

**PROVISION AND DISSEMINATION OF AGRICULTURAL INFORMATION A CASE
STUDY OF COLLEGE OF AGRICULTURE LIBRARY, MOKWA, NIGER STATE,
NIGERIA**

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Abstract

This study investigated the provision and dissemination of agricultural information in college of agriculture library, Mokwa. The study adopted case study research design. A total of eight (8) copies of the questionnaire were distributed and returned for used. The instruments used for data collection were checklist and questionnaire. Data collected were analysed using frequency counts and percentages. Findings showed that indexing and abstracting journals, fact sheets, Internet services etc were not available; ICTs based information dissemination models such as Web portal, Voice-Based service, etc were not in use in the Library. The study recommended that Management of the agricultural library under study should acquire agricultural information resources such as indexing and abstracting journals, fact sheets, Internet services and e-library, electronic resources such as e-books, e-journals, and make use of latest technologies such as ICTs based information dissemination models, Smart Phones, CD-ROM, Radio, etc to disseminate agricultural information to their patrons.

Keywords: Agricultural Information; College of Agriculture; Dissemination; Library; Provision, Mokwa; Niger State; Nigeria.

Introduction

Library is vital as information plays a crucial role in agriculture as this would help to boost agricultural productivity for sustainable development. Information is needed for individual growth and development and by extension societal growth and transformation. It is required for personal, social or work related activities of individuals and for the development of societies and states (Ekoja, 2010). Agriculture is a major source of livelihood in Nigeria. Agricultural productivity can be doubtlessly augmented by relevant, reliable and useful information and knowledge. Agriculture sector thrives on the basis of availability of relevant agricultural information that is associated with the needs of those in the agricultural sector. The dissemination of agricultural information is very crucial to agricultural productivity of farmers because it is only through this means that they can learn innovations which can improve their productivity (Sanusi, Peti-Ibikunle and Mshelia cited in Amaechi and Ossai-Onah, 2015).

Functions of Agricultural Libraries

Agricultural libraries, according to Aguolu (2000) derive their functions from the objectives of their parent institutions. They are established to play an important role in the achievement of the training or research objectives of their parent institutions through the provision and dissemination of agricultural information. They play this role by performing the following functions or activities. Aguolu (2000, p117) further outline the functions of agricultural libraries as:

- Collection, organisation and provision of information materials in general agriculture or particular area of specialisation as well as allied subjects.
- Receiving and disseminating technical reports and information.
- Reference, queries services, inter-library loan service.

- Literature search
- Current awareness services such as distribution of accession lists, content pages of journals, selective dissemination of information (SDI) service.
- Provision of photocopying service.

The college library, Mokwa, Niger State which started as a reading room at the establishment of the college in 1979 has grown to a magnitude of what is obtainable in any higher institution of learning in the country. In order to ensure effective dissemination of agricultural information, the library houses over six (6) thousand volume of books and periodicals.

Statement of the Problem

Information is an essential ingredient in agricultural development programmes all over the world. But in Nigeria stakeholders such as farmers seldom feel the impact of agricultural innovations either because they have no access to such vital information or because it is poorly provided and disseminated. The information provided is exclusively focused on policy maker's researchers and those who manage policy decisions with scanty attention paid to the information need of the largest beneficiaries of the policy decision. The non-provision of agricultural information is a key factor that has greatly limited agricultural development in developing countries, Nigeria for example. Over the years, government has established several agricultural colleges with supportive agricultural libraries. This has been to promote the study, teaching and research in agriculture. The colleges and their libraries are responsible to generate and disseminate agricultural information or knowledge to agricultural extension workers, researchers, teachers, students, farmers as well as to policy makers in government. Consequently, it has been observed that agricultural information is not adequately provided and disseminated to the

clienteles particularly in the study area. It is in the light of the above that, this study is carried out.

Objectives of the Study

The objectives of the study are to:

1. identify the types of agricultural information resources provided by the college of agriculture library, Mokwa;
2. ascertain the methods adopted for dissemination of agricultural information in college of agriculture library, Mokwa;
3. determine strategies of enhancing agricultural information dissemination in college of agriculture library, Mokwa.

Research Questions

The study is carried out to provide answers to the following questions:

1. What are the types of agricultural information resources provided by the college of agriculture library, Mokwa?
2. What are the methods adopted for dissemination of agricultural information in college of agriculture library, Mokwa?
3. What are the strategies for enhancing agricultural information dissemination in college of agriculture library, Mokwa?

Literature Review

Agricultural library collection or documentation centre are synonymous and mean a collection of knowledge materials, especially books, journals and reports pertaining to agriculture. The collection may be a definite entity, like in many agricultural research institutions, or within a library collection like that of a university library. Agricultural information can be in coded

(documented) form or uncoded (oral) form. The dissemination of agricultural information is vital to improve agricultural production because it is a media through which people get acquainted with new and better farming methods, fertilizers, improved seedlings, modern pest control measures, pesticides, herbicides and fungicides (Aguolu, 2000).

Zhang, Wang and Duan (2016) outline agricultural information dissemination models in China to include:

- Web Portal – a collection of relevant web sites to form one stop centers for users, e.g. Ministry of Agriculture Web Portal.
- Voice-Based Service – information dissemination through telephone, i.e. call centers, e.g. Liaoning 12316 Golden Farming Hotline.
- Text (SMS)-Based Service – information dissemination through text message of mobile phones. This service is normally jointly operated by agriculture sector and telecom service providers, e.g. Hunan Agri-Telecom Platform.
- Self-Support Online Community – information services provided by a community to its members. This is a membership based system involving all stakeholders. Members share experience and exchange information through interactive service platforms, e.g. farmers Mailbox in Zhejiang Province.
- Interactive Video Conferencing Service – using online multimedia technology to facilitate information service, e.g. Shanghai Farmers “One Click and Go” service, or Intelligent Farmers service.
- Mobile Internet - based Service – information dissemination through smart phone service, e.g. Agribusiness price information, E-news, etc.

- Unified Multi-Channel Service Model – utilizing multiple methods to effectively disseminate information through telephones, computers, and mobile phones., e.g. “3 in 1” service in Fujian.

Information is formidable bedrock and a pivot upon which any developmental activities including agricultural productivity are hinged. Surely there will be a better production of foodstuff for sustainable development in the nation. The growth and development of agriculture of any nation can be achieved with skilled and effective manpower through continuous increase in knowledge. Therefore, it is vital to have immediate access to innovations, transformations and the latest results of agricultural research information (Adamu, Babalola and Dogara, 2018).

This agricultural information, as suggested by Agbamu cited in Adamu, Babalola and Dogara (2018) refers to all published or unpublished knowledge in all aspects of agriculture. He classified agricultural information into four namely: technical, commercial, socio-cultural and legal information. However, for agricultural productivity to improve, farmers should have access to accurate and relevant information in order to facilitate prudent and adequate utilisation of agricultural information for sustainable development. According to Ozowa cited in Emmanuel, and Chuwang (2009), the scarcity of agricultural information is a bane or impediment to agricultural development in developing countries including Nigeria. The provision of agricultural information by agricultural libraries to rural farmers is significantly important to rural communities in developing countries of the world. It is equally important for farmers to be armed with the type of information that could alleviate poverty, boost their economic base and eventually enhancing their standard of living which could also be provided by the agricultural libraries. For instance, they need information on how to access loan/credit facilities, marketing strategies, export opportunities and utilisation of organic matter in farming. The traditional

channels of providing or disseminating information to the farmers seem to have minimised the efficiency of production and also the output; this is because it is a single path flow of information. However, modern technology has the capacity to influence the efficiency of production and the output of crops farm by the farmers as it reflects double way flow of information with response just as it involves several stakeholders at a time especially the agricultural libraries (Ugwu cited in Adamu, Babalola and Dogara, 2018).

Modern technology such as Information and Communication Technology (ICT) is defined as a science of collecting and processing information, facts, values, skills, thoughts, texts, graphics, pictures, card sounds, news and all other forms of data in digital form for dissemination in both immediate and remote locations (Adamu, Babalola and Dogara, 2018). Similarly, Afolabi and Abidoye (2011) stressed that the development and availability of ICTs in the provision of library and information services have not only increased and broadened the impact of information resources but placed more emphasis on effective and efficient service. This is equally pertinent to farmers as agricultural information provision is essential for sustainable development of every nation including Nigeria.

Agricultural information provision and dissemination major stakeholders. Other stakeholders include extension workers, media professional and educational facilitators as they have to work hand in hand in multi-dimensional flow of information. According to Ugwu cited in Adamu, Babalola and Dogara (2018) there are many channels through which agricultural information can be provided or disseminated to farmers fastest of which is the use of ICT applications. He outlined further the various ICT applications to include: CD-ROM, global positioning system (GPS), smart cards, radio, digital television, digital personal assistants (DPAs) and mobile phones etcetera. Adamu, Babalola and Dogara (2018) posited that mobile phones are now the

transparent technology medium of communication which they identify short message services (SMS) as one of the commonest ways. SMS has become an extremely essential means to send and receive information. These short and simple messages are affordable, convenient, and usually free to receive. Other advantage of SMS is that it is possible to set up a system to deliver messages automatically to a large number of people at the same time. Mobile phones are also considered as the most viable device of disseminating agricultural information to farmers.

The development of Smart phones such as the blackberry, android and the iphone has made it possible for subscribers to begin to have access to the web. These smart phones are tools that provide access to the web over 3G (third generation) wireless networks. This will help farmers to access the web for agricultural information: even though it will require some level of literacy to understand the message. Dedicated Number with a Voice Activated Menu Option: - This is a kind of information service that farmers can use with the help of mobile phone to call a dedicated number to get advice on the best ways to grow a wide range of crops or to raise livestock. In kenya, this service is called Banana information line. This helps to provide farmers with specific information on a particular situation either in English or in their native language. Combined Service with other Technology: - Mobile phones are now used with other digital technologies to provide information to farmers in rural areas. For example, one can use mobile phones and geographic information system (GIS) based maps with global positioning system to discuss with other group herders about the availability of fresh pastures and water supplies and decide where cattle could be grazed in order to prevent overgrazing (Ugwu cited in Adamu, Babalola and Dogara, 2018).

Methodology

The case study research design was adopted for this study. A total of eight (8) library staff in College of Agriculture, Mokwa Library constitute the study population and sample. Questionnaire and checklist were the instruments used to elicit responses from the respondents. Data gathered were tabulated and analysed using simple frequency counts and percentages.

Result and Discussion

The results of the study are presented and analysed below:

Table 1: Distribution of the Respondents by Gender

S/N	Sex	Frequency	Percentage (%)
1.	Male	7	87.5
2.	Female	1	12.5
	Total	8	100

Table 1 reveals that out of 8 respondents, 7(87.5%) were males while 1(12.5) were female. This implies that, there is no equal gender representation in the library.

Table 2: Educational Qualifications of the Respondents

S/N	Educational Qualifications	Frequency	Percentage (%)
1.	Ph.D	-	-
2.	MLS or M.Tech.	1	12.5
3.	BLS or B.Tech.	1	12.5
4.	HND	-	-
5.	National Diploma (ND)	-	-
6.	Ordinary National Diploma (OND)	6	75
7.	SSCE	-	-
	Total	8	100

Table 2 reveals that out of 8 respondents, 1(12.5%) possessed Master's degree in library science, 1(12.5%) possessed First degree in library science while the remaining 6 respondents possessed Ordinary National Diploma in library science. This implies that majority of the library staff need to further their education to acquire first degree and above.

Table 3: Agricultural Information Resources Provided by Agricultural Library

S/N	Information Resources	Provided	Not Provided
1.	Textbooks	√	
2.	Journal article	√	
3.	Newspapers, Magazines, Pamphlets Newsletters and Leaflets	√	
4.	Pictures, Charts, Maps and Graphs	√	
5.	Conferences abstract and proceedings	√	
6.	Review articles	√	
7.	Indexing and abstracting journals		√
8.	Research reports/patents	√	
9.	Technical reports	√	
10.	Fact sheets		√
11.	Projects, theses and dissertations	√	
12.	Internet services and e-library		√
13.	Library catalogue	√	
14.	Electronic resources such as e-books, e-journals etc		√
15.	Audio-visual resources		√
	Total	10(66.7)	5(33.3)

Table 3 reveals that out of 15 items listed, 10(66.7%) of resources were provided in the agricultural library such as textbooks, journal article, newspapers, magazines, pamphlets, newsletter, leaflets, pictures, charts, maps graphs, conference abstract and proceedings, review articles, research report/patents, technical reports, projects and library catalogue while 5(33.3%) of resources were not available in the library such as indexing and abstracting journals, fact sheets, Internet services and e-library, electronic resources and audio-visual resources.

Table 4: Methods of Disseminating Agricultural Information

S/N	Methods	Yes (%)	No (%)	Total (%)
1.	Verbal and non-verbal methods (such as Meetings, Workshops, Conferences, Symposia, Lectures, Field trips, Agricultural shows etc.)	8(100)	-	8(100)
2.	Documented sources in the library (such as Books, Journals, Reports etc.)	8(100)	-	8(100)
3.	Reference services (such as Ready reference, Question and answer service, Directional, E-mail reference service, Collaborative Digital Reference Services (CDRS), Indexing and abstracting services, CAS, SDI etc.)	2(25)	6(75)	8(100)
4.	Use of ICTs based information dissemination Models such as Web portal, Voice-Based Service, Text (SMS) Based service, Self-Support Online Community Service, Interactive Video Conferencing Service etc. and Photocopying Machine	-	8(100)	8(100)
5.	Use of Smart Phones, Mass Media (via CD-ROM, Radio, Television, Newspapers, Film show, Computer show case, Pamphlets, Banners, Handbills, Handout etc.)	2(25)	6(75)	8(100)
6.	Outreach services such as Farmers home visit	3(37.5)	5(62.5)	8(100)

Table 4 reveals that majority of the respondents indicate that methods used for disseminating agricultural information include: verbal and non-verbal methods (such as meetings, workshops, conferences, symposia, lectures, field trips, agricultural shows etc.) with 8(100%), documented sources in the library (such as books, journals, reports etc.) with 8(100%). On the other hand, majority of the respondents indicate that methods not use include: reference services (such as ready reference, question and answer, e-mail reference service, etc.) with 6(75%), use of ICT based information dissemination models (such as web portal, voice-based service, etc) with 8(100%), use of smart phones, mass media, etc with 6(75%) and outreach services such as home visit with 5(62.5%).

Table 5: Strategies for Enhancing Dissemination of Agricultural Information

S/N	Strategies	Yes	%	No	%	Total	%
1.	Provision of relevant and current documented sources in the library	8	100	-	-	8	100
2.	Provision of ICTs based information dissemination models such as Web portal service, Voice-Based service, Text (SMS) Based service, Self-support online community service, Interactive video conferencing service, etc. and photocopying machine in the library	8	100	-	-	8	100
3.	Organising workshops, conferences, symposia, lectures, agricultural show for stakeholders	8	100	-	-	8	100
4.	Provision of reference services (such as Ready reference, Question and answer service, Directional, E-mail reference service, Collaborative Digital Reference Services (CDRS), Indexing and abstracting services, CAS, SDI etc. in the library)	8	100	-	-	8	100
5.	Outreach services such as paying timely visit to farmers and other patrons	7	87.5	1	12.5	8	100
6.	Use of Smart phones, mass media (via CD-ROM, radio, television, newspapers, film show, computer show case, pamphlets, banners, handbills, handouts etc.)	8	100	-	-	8	100

Table 5 reveals that majority of the respondents agreed that all the items listed in the table above should be provided to enhance efficient and effective dissemination of agricultural information in agricultural libraries as all the responses were positive (i.e. above 50%).

Discussion of the Findings

The findings reveals that indexing and abstracting journals, fact sheets, Internet services and e-library, electronic resources and audio-visual resources were not available in College of Agriculture Mokwa Library. The impacts of the lacking of these resources are obvious. This would lead to inefficiency and ineffectiveness in achieving the aims and objective of the college and the entire educational system in Niger State and Nigeria at large. The non-availability of these resources in the college library could be due to the fact that computer resources and ICT facilities are much more complex and expensive to purchase, handle and access in comparison to printed and other materials.

The study reveals that majority of the respondents indicate that methods not in use in dissemination of agricultural information include the followings: Reference services (such as Ready reference, Question and answer service, Directional, E-mail reference service, Collaborative Digital Reference Services (CDRS), Indexing and abstracting services, CAS, SDI etc.) Use of ICTs based information dissemination models such as Web portal, Voice-Based service, Text (SMS) Based service, etc.) and visit to farmers in their home villages. This study is in line with the study of Maness cited in Lamptey, Sambo and Hassan (2016) who opined that information dissemination can refer to the distribution of information by libraries to their users.

The study reveals that majority of the respondents agreed that all the strategies listed should be provided to enhance efficient and effective dissemination of agricultural information in agricultural libraries. These include: Provision of relevant and current documented sources in the library, provision of ICTs based information dissemination models such as Web portal services, Voice-Based services, Text (SMS) Based services, etc. and photocopying machine in the library,

organising workshops, conferences, agricultural show etc. Paying timely visit to farmers and other patrons and use of mass media (via CD-ROM, radio, television, newspapers, films show, computer show case, pamphlets, banners, handbills, handouts etc.).

Conclusion

The essence of agricultural libraries are to provide and disseminate agricultural information to users on demand and as when due. These enable librarians in agricultural libraries to play the role of information providers especially on the latest discoveries in agriculture which would help farmers to produce farm crops at their optimum for sustainable development. The study highlighted the importance of technology applications in providing and disseminating agricultural information with emphasis on mobile phones as one of the viable techniques of information provision and dissemination to rural farmers. Farmers can now receive information that could enhance their productivity in terms of goods produced and how such goods could be preserved for a long period of time. The college of agriculture library, Mokwa needs to adopt the use of ICTs applications in providing and disseminating information to the patrons especially the farmers on the new innovations in the field of agriculture.

Recommendations

1. Management of the agricultural libraries should acquire agricultural information resources such as indexing and abstracting journals, fact sheets, Internet services and e-library, electronic resources such as e-books, e-journals and audio-visual resources.
2. Management of agricultural libraries should adopt the method of use of latest technologies such as Smart Phones, ICTs based information dissemination models, CD-

- ROM, Radio, Television, Computer show case etc. Other methods like reference services and outreach services (i.e. paying home visit to farmers and other patrons).
3. Management of the agricultural libraries should employ the strategies for enhancing dissemination of agricultural information such as provision of relevant and current documented sources in the library, provision of ICTs based information dissemination models, provision of reference services, use of mass media and outreach services such as paying timely visit to farmers and other patrons.

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