to the utilization of mass media in extension service delivery. These include the following:

1. **Illiteracy:** Literacy has not spread to all part of Nigeria, especially those in the rural areas. Illiteracy can serve as a hindrance to adoption of agricultural technologies. Such individuals are functionally illiterate and constitute a

major obstacle to effective flow of information or media communicated messages. The illiterates cannot be reached via the print media sometimes except they are produced in their local dialects. The use of print in dissemination of information in agricultural extension may not be suitable for teaching people with limited education; furthermore, information prepared for general circulation may not be beneficial to all individuals and localities.

2. **Message Related Challenges:** The message is the actual physical product of the communicator. The messages are the contents, the notions, feelings, ideas, etc, that are sent across to people, in a bid to influence them. Nwosu (1990) postulated that one of such difficulties is the use of accurate codes and symbols in communicating messages to farmers. This entails accurate language, expressions or use of words. What is needed is the use of accurate words in a dialect used in communicating to an audience. The individuals, particularly those in the rural areas are easily influenced if communicated messages are in tandem with their pre-existing knowledges or attitudes. Messages should reflect the culture, attitudes, belief of the community. The messages should carry attention-commanding features such as bold headings, deliberately-chosen typography, shapes and graphics for it to be effective. However, some communicators in Nigeria have not paid attention to the importance of good message presentation or are not putting into adequate practice what they know on these issues. Sometimes, the glitch is that some message designers know what to say but, they do not put it how it would get to the target audience. Messages that do not carry strong contents would not be effective, however well- written, articulated or presented.
3. **Ownership Issues:** One of the characteristics of the media in Nigeria is the number of mass media organizations owned by government. For this reason, most media organizations are seen and operated as an extension of civil service and they are structured along codes and conducts of civil service. The mass media therefore are caught in the web of bureaucratic bottlenecks, which has hindered meaningful development. Stressing the danger associated with undue governmental and institutional control, Nwosu (1990) argues that there is the tendency to always want to please the power that is or fingers that feed the media practitioner to the detriment of development ideals. There is the popular saying that “he who pays the piper dictates the tune”. Most media houses in Nigeria are owned by the government and in many cases, they end up being the mouthpiece of the

government, which is for communicating government's various activities to the populace. As posited by Behrens and Evan (1984) and Obinne (2000), it does not make for balanced, extensive and fair communication. The privately-owned media are not also left out of this problem of undue interference. Both the print and broadcast media suffer from the problem of undue influence, interference or control by their owners. Thus, it behooves on the professional communicators in Nigeria to try hard to overcome this negative impact of undue ownership control of communication.

- (iv) Dearth of Community Based on Vernacular Radio/Television: Another problem of development communication has to do with the fact that most of the language of communication is English language, instead of vernacular language. According to Nwosu (1990), vernacular media offers one clear way of bridging the gap between the urban and the rural, in that they publish in the local language and so naturally to the illiterate, rural and urban indigenes to which they are targeted. In the absence of community radio or newspaper that ought to transmit or report information in local language, it logically follows that the benefits of mass media in extension service delivery will remain a mirage. In the same vein, Osuji (1983) says that irregularities of power supply which hampers consistent flow of agricultural information in the radio and television sets is also a major problem associated with the use of mass media for agricultural information dissemination in Nigeria. Behrens and Evan (1984) posit that the challenge of information distribution has always hindered the utilization of mass media in remote localities. They further stated that radio is limited by its inability to convey comprehensive, intricate agricultural information and when used alone, is limited for teaching since listeners can not refer back to what they have heard over the radio, and cannot see what is being described.
4. Excessive Usage of English Language by Broadcast Media: A lot of communication for development messages is still disseminated through the use of English language, even when they are intended for rural dwellers. (Saleh et al, 2018) suggests that there are still a lot, more english language programs on Nigerian radio and television stations than local dialectal programs. This infers that the rural residents are not put in proper thought and consequently the message leaves little or no impact on them.

Conclusion

The paper concludes that with the pressing need for knowledge and information of agriculture by farmers, the place of the mass media has

become increasingly necessary. Mass media messages are powerful enough to reinforce pre-existing agricultural knowledge and technologies, create awareness and credibility about known ones, and reach various persons across different levels of society at the same time. From extant literatures, it is apparent that mass media is an effective means of communication. The broadcast media is also seen as the major source of information amongst rural populations. However, hitches which hinder effectiveness of the use of mass media includes but not limited to; illiteracy, message-related problems and ownership challenges amongst others.

Recommendations

- The mass media should design more indigenous languages programs, particularly in broadcasting agriculture-oriented contents. This would make programs capture audiences that are literates or otherwise.
- Concerted efforts should be made to resuscitate community media organizations that are in comatose. These community media outlets are nearer to farmers and will also complement the work of commercial broadcast stations. Chances are, ownership interests might shorten airtime devoted to issues like agriculture. However, community media organizations will dedicate more space to agricultural extension contents from a grassroot position.
- Moreso, agricultural Extension contents should be allotted more space in the print media such as newspapers and magazines. They should carry more messages on agriculture and improve their agricultural extension function, using various informal styles like language and graphics.

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