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Communication Strategies for Maize Dissemination among farmers in South West, Nigeria: The Problems and the Prospect

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Abstract
This study evaluated the problems and prospects associated with communication strategies for maize dissemination among rural farmers in southwestern Nigeria. The study was carried out in Oyo and Ogun States. Multistage sampling technique was used to sample 202 maize farmers in the area. Using quasi experimental research design, maize production information were disseminated to two groups of farmers separately using different medium and data was collected on associated constraints to understanding messages from the medium utilized for dissemination. Result shows that poor interactivity was a major challenge to understanding messages from conventional media while constraints for non-conventional method was centered on the individual carrying the message. The result shows no significant difference (t-0.114; p – 0.910) in the constraints identified by the two groups of farmers. Extension practitioners should make seed dropping and mobile phone use for maize dissemination more interactive. Also, radio and community leaders' forum should be strategically introduced as part of the communication strategies for effective dissemination.

Key words: Communication strategies, Maize crop, Dissemination, Seed dropping, Farmers

Introduction
Dissemination of research technologies is critical to promoting the landmark outbreak of research because no matter how brilliant an innovation appears, it remains largely elusive if not properly disseminated to the intended users. Dissemination is a key element in the research to practice continuum and it must involve consideration of target audiences and the settings in which research findings are to be received (Wilson, *et al* 2010). Dissemination is a way of communicating specific research outcome to the user/s and it is dependent on the language of the receiver/user and access to available communication media. Communication media aids information transfer and adoption process. Okwu, and Iorkaa (2011) posits that the first step to consider in farmers use of information is their capacity to access the appropriate communication media. This makes dissemination of agricultural information to farmers through appropriate communication media crucial as the information package.

The role of communication media in agricultural technology dissemination is very significant. Communication has been used over the years to attract the attention and participation of stakeholders in the dissemination and facilitation of the adoption process. According to Akpomuvie, (2010), the majority of the populations of countries in Africa live in the rural areas and the most effective way to keep them abreast with the programmes of governments is to popularize them at the

grassroots through Information communication technologies (ICTs) and non-conventional media.

The world is developing into a global village and developmental strides are riding on available technology in communication. Communication technologies are embedded with the potential of mobilizing people for development process. Although, the Agricultural Development Programme (ADP) system has been effective in disseminating agricultural technologies in Nigeria over many years, the problem of funding which reflects in reduced extension activities has limited the impact it could make on farmers. However, this dearth of extension services does not suggest that small scale farmers are advanced to self-sufficiency in agricultural productions, hence the need for a more conventional strategy for use. The mobile phone, has gradually become a vital and indispensable tool of transmitting or exchanging information among literate and non-literate audience. The functions are not only limited to making and receiving calls but for virtually every function as performed by the computer. Disseminating maize technology information among farmers using readily available communication technologies will multiply such information and gains within a short while. However, no one communication media is sufficient on its own. Promoting necessary agronomic practices and pathological information technology will increase farmers' knowledge and accuracy on cropping pattern, reduce the incidence of pest and diseases, increase unit - output and farmer's overall income will require a more careful use of both conventional and non-conventional media Spreading the information among farmers' friends will therefore not be a difficult task again. This is important because of the relevance of maize in promoting the economy of South West region and Nigeria at large.

Communication media use for dissemination can be in two ways: conventional or non-conventional communication media. Non-conventional media refers to the time honored, means of mass communication which mostly creates a face to face situation between the communicator and the receiver of the message such as street theatre and puppetry, involving the use of storytelling and especially communication arts that make up a distinctive culture representative of a traditional way of life (Debashi-deb, 2012). Conventional media on the other hand, are Information Communication Technologies (ICTs), the forms of communication that are new and possess a relative advantage of large coverage and acceptability amongst modern users. Conventional media address the serious problem of contemporary society and the major public issues of our time. Both non-conventional and conventional communication media could help promote improved levels of communication, and shared information that enables sustainable development on a global scale.

The two strategies assessed in this study are the

- Seed dropping method of dissemination (interpersonal) and
- Use of mobile (Mass media) phone

Seed dropping method (Non-conventional method)

Seed dropping is a non-conventional style of dissemination as it involves only interpersonal communication method, the initial coverage is limited to the original

contact. However, this method gives opportunity for farmers to ask questions and thereby clarify issues of concerns. The seed dropping method combines two major dissemination processes; it disseminates both the technology and the information in its package thus persuading the farmer to accept the new technology in a more practical way. One major justification for the use of seed dropping is explained by Ahmed *et al* (2015) that farmers need to be convinced by extension agents about the existence of the technology, how to access and use it and what to expect from it before adopting the technology.

The method of seed dropping aimed at overcoming the challenge of seed purchase and transportation. The method involved collaboration with extension personnel such as the extension staff of Agricultural Development Programme (ADP) along an identified route. This step is necessary as it guided the decision of the challenge to address.

Use of mobile phone (Conventional method)

Mediated messages play an extremely important role in how people view their world. According to Cultivation Analysis theory, most people in the modern world get much of their information in a mediated fashion rather than through direct experience. Thus, mediated sources can shape people's sense of reality. Likewise, James (2013) posited that global conversations have escalated around using social network to reach new audiences and spread philanthropic and charitable messages. In line with this, use of farmers' mobile phone for maize information dissemination was strategically carried out to present maize total information with the use of audio and video functions in the phone. This method involved packaging all relevant information ranging from good maize variety to plant, how to plant maize for maximum economic returns, different pests and diseases of maize, harvesting and storage and possible marketing openings available to maize. This total information package was presented in a 10 minutes mp3 video and audio clip and disseminated directly to the farmers' phone. The purpose was for farmers to have a direct access to relevant information first-hand when the need arises whether at home or on the field. The total information package was to serve as the motivation to this group of farmers to consider cultivating improved maize varieties for a change. This step is in line with Bandura (1976) that learning is a cognitive process that takes place in a social context and can occur purely through observation or direct instruction, even in the absence of motor reproduction or direct reinforcement. Majority of population in Africa live in rural areas where there is obvious lack of required infrastructure to support the use of conventional media tools. Considering this gap, Akpomuvie (2010) suggested the combination of the two types of media as effective to keep the rural populace in Africa abreast with programmes.

This study was carried out to evaluate the problems and prospects associated with communication media use for maize dissemination among rural farmers in southwestern Nigeria.

The general objective is to assess the effectiveness of two dissemination strategies embarked upon by IAR&T for maize information, specifically, the study aimed to;

- identify areas of strength of the interpersonal and mobile phone strategies for up-scaling
- investigate possible constraints to interpersonal and mobile phone use strategies

Materials and Methods

Study area: The study was carried out in South Western region of Nigeria. South West Nigeria is one of the geopolitical zones of Nigeria. It has six states and the people mainly speak Yoruba, although there are other several dialects within the region. The head-quarter was formally Ibadan (now the capital of Oyo State). The study was however carried out in Oyo and Ogun States, Nigeria.

Sampling Procedure and sample size: This involved purposive selection of rural communities in the states with high record of maize production challenges. This selection is necessary to give opportunity to address specific challenges faced by farmers. Systematic sampling of 30% of households in each of the identified communities were used to select the household head. Communities selected in Ogun state include Ibese, Abule Egba, Ilaro and Ijado in Yewa North LGA and ago babalawo, igbesa and alaago in Ado-Odo LGA. While communities selected in Oyo state are Tede, Sabe, in Atisbo LGA, Iseyin Kosobo and Eruwa communuities in Iseyin and Ibarapa East LGAs respectively. A total of 202 respondents were sampled in all.

Research Design: Quasi experimental research design was used for this study. This involved disseminating maize seeds variety to two groups of farmers in Oyo and Ogun States using seed dropping method and mobile phone. Thereafter, compare the constraints encountered to understanding messages from each of the methods. The personal characteristics of the two groups were taken before the dissemination to be sure of almost similar background information then, utilising each of the strategies for the individual groups. This provided the basis employed to reduce the influence of one method on the other and to easily identify the constraints associated with each method.

Data collection: Primary data collection with the use of an interview guide was employed for the study. This process gave opportunity for farmers who could not read and write to express themselves freely on the issue raised. Questions such as personal characteristics and constraints to communication media used for dissemination were identified

Constraints faced by respondents on media use - Constraints faced by respondents with respect to the media used for dissemination was determined by asking the respondents to rate a list of possible constraints that were provided on a four-point scale of very severe constraint, severe constraint, mild constraint and not a constraint. Scores of 4, 3, 2, and 1 were awarded to the responses respectively. The mean score for each of the constraint items was computed and used to determine the order of severity of the constraints. The list of constraints provided was grouped under the following sub-headings: language barrier, poor interactivity of media, poor richness of media viz: facial expression, tone of voice, gestures etc.

Data analysis: Data were summarized and described using means and percentages while Chi-square and Pearson Product

Moment Correlation (PPMC) and independent sample T-test were used to determine the relationship between the independent variables and the constraints to appropriating messages from communication media sources.

Results and Discussion

Personal characteristics of respondent

Table 1 shows that majority (88.1%) of the respondents were married and had a mean age of 44.32 years. Also, 36.1% had no formal education while 67.3% could not read and write English language. This group of farmers can be categorized as in their mid-age therefore might not be too young to discriminate against the use of the interpersonal method as not fashionable and also, they are not too old to criticize use of conventional media. Inability of the farmers to read and write English language would pose a hindrance to understanding messages from new conventional media tools such as the internet, twitter and others thus discouraging their use.

Constraints associated with messages from each of the media used for maize information dissemination in the study area

Table 2 presents the constraints encountered by the respondents in

Table 1: Distribution of respondents according to personal characteristics N=202

Variable	Frequency	Percentage/mean
Age		44.32±12.01
= 30	38	18.8
31- 40	47	23.3
41 – 50	59	29.2
51 – 60	44	21.8
>60	14	6.9
Marital status		
Single	3	1.5
Married	178	88.1
Divorced	2	1.0
Widowed	19	9.4
Household size		6.22±2.82
1-5	85	42.1
6-10	105	52.8
11-15	10	5.1
16-20	2	1.0
Religion		
Christianity	137	67.8
Islam	65	32.2
Ability to read and write in English		
No	136	67.3
Yes	66	32.7

Table 2: Distribution of respondents based on communication constraints to utilising messages among seed dropping and mobile phone used to disseminate maize information

S/N	Items	Mean (Use of mobile phone)	Rank	Mean (Seed dropping)	Rank
	Poor interactivity				
	Too much noise	0.4835	2nd	0.6602	1st
	External distractions	0.5275	1st	0.5414	4th
	Lack of trust in message	0.1429	3rd	0.2707	12th
	Lack opportunity for discussions	0.1099	4th	0.2180	13th
	Language barrier				
	It allowed use of difficult words	0.1099	4th	0.5639	3rd
	Too many use of jargons and terminologies	0.0989	8th	0.4511	6th
	Too many careless words by instructor	0.1099	4th	0.3534	9th
	Poor quality of media				
	Lack of consistency	0.1099	4th	0.5789	2nd
	Lack eye to eye contact	0.0879	10th	0.4887	5th
	Poor tone of voice	0.0769	12th	0.4286	7th
	Lack gestures	0.0440	13th	0.3985	8th
	No facial expressions	0.0330	14th	0.3083	10th
	Medium barriers				
	Against religious beliefs	0.0989	8th	0.1203	14th
	It makes messages too rigid	0.0879	10th	0.3083	10th

understanding the maize information disseminated to them through the two medium during the intervention. Respondents exposed to conventional media (mobile phone) ranked external distractions highest ($x = 0.53$) among other constraints. Others constraints ranked high by respondents in the conventional group include too much noise ($x = 0.48$) and lack of trust in message ($x = 0.14$). On the other hand, respondents from the non-conventional media group ranked too much noise ($x = 0.66$) and lack of consistency in message ($x = 0.58$) as first and second highest constraints.

Apart from the fact that this finding shows certain similarities in the constraints identified by both conventional and non-conventional groups of respondents, it also reveals that items relating to poor interactivity of media were mostly indicated by respondents from the conventional group as more important constraints. This is because these items attracted the first to fourth ranks. This implies that poor interactivity in the use of mobile phone audio and video application is a major barrier to clarity of message disseminated through it. On the contrary, major constraints identified by respondents

in the seed dropping group were not too centered around poor interactivity as observed among the conventional media group of respondents, but, ranged from poor interactivity to poor quality of the media used and then to language barrier. This finding suggests seed dropping strategy used as non-conventional media is constrained by factors that are more surrounded with the person(s) handling it than it occurs in conventional media. This position is corroborated by Kamba (2009) that access to information in rural communities of Africa is affected by a number of drawbacks, evident in ways in which rural information services are coordinated.

Difference in means of the Conventional and Non-conventional

Table 3 shows no significant difference in the mean of the constraints (t-0.114; p – 0.910) associated with understanding messages from the two modes of communication. This result is consistent with Table 2 that both communication media have areas of strength that enhanced understanding of listener. This is consistent with the findings of Osho (2011) that farmers use of communication media is based on availability of media and purpose of use. In line with this, constraints to use of communication media is more about the media and disseminator and not really about the message.

Conclusion and recommendation

In conclusion, the state of the environment where communication process takes place and complexities of human behaviours handling the dissemination process are major barriers to clarity of maize information messages in the use of radio and seed dropping strategies.

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Table 3: Difference in means of the Conventional and Non-conventional media use for maize dissemination

Variable	Mode	Mean	df	T	P
Constraints	Conventional	4.20	222	0.114	0.910
	Non-conventional	4.28			

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