USE OF DISSEMINATED AGRICULTURAL INFORMATION AMONG RURAL FARMERS OF BOMO AREA, SABON GARI LOCAL GOVERNMENT, KADUNA STATE

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Abstract

The study investigated the Use of Disseminated Agricultural Information among Bomo Rural Farmers of Sabon-Gari L.G.A, Kaduna state. The study aim to achieve three research objectives: to identify the types of disseminated agricultural information available for Bomo Rural farmers of Sabon Gari L.G.A., Kaduna State; to identify the types of disseminated agricultural information available used by Bomo Rural farmers of Sabon Gari L.G.A., Kaduna State, Purpose for Using Agricultural Disseminated Information by Bomo Rural Farmers of Sabon Gari L.G.A., Kaduna State; the challenges encountered in using the disseminated agricultural information by Bomo rural farmers of Sabon Gari L.G.A., Kaduna State and the research design adopted was survey research. The population studied consisted Bomo rural farmers of Sabon Gari Local Government Area (LGA), Kaduna State. The instruments used for data collection was questionnaire; the data collected was analyzed using tables, frequencies, and percentages. The findings showed that farmers do not have adequate and timely information on disaster management, on access to bank loan, on livestock production, crop protection, soil fertility, land degradation and desertification. The study then discovered that the purposes for the use of disseminated agricultural information by Bomo rural farmers of Sabon Gari LGA, Kaduna State includes improved the knowledge of farming, increase awareness and the adoption of innovation, increase the farmer's income, improve the farmer's skills in operating farm equipments and machineries and also increase their agricultural output. Also, the study revealed that the greatest challenge in using disseminated agricultural information by Bomo rural farmers was inadequate funds which indicated highest score; followed by poor documentation, storage and retrieval techniques among others. It is therefore recommended that Adequate and timely access to information should be provided to farmers and comprehensive information and communication policy that are necessary to harmonize and reconcile information provision to improve agricultural products in rural areas.

Introduction

Over the years, deliberate, though ineffective efforts have been made by donors and African countries to bring about information on agricultural development to rural communities without much to show for it. Much of the failure can be attributed to the adapted transformation approach to agriculture which targeted large scale farming and processing

technologies, as well as poor treatment of information delivery to the rural farmers. It is however gratifying to note that there is now a shift in emphasis from the big scale transformation approach to the small scale improvement strategy approach. This includes farmer's participatory roles and addresses the challenges of resistance to change especially in the spread of information on agricultural innovation that are meant to change the lives of farmers positively (Asiabaka cited by Idiku, ETA & Elemi, 2021). As the farmers necessitate a variety of agricultural information, the packaged agricultural information should boost farmers' livelihood, take new approaches to information dissemination, use and management that grow out from a clear understanding of what farmers information needs are, and capable of encouraging them to judiciously use the information according to information needs. Haruna and Baba (2017) observed that in the 21st century, information dissemination and retrieval depend largely on the ability of one to access and utilize the internet effectively through the use of various technological means. Hence, there is a need for improvement in all aspects of agriculture is information with adequate quality. In other words, with the rapid development of information and communication technologies (ICTs), data and information can be generated, stored, analyzed, disseminated and used effectively to help farmers and farming communities to improve agricultural productivity and sustainability. Disseminated Agricultural information therefore refers, to agriculture related data which are transformed into meaningful and useful contexts or forms for effective decision making in agriculture or farming related activities. Information is an indispensable factor in the practice of farming and it is the basis of extension service delivery. These different forms of platforms where exchange of information can take place can be broadly categorized into mass or electronic media and individual/intrapersonal medium. Print media are among the common platforms where information diffuses into the society. Tadesse, (2015) define agricultural information as the various sets of information and messages that are relevant to agricultural production activities of farmers such as crop production and protection, animal production and management, and natural resource production and conservation. For the purpose of this study agricultural information therefore refers to decision making in agriculture or farming related activities.

Role of Libraries in Providing Information for Agricultural Production

Perumalsamy and Karunanithi (2002) highlighted some of the objectives of libraries to provide information for agricultural produce as follows:

4. To provide personalized database system with the agricultural scientists, students, researchers and farmers.
5. To increase the use of agricultural information resources.
6. To make access to the technical information.
7. To increase the level of cooperation with other agricultural universities to use the information resources.
8. To improve the quality of education, research and extension activities of the agricultural institute.

The Agricultural Science University Libraries are responsible for the collection, processing and then making available the information resources to its users guiding them in getting the relevant information suitable for their needs which will go a long way to increase their productivity.

Statement of Problem

Institutional and governmental organizations have been put in place to ensure that farmers get to know and adopt agricultural innovations relevant to their situations. The mandate of disseminating agricultural information to rural farmers in Nigeria rests with Agricultural extension agents who are expected to disseminate best practices that increase productivity and sustainability of their production systems and improve their quality of life and livelihoods. With the large population of rural farmers being illiterate, the formal method of dissemination of innovations that use the print word as a vehicle for disseminating information; may not be effective as the personal contact. However, from the preliminary investigation, the researcher observed that despite the availability of disseminated agricultural information to the Bomo Rural farmers of Sabon Gari Local government Area (L.G.A), Kaduna State they do not utilized them which may be attributed to lack of knowledge, awareness and information illiteracy. To support this assertion, Serah (2014) revealed that existing information sources and systems in Kenya provided rural farmers with information were constrained by a number of factors. These included: illiteracy, ignorance of information sources, language barrier, widespread poverty, lack of time to access information, and unreliable information, among others. This motivated the need to investigate the Use of Disseminated Agricultural Information among Bomo Rural Farmers of Sabon Gari L.G.A., Kaduna State.

OBJECTIVES OF THE STUDY

- What types of disseminated agricultural information are available for Bomo rural farmers of Sabon Gari L.G.A, Kaduna State?
- What are the purposes for using disseminated agricultural information by Bomo rural farmers of Sabon Gari L.G.A, Kaduna State?
- What are the challenges encountered in using the disseminated agricultural information Bomo rural farmers of Sabon Gari L.G.A, Kaduna State?

LITERATURE REVIEW

Agbamu cited by Adio (2015) argued that in many developing countries including the study area, too little attention is paid to the understanding of farm-level realities. There is always a wide gap between those responsible for preparing and carrying out development plans and the farmers themselves. In most cases farmers in developing countries, who constituted extension clients, are never involved in planning the extension programme but relied in the relatively superficial observation of field officers or arm-chair deductions and rely on generalization of program planners. The agricultural sector is important for economic growth, poverty reduction, rural development and enhancing food security (Mbagwu, Benson

& Onuoha, 2018). In other words, majority of the rural population in developing countries depend on agriculture for survival (Stienen, Bruinsma & Neuman, 2017). However, despite the importance of agricultural sector as a means of livelihood for majority of Africans, the sector is still very unproductive, resulting in food insecurity and large importation of staple foods (Verder-chouchare & Karaguezian, 2016). It is safe to assert that the information needs of Nigerian small scale farmers revolves around the resolution of problems such as Pest hazards, Weed control, Moisture insufficiency, Soil fertility, Farm credit, Labour shortage, Soil erosion and so forth. There is need for them to know about how to prevent animal disease and control. Knowing such may help them to avoid it. Also farmers need information on pest control and protection such information help them to keep inform and save their animals from contacting it. Farmers need information on irrigational farming system. The facilities to be used and how it is being practice. Storage method that can help the farmer in preserving his crops from damage is been sought by the farmers in order to save especially perishable crops from being destroyed.

Use of Disseminated Agricultural Information

Fawole (2006) also found out that the utilization of available disseminated agricultural information for farmers is very important because it justifies among other factors, efforts by research and related organization to improve farmers' activities and output. However, it has been observed that very few farmers visited Agricultural Information service providers and those who managed to visit confirmed they received good help. It is important to note that library and information centers are key sources of information and there is a need for closer co-ordination and collaboration between farmers and information providers. An improved information and knowledge flow to, from, and within the agricultural sector are key component in improving rural farmer's agricultural production and linking increased production to remunerative markets, thus leading to improved rural livelihoods, improving quality and yield, food security and national economies (Asabaet al., 2006). However, most African countries have not devoted their efforts to the dissemination of information and knowledge, especially in rural areas, where 70 to 80 percent of the African population lives (Adomi et al, 2003). Only a small amount of agricultural information is accessible to rural farmers, despite the large body of knowledge that exists in research institutions, universities, public offices and libraries. This situation is largely attributed to the weak linkages between research, extension, not for profit organizations, libraries and farmers and thus these technologies have neither reached nor been adopted by their intended beneficiaries to improve their farming activities in developing countries including Nigeria.

Challenges to Use of Disseminated Agricultural Information

Real communication of new ideas will not take place without personal contact and confidence between the sender and the receiver of the idea. Agwu and Chukwuone, (2012) observed that the most difficult and challenging policy issue facing the agricultural information service providers in Agricultural Development Programmes today is how to secure a stable source of funding. Although the Agricultural Development Programmes

(ADPs) have had some very successful development initiatives, nevertheless the programmes have suffered serious setbacks due to poor funding and funding instability following the expiration of the World Bank's component of the funding arrangement. They maintained that contributions from States and Federal government always fall, grossly, short of budget, hence hindering the proper implementation of extension programmes in the ADPs. While Madukwe and Ozor, (2012) pointed that the major constraint to effective agricultural information service in Nigeria include; weak linkages with agricultural research, poor staff mobility system, inadequate and unqualified staff, and weak financial support. World Bank (2007) noted that budgetary allocation in most developing countries remains a major problem, hindering the agricultural extension service in its efforts to transfer information to farmers with a view to increase agricultural production. Serah (2014) revealed that existing information sources and systems in Kenya that provided rural farmers with information were constrained by a number of factors. These include: illiteracy, ignorance of information sources, language barrier, widespread poverty, lack of time to access information, and unreliable information, among others. According to Luqman, Yaseen, Ashraf, Mehmood and Karim (2019) discovered the factors influencing the use of ICTs among farmers), the limited access and use of new media by farmers can also be attributed to factors such as high cost of phones, poor network coverage, illiteracy, limited competence in the use of the ICTs and problems surrounding internet connectivity. Further investigations showed that the information providers such as extension workers, opinion leaders and others involved in information provision had low morale due to low salaries, lack of equipment and incentives.

Methodology

Survey Research method was adopted for this study because it allows extensive gathering of information, it is easier, convenient and flexible. It enables the researcher to reach out to the study population in their various locations. The population size of the study comprises majorly rural farmers that engage in agricultural activities in Bomo village of Sabon-gari local government area of Kaduna State. The procedure of sample selection used was the probability (unbiased) method. One hundred and seventy five (175) questionnaires were distributed. The instruments used for data collection was questionnaire. Close ended questionnaire was adopted where respondents were to make choice among specified alternative answers. This was used so as to produce greater uniformity among respondents along the specific dimension in which the researcher is interested.

Procedure for Data Analysis

A descriptive statistics was used for analyzing and interpreting data collected from the questionnaire. Frequency distribution and percentages was used to present the data for easy interpretation using likert scale.

Response Rate

One Hundred and Fifty (150) or (85.7%) questionnaires were returned as duly completed out of the 175 distributed. The researcher was able to achieved high rate of

response as a result of the period spent with the respondents in their various locations and the patience exercised over the process.

Types of Disseminated Agricultural Information Available for Bomo Rural Farmers of Sabon Gari Local Government Area (L.G.A), Kaduna State

The first research question sought to find out the various types of agricultural information available for the respondents.

Table 1: Types of Disseminated Agricultural Information Available

Types of Disseminated Agricultural Information	Available		Not Available		Total (%)	
	Freq	%	Freq	%	Freq	%
Information on storage techniques	37	24.7	113	75.3	150	100
Information on disaster management	54	36	96	64	150	100
Information on seed selection	102	68	48	32	150	100
Information on access to bank loan	31	20.7	119	79.3	150	100
Information on market prices	142	94.6	8	5.4	150	100
Information on fertilizer application	111	74	39	26	150	100
Information on livestock production	51	34	99	66	150	100
Information on poultry production	63	42	87	58	150	100
Information on crop production/ protection	60	40	90	60	150	100
Information on improved seed variety	46	30.7	104	69.3	150	100
Information on soil fertility and land degradation	66	44	84	56	150	100
Information on planting period	116	77.3	34	22.7	150	100
Information on Weeding period	135	90	15	10	150	100
Information on Harvesting period	135	90	15	10	150	100
Information on Pest and disease control	10	6.7	140	93.3	150	100
Information on Plant disease	62	41.3	88	58.7	150	100

Information on Desertification	54	36	96	64	150	100

Table 1 showed that 142(94.6%) respondents indicated information on market prices had the highest score of the most available information provided for them, by 135(90%) indicated information on weeding period and information on harvesting period, 116(77.3%) indicated information on planting period, 111(74%) indicated Information on fertilizer application, 102(68%) indicated Information on seed selection respectively. While, 140(6.7%) respondents indicated information on pest and disease control had the least score. Where other information like information on storage techniques, information on access to bank loan, information on disaster management, on livestock production, crop protection, soil fertility, land degradation and desertification, information on improved seed variety were rated below 50% percent by the respondents. From the result, it is deduced that majority of Bomo rural farmers are only aware of the availability of information on market prices, information on weeding period, information on harvesting period, information on planting period, fertilizer application and information on seed selection. This was in agreement with the study of Tadesse, (2015), who found out in their study that agricultural information such as crop production and protection, animal production and management, and natural resource production and conservation were not fully made available for the farmers.

Types of Disseminated Agricultural Information used by Bomo Rural Farmers of Sabon Gari Local Government Area (L.G.A), Kaduna State

Respondents were requested to select from the options available in table 2 below.

Table 2: Types of Agricultural Disseminated Information Used

Types of Disseminated Agricultural Information Used	**Use**		**Not Use**		**Total (%)**	
	Freq	**%**	**Freq**	**%**	**Freq**	**%**
Information on farm management	92	61.3	58	38.7	150	100
Information on storage techniques	106	70.7	44	29.3	150	100
Information on disaster management	55	36.7	95	63.3	150	100
Information on seed selection	110	73.3	40	26.7	150	100
Information on access to bank loan	51	34	99	66	150	100
Information on marketing	135	90	15	10	150	100
Information on fertilizer application	104	69.3	46	30.7	150	100

Information on livestock production	50	33.3	100	66.7	150	100
Information on poultry production	90	60	60	40	150	100
Information on crop production/protection	65	43.3	85	56.7	150	100
Information on improved seed variety	103	68.7	47	31.3	150	100
Information on soil fertility and land degradation	18	12	132	88	150	100
Information on planting period	111	74	39	26	150	100
Information on Weeding period	140	93.3	10	6.7	150	100
Information on Harvesting period	135	90	15	10	150	100
Information on Pest and disease control	101	67.3	49	32.7	150	100
Information on Plant disease	89	59.3	61	40.7	150	100
Information on Desertification	54	36	96	64	150	100

Table 2 revealed that 140(93.3%) indicated information on weeding period; followed by 111(74%) indicated information on planting period; 101(67.3%) indicated information on pest and disease control; 92 (61.3%) respondents used information on farm management; followed by 110 (73.3%) of the respondents indicated Information on seed selection; 135 (90%); 89 (59.3%) indicated information on plant disease. While, the following disseminated agricultural information such as information on disaster management; information on access to bank loan; information on livestock production; information on crop production/protection; information on soil fertility; on land degradation and information on desertification were rated below fifty percent by the respondents of the study area. The table clearly proved that the Bomo rural farmers used information on farm management, storage techniques, seed selection, marketing, fertilizer application, poultry production, improved seed variety, planting period, weeding period, harvesting period, pest and disease control and plant diseases more often than other information relating to agriculture. This was line with the study of Oyindeinbofa (2017) who found out that fertilizer; agriculture methods of farming, improved seeds, pest control crops in high demand, marketing of crops, and storage methods were the most used by farmers.

Purpose for Using Disseminated Agricultural Information by Bomo Rural Farmers of Sabon Gari Local Government Area (L.G.A), Kaduna State

Respondents were requested to select from the option available on the questionnaire the Purpose for Using Agricultural Disseminated Information. The data was analysed in the table 3 below.

Table 3: Purpose for Using Disseminated Agricultural Information

Purpose for Using Disseminated Agricultural Information	Effective		Fairly effective		Not effective		Undecided		Total	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Improved my knowledge of farming	115	76.7	25	16.7	3	2	7	4.7	150	100
Increase awareness & adoption of innovation	97	64.7	40	26.7	5	3.3	8	5.3	150	100
Increased my income	121	80.7	15	10	3	2	11	7.3	150	100
Improved my skill in operating farm equipments and machineries	89	59.3	31	20.7	17	11.3	13	8.7	150	100
Brings confusion into already known practices.	19	12.7	16	10.7	101	67.3	14	9.3	150	100
Increase my Agricultural output	87	58	35	23.3	10	6.7	18	12	150	100

Table 3 shows that 115 respondents (76.7%) agreed that the use of information on agriculture improve their knowledge of farming effectively, while 25 (16.7%) respondents indicated fairly effective, 3 respondents (2%) indicated that is not effective and 7 respondents (4.7%) are undecided. 97 respondents (64.7%) agreed that the use of information increase awareness and adoption of innovation effectively, while 40 respondents (26.7%) indicated fairly effective, 5 respondents (3.3%) indicated that is not effective and 8 respondents (5.3%) are undecided. 121 respondents (80.7%) agreed that effects of use of information on agriculture increase their income effectively, while 15 respondents (10%) indicated fairly effective, 3 respondents (2%) indicate not effective and 11 respondents (7.3%) are undecided. 89 respondents (59.3%) agreed that effects of use of information on agriculture improve their skills in operating farm equipments and machineries effectively, while 31 respondents (20%) indicated fairly effective, 17 respondents (11.3%) indicated not effective and 13 respondents are undecided. 19 respondents (12.7%) maintained that use of information on agriculture has effectively brings confusion into already known practice, while 16 respondents (10.7%) indicated fairly effective, 101 respondents (67.3%) indicated that is not effective and 14 respondents (9.3%) are undecided. 87 respondents (58%) confirmed that use of information on agriculture increase their agricultural output effectively, while 35 respondents (23.3%)

indicated fairly effective, 10 respondents (6.7%) maintained that is not effective and 18 respondents (12%) are undecided. This means that the use of information has actually improved the knowledge of farming, increase awareness and the adoption of innovation, increase the farmer's income, improve the farmer's skills in operating farm equipments and machineries and also increase their agricultural output. This was not in agreement with the study of Okringbo I.J. & Amaegberi H. (2023) who found out that Adaptive research trials are located in farmers field, Technology development activities keep pace with correct field practice, Extension agents participate in field research trial, Result Decision cut-off point among others.

Challenges encountered on Use of Disseminated Agricultural information by Bomo Farmers by Bomo Rural Farmers of Sabon Gari Local Government Area (L.G.A), Kaduna State

Respondents were requested to select from the option available on the questionnaire the Challenges encounter on use of information for agriculture. The data was presented and analyzed in table 4 below.

Table 4: Challenges encountered for the Use of Disseminated Agricultural Information

Challenges	Agree		Disagree		Total	
	Freq	(%)	Freq	(%)	Freq	%
Inadequate fund	136	90.7	14	9.3	150	100
Improper awareness	105	70	45	30	150	100
Incomplete/irrelevant information	89	59.3	61	40.7	150	100
Language barrier/understanding	97	64.7	53	35.3	150	100
Inadequate facilities/professionals	92	61.3	58	38.7	150	100
Limited access to current/relevant information	73	48.7	77	51.3	150	100
Poor documentation, storage and retrieval techniques	133	88.7	17	11.3	150	100
Lack of enough and timely information content	114	76	36	24	150	100

Table 4 shows that 136 respondents (90.7%) agreed that inadequate funds is one of the Challenges on the use of disseminated agricultural information, 105 respondents (70%) confirmed that improper awareness is among the Challenges in use of disseminated agricultural information, 89 respondents (59.3%) confirmed that incomplete/ irrelevant information include the challenges in the use of disseminated agricultural information, 97 respondents (64.7%) confirmed that language barrier/ understanding is among the Challenges in the use of disseminated agricultural information, 92 respondents (61.3%) confirmed that inadequate facilities/professionals include the Challenges in the use of disseminated agricultural information, 73 respondents (48.7%) confirmed that limited access to

current/relevant information is a Challenge in the use of use of disseminated agricultural information, 133 respondents (88.7%) confirmed that poor documentation, storage and retrieval techniques is also a Challenges in the use of use of disseminated agricultural information, 114 respondents (76%) agreed that lack of enough and timely information content is a Challenges in use of use of disseminated agricultural information. While less than 50% of the respondents indicated that they disagreed with the challenges in the table above. From the above table, it could be deduced that all the challenges listed are barrier to use of disseminated agricultural information by Bomo farmers except "limited access to current/relevant information" which slightly scores below average. These findings are in consistent with Madukwe and Ozor (2012) who pointed that the major constraint to effective agricultural information sourcing in Nigeria include; weak linkages with agricultural research institute, poor staff mobility system, inadequate and unqualified staff, and weak financial support and lack of current/inadequate information content.

Conclusion

It is concluded that while there are benefits derived from information, data shows that small scale farmers encountered a number of problems in accessing and using information on agriculture. In addition while farmers play an important role in rural areas, most of them lack resources such as information technology, and knowledge to assist them to increase productivity in farming. As a consequence, majority of farmers are not empowered to achieve food security and alleviate poverty because they had no access to information on new farming methods that could enable them increase crop production and cater for their families in food security, thereby limiting chances of improving their status. Furthermore, rural farmers faced a lot of problems in the process of performing their activities due to lack of timely information. Farmers therefore underperformed. In addition, information sources rural farmers used did not enable them to get adequate and reliable information and access to information was hampered by various factors. There is need to impart knowledge and skills along with appropriate technology to inform farmers on new farming practices to improve food production and security. Finally, rural farmers should be provided with adequate and timely information on agricultural best practices, operation, and water irrigation, among others, as a means to eliminating hunger and poverty.

Recommendations

1. It is recommended that information providers should be more proactive and regularly strive to devise strategies for satisfying the information needs of farmers by making information available more on demand and in anticipation through various formats. This can be a basis for setting up information systems which can satisfy information needs of farmers and lay appropriate strategies to deliver information on agriculture in appropriate formats, languages which is crucial in productive farming.

2. It is further recommended that information centers such as libraries should collect, store, and disseminate information on proper farming methods from relevant organizations and get involved in its distribution so as to provide a timely access and proper use of agricultural information. This should be done in collaboration with other rural information providers and staffed by professionals who can do research, and educate farmers on issues such as improved farming methods.
3. Effective dissemination of new and existing technologies requires a combination of various appropriate dissemination channels that are gender sensitive. Integration of ICT, especially the use of mobile phones in extension is a potential disseminating channel which when effectively used, can create a significant impact. Other ICT platforms like internet can also be used to improve delivery of agricultural information. However, adoption of such technologies requires adequate capacity building for both extension staff and the end users (farmers).

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