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Revisiting Radio, Newspapers and Mobile Phones as Mediums of Enhancing Agricultural Productivity: A Review

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Authors' contributions

This work was carried out in collaboration between both authors. Author TKN reviewed, lay trials, collected data and drafted the first manuscript. Author LKMF carried out the data analysis and presentation of results. All authors read and approved the final manuscript.

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ABSTRACT

Several approaches are used by extension systems to disseminate agricultural information and these approaches depend on the objectives of the extension systems, locality and available resources. Radio, newspapers and mobile phones have been used for the dissemination of agricultural innovation but it is necessary to revisit these mediums in this era where there is fast technological improvement. This review aim at suggesting ways of improving on the use of radio, newspapers and android phones in enhancing agricultural productivity. From the documents reviewed, radio and newspapers are good mediums of creating awareness to the general public on agricultural innovations but it has been politicized. Also, android phones though seen as individual extension method, can be adapted and used as a group method. It is suggested that in order to improve these mediums, more agricultural programs should be initiated especial in community radios, creating a column in public newspapers for agricultural information and strengthening agricultural newspapers publishers, connecting newspapers houses with agricultural research

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centres, creating 'Whats App' groups for farmers, and the government partnering with the mobile communication companies to be sending agricultural updates to the general population through short messages. Therefore, we recommend that the government should encourage private radio stations and newspapers houses by funding agricultural programmes and also that mobile telephone and radio signals should be upgraded and adult education encourage.

Keywords: Radio; newspapers; mobile phones; enhancing; agricultural productivity.

1. INTRODUCTION

Effective listening and learning depend upon effective teaching and animation. Effective teaching and creation of learning environment in extension largely depend upon the teaching methods or extension teaching methods used by extension agents. Proper selection and skilful handling of extension methods bring out expected changes in the members of a community.

There are several approaches use by extension agents to disseminate agricultural information: the individual or household approach,the group approach and the mass extension approach [1,2] .None of these methods can be singled out as being the best one; all of them have their advantages and disadvantages [3]. The choice of any method depends on the locality, objectives of the extension agents and resources available. However, the mass extension methods stand out as the best method in terms of coverage and creating awareness. It involves the following elements radio, posters, drama, television, films, slide shows, and print media to inform the public.

Nowadays, with the improvement on radio network, most communities are having at least a radio station or have applied for the creation of one. It is worth nothing that the advancement in technology has made it possible for most of our appliances; radio set, phones, TV, headset and musical sets to be receiving radio signals. More to that most of these appliances are either chargeable or using solar system and this has made it possible for most people (farmers and mostly the youths) in rural areas to be using them. However, the youths and most farmers preferred mostly radio channels and radio programs that play mostly music and gives football commentaries without focussing on agricultural programs that can improved their lives.

More so, little attention is given to agricultural incline programs in most radio channels which is the backbone of Africa development instead our radio channels keep on discussing politics day-in day- out. Even the so call community radio channels which are at the helm of the farmers have been politicized by political leaders and this has diminished rate of broadcast of agricultural programs and the love of farmers following programs on most of these channels. They only tune- in when they know the channel is playing music or animating.

Public newspapers are another important tool in information dissemination even though they carry little or no agricultural information (daily or monthly commodity national and international prices, successes of farmers in other localities, agricultural innovations, new breeds of crops and livestock, and new market openings for agricultural products). Coverage of agricultural information in Tanzania's newspapers published between 2009 and 2013 show that out of the 63,609 news articles published only 836 (1.3%) articles were on agriculture [4]. Furthermore, in most countries, there are few publishing firms specific for agricultural world. The few that are there lack specialist in this field to be providing them with the latest happenings thus little is being published.

Mobile telephones are use as individual method of agricultural information dissemination by extension systems but can be adapted and used as extension mass method of communication. It is very common nowadays seeing farmers with android phones in rural areas of most countries not to talk of urban areas. Extension systems can exploit this advancement in mobile communication technology to assist farmers to create 'WhatsApp' groups containing hundreds of farmers. This will enable the extension systems to disseminate agricultural information (prices, new markets, etc) to a large number of farmers in lesser time. Therefore, the flow of information between the farmers and the extension systems can be facilitated especially in times of emergencies.

It should be noted that radio, newspapers and telephones are just mediums of communication

and what comes out of these mediums is the message being introduced by the users or controllers base on their thoughts and or objectives which can greatly shape the societal pattern of life [5]. With all the above argument and taking into consideration that the only way we can escape from this alarming poverty is through agriculture, it is necessary for these mediums to be well harness by the extension systems and the government so as to improved agricultural productivity and enhance poverty alleviation.

2. RADIO AS MEDIUM OF IMPROVING AGRICULTURAL PRODUCTIVITY

Radio is an electronic audio- medium for broadcasting programs to audience. It is considered as 'hot medium' because it favours analytical precision, quantitative analysis and sequential ordering [5]. Also, it is one of the mediums of mass communication and an effective tool for giving information and entertainment [6] (Nazari, Bin, Hassan & Parhizkar, 2013). Though mostly located in towns, its waves cover large surface area. Over the years there has been increasing demand for radio services in rural areas and this has led to the creation of community radio stations in most rural areas. Also, there has been an improvement in technology making it possible for almost all musical appliances to be receiving radio frequencies. However, politicians and business men have taken this advantage to woe the population especially those in the rural areas. It is important to note that extension agents on their part has taken this advantage to disseminate agricultural innovations to famers since it is suitable for communicating to millions of people widely dispersed especially those in the remote areas. According to information exchange, radio is more accessible and also the major source of agricultural technologies to the farmers [7]. This medium has also been proven to be suitable for creating agricultural awareness amongst the populace which is the first and very strategic step in innovation introduction. Furthermore, in community radios, dialect or 'pidgin' are mostly use for broadcast and in most situation, the programs are re-broadcast. This makes it possible for those who missed the program or never understood certain things in the program to follow it again. Moreover, people with no education or little education and those who are not in a position to attend extension programmes personally take advantage of this medium and build up adequate knowledge about a practice. Also, there are some interior areas in the rural milieu which are not motorable especially in the rainy seasons and this is the only medium to reach to them. Most importantly, programmes can be listened by the people while doing work in their fields or at home.

3. NEWSPAPERS

Newspapers are one of the mass methods of information dissemination. Most of them cover business, political and economic issues and are mostly available and read in towns and cities. They are not widely available in rural areas but agricultural newspapers commonly called in some areas; for instance, Cameroon as the 'The Farmers Voice' is mostly seen in some rural areas especially in farmers groups. This is one of the most important print media mostly printed in colours and carries several messages for farmers [8]. However, it creates awareness of new ideas and to inform people of what other groups or communities are doing. Moreover, it provides precise and reliable scientific agricultural information in simple language and also carries accurate, motivating, creditable and distortion-free information to farmers and other audience. This medium can be use at the farmer 's convenience and serves as future references. Majority of farmers mostly men in Ekiti State, Nigeria are using newspapers for the following reasons; to gain knowledge about appropriate type of fertilizer to apply and methods of application of such fertilizer, gain knowledge on timely crop planting, to gain knowledge about easy access to credit, and to gain knowledge on disease, insect and pest control [9].

4. MOBILE PHONES

Mobile phone is an electronic device that helps us to relate with other people elsewhere by placing a call. This device has been evolving over the years; from a simple phone to android phone with several functions. It is common to see both male and female farmers with mobile phones for personal and farming purposes [2,10]. In another demonstration [11,12] added that rural communities appreciate the use of phone as easy, fast and convenient way to communicate and access information on agriculture, natural resources management and marketing.However, apart from calls, nowadays these phones are commonly used for 'facebook' and most importantly 'whatsApp' which can link hundreds of people at the same time. Most people now are scrambling for this new technology with some

communities already having at least one android phone per household. Mobile phone technology has provided multidimensional benefits to the rural people and it helps in interaction, accessibility, and quick information exchange or timely information exchange [7]. Therefore, mobile phones save energy and time of farmers and possibly improved their income [12]. An event happening in Nigeria now can be snap or film and send to so many people in other countries at the same time, same with agricultural innovation in picture format. It is worth noting that most illiterate can interpret the messages pictures carries especially agricultural pictures. This medium is relatively cheap compare to calls and it is high time farmers and extension agents take this advantage for faster information dissemination.

5. PROBLEMS MILITATING AGAINST EFFECTIVE USE OF RADIO, NEWSPAPERS AND MOBILE PHONES FOR AGRICULTURAL INFORMATION DISSEMINATION IN AFRICA

Most of our agricultural research institutions do not provide research results to publishing houses to be published and this makes it difficult for them to be publishing up- to-date information and on time [9]. Even what is published does not reach the rural farmer on time due to inaccessibility of some of rural areas and most often, the newspapers are costly [9].

Furthermore, the lack of signal and poor telephone network coverage in many communities in Africa has greatly reduced the use of telephones in economic activities especially in agriculture. This is further aggravated by the high charges levi on users and the cost of a mobile telephone [12,2]. Above allthe main problems impeding the use of mobile phones and newspapers are language barrier and illiteracy [2].

Limited Coverage or Transmission range, poor signals and frequent power failure or absence of electricity supply are the paramount constraints militating against the use of radio channels for the dissemination of agricultural information in most Africa countries. Most often, their wavelength does not reach the rural areas. Also, the Lack of Sponsors of Agricultural Programmes and limited number of Agricultural Professionals also post a serious problem [13].

6. SUGGESTED WAYS OF IMPROVING ON AGRICULTURAL PROGRAMMES ON THESE MEDIUMS OF INFORMATION DISSEMINATION

6.1 Radio

Since this medium is widely followed by most people, especially for entertainment (music) programmes, extension agents should use the advantage of these programmes to convey their innovations. That is short agricultural records can be play before a programme starts and immediately when it ends or even in the middle of the programme. Extension agents can also programme their talks during these periods.

Also, farmers, group leaders (especially young farmers) should be encourage to be developing sketches on their successes and experiences so that they be play and re-play in the radio for others to be encourage. They can also share their experiences ‘live’ in the radio channels. With these they farmers will be happy that their voices are being heard and since the messages are from their fellow members, they will easily adopt them.

Most importantly, national and international prices and market openings of agricultural commodities should be announced either daily or weekly. This will motivate even those who are not in agriculture to start producing and also farmers to be following radio programmes.

6.2 Phones

In this android generation, most farmers or a family member in the rural area has an android phone maybe not necessary for calls but to snap pictures and ‘WhatsApp’. Therefore, farmers should be encouraged to form ‘WhatsApp’ groups where they can easily circulate information. Majority of those who have basic education in the rural areas operate android phones especially when it concerns ‘WhatsApp’ and Facebook. Considering the fact that pictures transmit a lot of information, agricultural pictures can be snap of film and share to farmers or sent to extension agents for immediate suggestions and reactions. Therefore, with this before extension agent get to the fields, farmers must have taken short term measures to rescue their crops and livestock. This medium may also help farmers to be able to update themselves on the

latest happening (prices, outbreaks of diseases and new markets) and the decisions to take.

Government or the ministry of agriculture can partner with mobile communication companies so that they can be sending daily or weekly agricultural updates to the entire population. This will encourage some people to invest in agriculture and some to continue in the sector since they are able to receive fresh ideas.

6.3 Newspapers

Agriculture remains the back bone of Africa's development and if Africans are thinking of developing, they should give agriculture the value it deserved. Apart from publishing mostly political issues on our public newspapers, a regular page or column should be created on these newspapers for agricultural updates. This column can carry information on; prices of agricultural commodities, output of commodities, innovation, success stories of famers in other communities, sources of micro and macro finances to farmers, and market openings. Our argument is that, there are some politicians and wealthy people who have money and land and are not aware of the openings in the field of agriculture and if they tumble on agricultural information, they may end up investing in it. Therefore, the number of investors in this sector will increase thus reducing unemployment and increasing output for agricultural industries and GDP.

Moreover, the governments of African countries should create and subsidies public newspapers only for agricultural information. More so, international agricultural newspapers should be created where farmers can easily share their views and experiences internationally especially on food preservation and storage so as to reduce, they quantity of post- harvest food loses in other countries. Just like the 'Farmer's Voice in Cameroon,' captivating names should be given to these newspapers so that farmers especially rural farmers should feel belonging.

Furthermore, the link between publishing houses and agricultural research institutions should be strengthen so as to initiate the flow of information.

7. CONCLUSION

Several methods have been identified and use by extension agents to disseminate agricultural innovations in rural and urban areas in order to boost agricultural productivity. The choice of these methods depends mostly on the locality, culture and the available of resources. Radio, newspapers and telephones are mostly use as extension methods of information dissemination but have been politicized by our political leaders since the beginning of this decade. Therefore, revisiting and modifying programmes in these mediums can lead to improvement in agricultural productivity and poverty alleviation especially in this era where there is fast advancement in technology. The government and policy makers should therefore strengthen these media alongside encouraging farmers to be using these media for their update.

8. RECOMMENDATIONS

- Government should encourage private radio stations by funding agricultural programmes so that the number of days they are broadcast can be increase.
- Adult learning commonly called school without walls should be encourage so that farmers can be able to use mobile telephones and newspapers.
- Since it is difficult for farmers in rural areas especially those in the interior to have access to newspaper, a link should create between farmers in the semi- urban areas and those in the interior for easy flow of information, and
- Mobile telephone and radio signals should be upgraded and antennae established in rural areas.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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