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

5

Abstract

6 Several approaches are used by extension systems to disseminate agricultural information and
7 these approaches depend on the objectives of the extension systems, locality and available
8 resources. Radio, newspapers and mobile phones have been used for the dissemination of
9 agricultural innovation but it is necessary to revisit these mediums in this era where there is
10 fast technological improvement. This review aim at suggesting ways of improving on the use
11 of radio, newspapers and android phones in enhancing agricultural productivity. From the
12 documents reviewed, radio and newspapers are good mediums of creating awareness to the
13 general public on agricultural innovations but it has been politicized. Also, android phones
14 though seen as individual extension method, can be adapted and used as a group method. It is
15 suggested that in order to improve these mediums, more agricultural programs should be
16 initiated especial in community radios, creating a column in public newspapers for
17 agricultural information and strengthening agricultural newspapers publishers, connecting
18 newspapers houses with agricultural research centres, creating ‘WhatsApp’ groups for
19 farmers, and the government partnering with the mobile communication companies to be
20 sending agricultural updates to the general population through short messages. Therefore, we
21 recommend that the government should encourage private radio stations and newspapers
22 houses by funding agricultural programmes and also that mobile telephone and radio signals
23 should be upgraded and adult education encourage.

24 **Keywords:** Radio, Newspapers, Mobile Phones, Enhancing and Agricultural Productivity

25

26 **Introduction**

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

31 There are several approaches use by extension agents to disseminate agricultural information:
32 the individual or household approach, the group approach and the mass extension approach
33 (Omogor, 2013; Haliso & Ajayi, 2014). None of these methods can be singled out as being
34 the best one; all of them have their advantages and disadvantages (Tengnas, 1994). The
35 choice of any method depends on the locality, objectives of the extension agents and
36 resources available. However, the mass extension methods stand out as the best method in
37 terms of coverage and creating awareness. It involves the following elements radio, posters,
38 drama, television, films, slide shows, and print media to inform the public.

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

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

54 Public newspapers are another important tool in information dissemination even though they
55 carry little or no agricultural information (daily or monthly commodity national and
56 international prices, successes of farmers in other localities, agricultural innovations, new
57 breeds of crops and livestock, and new market openings for agricultural products). According
58 to Ogessa & Sife (2017), coverage of agricultural information in Tanzania's newspapers
59 published between 2009 and 2013 show that out of the 63,609 news articles published only
60 836 (1.3%) articles were on agriculture. Furthermore, in most countries, there are few
61 publishing firms specific for agricultural world. The few that are there lack specialist in this
62 field to be providing them with the latest happenings thus little is being published.

63 Mobile telephones are use as individual method of agricultural information dissemination by
64 extension systems but can be adapted and used as extension mass method of communication.
65 It is very common nowadays seeing farmers with android phones in rural areas of most
66 countries not to talk of urban areas. Extension systems can exploit this advancement in
67 mobile communication technology to assist farmers to create 'WhatsApp' groups containing
68 hundreds of farmers. This will enable the extension systems to disseminate agricultural
69 information (prices, new markets, etc) to a large number of farmers in lesser time. Therefore,
70 the flow of information between the farmers and the extension systems can be facilitated
71 especially in times of emergencies. With all the above argument and taking into consideration
72 that the only way we can escape from this alarming poverty is through agriculture, it is
73 necessary for these mediums to be well harness by the extension systems and the government
74 so as to improved agricultural productivity and enhance poverty alleviation.

75 **Radio as Medium of Improving Agricultural Productivity**

76 Radio is an electronic audio- medium for broadcasting programs to audience. It is one of the
77 mediums of mass communication and an effective tool for giving information and
78 entertainment (Nazari, Bin, Hassan & Parhizkar, 2013). Though mostly located in towns, its
79 waves cover large surface area. Over the years there has been increasing demand for radio
80 services in rural areas and this has led to the creation of community radio stations in most
81 rural areas. Also, there has been an improvement in technology making it possible for almost
82 all musical appliances to be receiving radio frequencies. However, politicians and business
83 men have taken this advantage to woe the population especially those in the rural areas. It is
84 important to note that extension agents on their part has taken this advantage to disseminate
85 agricultural innovations to famers since it is suitable for communicating to millions of people
86 widely dispersed especially those in the remote areas. According to information exchange,
87 radio is more accessible and also the major source of agricultural technologies to the farmers
88 (Ariyo, Okelola, Aasa , Awotide, Aaron, & Oni, 2013). This medium has also been proven to
89 be suitable for creating agricultural awareness amongst the populace which is the first and
90 very strategic step in innovation introduction. Furthermore, in community radios, dialect or
91 'pidgin' are mostly use for broadcast and in most situation, the programs are re-broadcast.
92 This makes it possible for those who missed the program or never understood certain things
93 in the program to follow it again. Moreover, people with no education or little education and
94 those who are not in a position to attend extension programmes personally take advantage of
95 this medium and build up adequate knowledge about a practice. Also, there are some interior

96 areas in the rural milieu which are not motorable especially in the rainy seasons and this is
97 the only medium to reach to them. Most importantly, programmes can be listened by the
98 people while doing work in their fields or at home.

99 **Newspapers**

100 Newspapers are one of the mass methods of information dissemination. Most of them cover
101 business, political and economic issues and are mostly available and read in towns and cities.
102 They are not widely available in rural areas but agricultural newspapers commonly called in
103 some areas; for instance, Cameroon as the 'The Farmers Voice' is mostly seen in some rural
104 areas especially in farmers groups. This is one of the most important print media mostly
105 printed in colours and carries several messages for farmers (Farooq, Muhammad, Chauhdary,
106 & Ashraf, 2007). However, it creates awareness of new ideas and to inform people of what
107 other groups or communities are doing. Moreover, it provides precise and reliable scientific
108 agricultural information in simple language and also carries accurate, motivating, creditable
109 and distortion-free information to farmers and other audience. This medium can be use at the
110 farmer 's convenience and serves as future references. Apata (2010) added that majority of
111 farmers mostly men in Ekiti State, Nigeria are using newspapers for the following reasons; to
112 gain knowledge about appropriate type of fertilizer to apply and methods of application of
113 such fertilizer, gain knowledge on timely crop planting, to gain knowledge about easy access
114 to credit, and to gain knowledge on disease, insect and pest control.

115 **Mobile phones**

116 Mobile phone is an electronic device that helps us to relate with other people elsewhere by
117 placing a call. This device has been evolving over the years; from a simple phone to android
118 phone with several functions. It is common to see both male and female farmers with mobile
119 phones for personal and farming purposes (Haliso & Ajayi, 2014; Prihandoyo, Muljono, &
120 Susanto, 2014). In another demonstration, Masuki, Tukahirwa, Kamishuga, Mowo, Tanui,
121 Mogoi, & Adera (2011) and Chhachhar & Hassan, (2013) added that rural communities
122 appreciate the use of phone as easy, fast and convenient way to communicate and access
123 information on agriculture, natural resources management and marketing. However, apart
124 from calls, nowadays these phones are commonly used for 'facebook' and most importantly
125 'whatsApp' which can link hundreds of people at the same time. Most people now are
126 scrambling for this new technology with some communities already having at least one
127 android phone per household. According to Ariyo et al (2013), mobile phone technology has

128 provided multidimensional benefits to the rural people and it helps in interaction,
129 accessibility, and quick information exchange or timely information exchange. Therefore,
130 mobile phones save energy and time of farmers and possibly improved their income
131 (Chhachhar & Hassan, 2013). An event happening in Nigeria now can be snap or film and
132 send to so many people in other countries at the same time, same with agricultural innovation
133 in picture format. It is worth noting that most illiterate can interpret the messages pictures
134 carries especially agricultural pictures. This medium is relatively cheap compare to calls and
135 it is high time farmers and extension agents take this advantage for faster information
136 dissemination.

137 **Problems militating against Effective use of Radio, Newspapers and Mobile Phones for** 138 **Agricultural information Dissemination in Africa**

139 Most of our agricultural research institutions do not provide research results to publishing
140 houses to be published and this makes it difficult for them to be publishing up- to-date
141 information and on time (Apata, 2010). Even what is published does not reach the rural
142 farmer on time due to inaccessibility of some of rural areas and most often, the newspapers
143 are costly (Apata, 2010).

144 Furthermore, the lack of signal and poor telephone network coverage in many communities in
145 Africa has greatly reduced the use of telephones in economic activities especially in
146 agriculture. This is further aggravated by the high charges levi on users and the cost of a
147 mobile telephone (Chhachhar and Hassan, 2013; Masuki et al, 2011). Above all the main
148 problems impeding the use of mobile phones and newspapers are language barrier and
149 illiteracy (Masuki et al, 2011).

150 Limited Coverage or Transmission range, poor signals and frequent power failure or absence
151 of electricity supply are the paramount constraints militating against the use of radio channels
152 for the dissemination of agricultural information in most Africa countries. Most often, their
153 wavelength do not reach the rural areas. Also, the Lack of Sponsors of Agricultural
154 Programmes and limited number of Agricultural Professionals also post a serious problem
155 (Donye, 2018).

156 **Suggested ways of improving on agricultural programmes on these mediums of** 157 **information dissemination**

158 **Radio**

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

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

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

172 **Phones**

173 In this android generation, most farmers or a family member in the rural area has an android
174 phone maybe not necessary for calls but to snap pictures and 'whatsApp'. Therefore, farmers
175 should be encouraged to form 'whatsApp' groups where they can easily circulate
176 information. Majority of those who have basic education in the rural areas operate android
177 phones especially when it concerns 'WhatsApp' and Facebook. Considering the fact that
178 pictures transmit a lot of information, agricultural pictures can be snap of film and share to
179 farmers or sent to extension agents for immediate suggestions and reactions. Therefore, with
180 this before extension agent to get the fields, farmers must have taken short term measures to
181 rescue their crops and livestock. This medium may also help farmers to be able to update
182 themselves on the latest happening (prices, outbreaks of diseases and new markets) and the
183 decisions to take.

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

188

189 **Newspapers**

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

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

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

210 **Conclusion**

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

220 **Recommendations**

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

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