Availability of Information Resources for Research in Agricultural Research Institutes (ARI) in Nigeria

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Abstract

The study was carried out to investigate the availability of information resources for research in Agricultural Research Institutes (ARIs) in Nigeria. It was observed that despite the establishment of eighteen (18) ARIs in different parts of the country, charged with the responsibility of undertaking research into various aspects of agriculture, it seems Nigeria cannot feed its teeming population without resorting to importation. The descriptive survey research method was used for the study. The total population of the study was 1002 agricultural researchers out of which 200 was sampled using certified proportionate sampling technique which provide that 20% of the respondents from each stratum (ARI) is enough for a study made up of 1000 and above. An observation checklist was used to determine the types of information resources available in the libraries covered by the study. In addition to that, the questionnaire was used to determine the adequacy of the available information resources. The questionnaire was administered and retrieved using one trained research assistant from each research institute. Data gathered was analysed using descriptive statistics showing table of availability for research question 1 and frequency counts and percentages for research question 2. Research question 3 was analysed based on the real limits of nominal values of the responses by researchers. The findings of the study showed that (100%) of the libraries have eleven (11) types of information resources in their stock, mostly in print format while availability of other types of information resources varied from library to library. It was also revealed that available information resources in print format were mostly outdated and inadequate. The result of the study also showed that inadequate funding of research libraries, lack of enough qualified librarians to provide, process and make available information resources, availability of required information resources locally, and high exchange rate, among others were factors militating against the provision of information resources. Based on the findings, it was recommended that the Federal Government should improve the funding to all ARIs in Nigeria with a directive that at least 20% of allocations to them be spent on the development of research libraries and acquisition of current, relevant and adequate information resources in all formats.

Introduction

The Federal Government of Nigeria foresaw a situation of diminishing returns in depending on a single source of revenue earning. To curtail the looming disaster this may cause the entire nation, the government prepared for alternative sources of revenue earning. One of these sources is agriculture which proved positive and reliable before independence and the 60s because it served as a major source of revenue earning before the exploitation and wholesale dependence on petroleum products. The choice of agriculture as one of the major sources of alternative revenue drive led to the establishment of 18 Agricultural Research Institutes (ARI) in various parts of the country as highlighted by Daily Trust (2012). These ARIs were charged with the responsibility of conducting research in all ramifications of agriculture so as to come out with results that could improve the practice and output of and from the sector. The thought was that if these institutes succeed in their primary responsibility, Nigeria could produce enough agricultural products not only to feed its

teeming population and industry but also have excess to export, as witnessed with the production of cocoa, cotton, groundnut, palm oil and leather and skin in the early years of its independence.

The establishment of the ARIs, according to Bitagi (2014) led to the establishment of agricultural libraries by the managements of the institutes. The idea was to provide the basis for greatly improving the quality of research in agriculture such that agricultural development in Nigeria could be at par with those of developed nations. The author further argued that the libraries were established to provide supplementary current, relevant and adequate information resources to facilitate and enhance the attainment of the objectives for which the institutes were established. The provision of current information resources would also make it possible for agricultural scientists in ARIs to have access to current agricultural practices and development of other countries across the world.

Agriculture has to do with farming in general terms. However, in relation to this research, it could be regarded as a profession of those who specialize in farming or husbandry. It therefore means the cultivation of animals, plants, fungi and other things for food, fibre, bio-fuel, and other products used to sustain human life. Iwena (2008) corroborated this view when the author observed that agriculture is the deliberate effort made by man to till the soil, cultivate crops, and rear animals for food and other purposes.

Information has recently been defined in a variety of ways by many scholars. Relevant to this study however, is the definition of Longley and Shain (1989) which defined information as knowledge unknown to the receiver prior to its receipt. Information according to these authors can be derived by data that is accurate, timely, relevant and unexpected. This definition points to the fact that information is a completely new idea that comes to the receiver for the first time. Similarly, Ogundana (2000) defined information as the communication of news, knowledge; a fact or facts told or communicated; knowledge obtained by search and study. Irrespective of the way and manner information is defined, the definitions point to the same direction but expressed differently. One thing that is fundamental though, is that information is an essential resource to which individuals in every society should have unimpeded access. This is because people need information so as to play their respective roles in the society and to live a meaningful life. With this in mind, the emphasis is that every member of the society, and particularly in the present circumstance, the agricultural scientists or researchers in ARIs in Nigeria should have free access to information pertaining to their respective duties of research so that they could perform effectively.

Information resources are all the library materials which the librarians rely upon to provide the information services that meet the information needs of the researchers in ARIs in Nigeria. Information sources in the context of this research therefore, include those that are classified into print and non-print formats. These, according to Aina (2004) include technical journals, current textbooks, theses and dissertations etc and Information and Communication Technology (ICT) facilities which provide and or store required information for researchers in ARIs to meet their information needs for research in various aspects of agriculture. The necessity of providing these resources is to serve as basis for the researchers to know the researches that had been carried out in agriculture elsewhere so as to improve upon those ideas that are relevant to Nigerian situation and abandon those that are not. It would also facilitate the avoidance of duplication of research efforts by researchers and thus saves their time. However, due to factors that may be determined by this research the ARIs libraries have been observed to be ill equipped in performing their major responsibility of providing adequate and current information resources both in print and non-print formats and in the desired quantity and quality.

Availability of information resources in the context of this research is the extent to which current, relevant and adequate information resources such as technical journals, textbooks, reports, theses and dissertations, and internet facilities etc are provided for utilization for research by the libraries of ARIs in Nigeria. In respect to this however, Kaniki (1988) observed that the impact of research in agricultural production in Nigeria has been at its very low ebb due to inadequate supply of information resources to agricultural scientist for research.

Research has been defined in a variety of ways by different authors. In relation to this research however, Ifidon and Ifidon (2008) defined research as man's systematic and empirical investigation into existing but hidden elements in nature with the view to unearthing, restructuring and explaining such elements for the purpose of development. Based on this definition, this author is of the view that research in the context of this research, has to do with carrying out systematic and empirical investigations into new methods of farming, production of appropriate chemicals and seed varieties that will aid high yield in agricultural products using information resources as necessary ingredients.

Statement of the Problem

Availability of information resources for research in ARIs in Nigeria is of great importance for the researchers to carry out investigations into new methods of farming and production of appropriate chemicals and seed varieties that will aid high yield of agricultural products. This has become imperative because despite the establishment of eighteen ARIs in different parts of the country, charged with the responsibility of undertaking research into various aspects of agriculture, it seems Nigeria cannot feed its teeming population without resorting to importation. Development of the agricultural sector seems to be stagnant as most of the agricultural produce needed for food and industry are met through importation. Most farmers were observed to be practicing the traditional methods of farming and using seeds derived from previous harvests.

From the above analysis, the question to ask is what could be responsible for these problems. Could it be as a result of lack of adequate funding of the agricultural research institutes' libraries and inadequate supply of required current information resources. The knowledge of the answers to these questions creates a gap in knowledge. Hence, the need to investigate the availability of information resources for research by scientists in ARIs in Nigeria in order to fill the gap so created.

Objectives of the Study

The general purpose of the study is to determine the information resources availability for research in ARIs in Nigeria. The specific objectives are to:
1. Identify the types of information resources that are provided by the libraries of ARIs in Nigeria for scientists' utilization for research.
2. Find out the adequacy of the available information resources provided by the libraries of ARIs for research by scientists in ARIs in Nigeria.
3. Identify the factors militating against the provision of information resources for research by scientists in ARIs in Nigeria.

Literature Review

Ikhizama (2004) investigated information resources for agricultural development: the role of agricultural research institutes libraries in Nigeria. The findings of the study revealed that information resources of books and journals were inadequate as 94.7% of the libraries relied on

donations as method of acquisition of materials. The result of this study, to some extent is an indication that most of the information resources gathered by ARIs in Nigeria may not only be inadequate but also outdated and unrelated. This view is based on the fact that most information materials donated by donors especially from abroad are either already over used or even contain information that may not be relevant to the current realities of agricultural development in Nigeria. Unfortunately, the sponsors of agricultural research, through ARIs seem not to be doing enough to equip their libraries with adequate, current and relevant information resources.

Oji (2010) examined the availability, adequacy and use of library resources in tertiary institutions in Bauchi metropolis, Nigeria. The study discovered that library resources of periodicals, indexes or abstracts, books, non-print (films, video, audio etc) government publications were inadequate. ARIs in Nigeria, being academic institutions also, cannot be divorced from the findings of this study. The situation painted by the above finding could be as a result of several factors. The topmost of these could be lack of parent institutions' interest or willingness to the development of libraries which they agreed to establish in order provide supplementary information resources and services so as to achieve the broad and specific objectives for which the institutions were established. Oji (2010) concurred with this view when the author cited Ogunrobi, Ekoja and Oji as having observed that despite the fact that Nigeria enjoyed an economic boom in the late 1960s and early 70s, its libraries have always lived with austerity from 1960s until today. The authors cited continue to posit that the reason for this is that libraries (in Nigeria) are given little priority in relation to other economic and social services. In addition to this, Oji (2010) discovered major factors militating against the availability of information resources to include high inflation rate, inadequate bibliographic tools and poor funding from parent or sponsoring organizations or institutions.

Aziagba and Umeazor (2008) in a study, contributed to the factors militating against availability of information resources in libraries in Nigeria. According to the authors, principal among factors militating against provision of information resources such as Information and Communication Technology (ICT) is funding. In view of that, Bitagi (2014) argued that funding of Nigerian libraries and especially those in ARIs, could therefore, be regarded as the mother of all problems militating against most library development since it is required at all levels.

Salo and Ibeum (2006) investigated the assessment of the preparedness of some research institutes libraries in meeting modern challenges in information provision in the 21st century. The authors from the onset recognized that access to current information has been described as the most important ingredient to a successful research output. The finding of their study however, revealed that about 60% of the research institutes' libraries in Nigeria are short staffed and poorly equipped in terms of books, journals and Information and Communication Technology (ICT) resources. Their study further discovered that some of the libraries were found to subscribe to journals last in 1997 and that staff were not well trained to provide services with evolving modern technology facilities. In view of these situations, their study concluded that Nigerian agricultural libraries were not well equipped for information dissemination in the 21st century which according to the authors is occasioned by lack of funds to acquire needed information resources.

Similarly, Obasuyi (2006) carried out a research on the impact of computer and internet applications on National Agricultural Research Institutes (NARIS) library services. The results from the analysis of data revealed that all the libraries were in possession of only 19 computers with NIFFR and IAR&T having the highest number of 4 and 3 respectively. In addition to that, it was also discovered that only one library at IAR&T has full computerization. The study discovered that several constraints were militating against the effort to computerize these libraries. In the forefront

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of these are lack of adequate funding of the libraries, inadequate trained manpower and lack of computer infrastructure, among others. Even though the situation discovered above may have changed since 2006, it is observable that most agricultural research libraries in Nigeria are still observed to be ill-equipped in terms of adequate, current and relevant information resources. This is coupled with lack of adequate trained manpower and the unwillingness of parent institutions and sponsors of agricultural research- the Federal Government of Nigeria, to give agricultural libraries the backing they desire to prove their worth.

Research Methodology

The descriptive survey research method was used for this study. Nworgu (2006) described descriptive survey research method as that which aim at collecting data on, and describing in a systematic manner, the characteristics, features or facts about a given population. The descriptive survey research method is therefore, relevant to this study because the aim of the researcher is to collect data on, and describe the systematic manner in which information resources are provided by the libraries of ARIs in Nigeria for scientists' utilization for research. The population of the study was 1002. The sample of the study is 200. The selection of 200 was based on the certified proportionate technique of where 20% of 1002, which is the total population of all scientists in ARIs were selected. Nworgu (2006) recommended that the sample size in each stratum, for example, Agricultural Research Institute, will be made up of 20% of the population in that stratum. The questionnaire, observation and observation checklist were used to gather the required data for the study. Data gathered were analyzed using descriptive statistics showing tables of availability for objective 1 while frequency counts and percentages were used for objective 2 in order to effectively measure the response of each respondent. Objective 3 was analysed based on the real limits of nominal values of the responses by researchers.

Data Presentation
Table 1: Response Rate

Questionnaire Administered	Questionnaire Returned	Percentage
200	179	90%

Table 1 shows that 200 questionnaire were administered and 179 representing 90% were

returned and found usable.

Table 2: Types of information resources in agricultural research Institutes libraries in Nigeria for scientists' utilization for research

S/N	Information Resources	Agricultural Research Institute in Nigeria																Total	%
		LACRI	FRIN	CRIN	NIHROT	RRIN	NIOM	NAERLS	IAR	NAPRI	NSPRI	IITA	NIOPR	NROCRI	NIFFR	NVRI	IAR&T		
1.	Textbook/Manuals	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
2.	Journals	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
3.	Annual Reports	0	1	0	1	0	1	1	0	0	0	0	0	1	1	0	0	6	37.5
4.	Newspapers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
5.	Bulletins	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
6.	Magazines	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
7.	Maps	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	12.5
8.	Government Documents	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	4	25
9.	Memos	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	3	18.8
10.	Atlases	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	12.5
11.	Encyclopedias	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
12.	Dictionaries	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
13.	Directories	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
14.	Handbooks	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
15.	Yearbooks	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	12.5
16.	Conference Proceedings	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
17.	Technical Reports	0	0	0	0	0	1	1	0	0	0	1	0	0	1	0	0	4	25
18.	Theses/Dissertations	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3	18.8
19.	Stand Alone Computers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	16	100
20.	CD ROM	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3	18.8
21.	Internet Services/Materials/Documents	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3	18.8
22.	Telephone	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	3	18.8
23.	Preprints	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.	Television	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2	12.5

0

Key no. 1: 0= Not Available 1= Available

Key no. 2: LACRI=Lake Chad Research Institute; FRIN=Forestry Research Institute of Nigeria; CRIN=Cocoa Research Institute of Nigeria; NIHORT=National Horticulture Research Institute; RRIN=Rubber Research Institute of Nigeria; NIOM=Nigerian Institute of Oceanography and Marine Research; NAERLS=National Agricultural Extension Research and Liason Services; IAR=Institute for Agricultural Research; NAPRI=National Animal Production Research Institute; IITA=International Institute of Tropical Agriculture; NIOPR=National Institute for Oil Palm Research; NIFFR=National Institute for Freshwater Fisheries Research; NVRI=National Veterinary Research Institute; IART=Institute for Agricultural Research and Training.

Table 2 shows that all ARIs' libraries (100%) have 11 types of information resources in their stock. These include textbooks/manuals, journals, newspapers, bulletins, magazines, encyclopedias, dictionaries, directories, handbooks, conference proceedings and Stand- Alone computers. The table further reveals that the research institutes' libraries vary in the collection of other types of information resources for research. For example, 6 (37.5%) of the agricultural libraries have annual reports while two groups of 4, (25%) each of the libraries have government documents and technical reports respectively. The table further shows that five groups of 3, (18.8%) each of the libraries has memos, theses/dissertations, CD-ROM, internet services/materials/documents, and telephone types of information resources respectively. Similarly, four groups of 2, (12.5%) each of the libraries have maps, atlases, yearbooks, and television in their collection respectively while none (0%) of the libraries has preprints.

Comparatively, Table 2 shows that the Nigeria Institute of Oceanography and Marine Research and International Institute of Tropical Agriculture had the highest 23, equivalent to 95.8% of the information resources provided by their libraries. These were distantly followed by the National Root Crop Research Institute and National Institute for Freshwater Fisheries Research with 14, equivalent to 58.2% of the required information resources provided by their libraries. The National Agricultural Extension Research and Liaison Services. Nigerian Stored Products Research Institute closely followed these with 13 each of the types of information resources provided by their libraries. This represents 54.2% of expected information resources provided by these libraries. The Forestry Research Institute, National Horticulture Research Institute and Institute for Agricultural Research with 12 types of information resources provided each by their libraries representing 50% of the expectations from them, respectively. All the other research institutes have below average of the information resources expected to be provided by their libraries. Their collections amounted to 11 which is equivalent to only 45.8%.

The analysis above is an indication that more efforts need to be put in place to provide adequate, current and relevant information resources in ARIs' libraries in Nigeria.

Table 3: The adequacy of information resources in the libraries of Agricultural Research Institutes for scientists' utilization for research.

S/N	Information Resources	Adequate	%	Inadequate	%	Total %
1.	Textbooks/Manuals	3	2	176	98	100
2.	Journals	2	1	177	99	100
3.	Annual Reports	62	35	117	65	100
4.	Newspapers	165	92	14	8	100
5.	Bulletins	95	53	84	47	100
6.	Magazines	82	46	97	54	100
7.	Maps	10	6	169	94	100
8.	Government Documents	78	44	101	56	100
9.	Memos	25	14	154	86	100
10.	Atlases	4	3	175	97	100
11.	Encyclopedias	47	26	132	74	100
12.	Dictionaries	45	25	134	75	100
13.	Handbooks	50	28	129	72	100
14.	Yearbooks	31	17	148	83	100
15.	Conference Proceedings	8	5	171	95	100
16.	Technical Reports	7	4	172	96	100
17.	Directories	15	8	164	92	100
18.	Theses/Dissertations	12	7	167	93	100
19.	Stand Alone Computers	2	1	177	99	100
20.	Internet Services/Materials/ Documents	5	3	174	97	100
21.	CD ROM	6	4	173	96	100
22.	Telephone	20	11	159	89	100
23.	Preprints	15	8	164	92	100
24.	Television	18	10	161	90	100

Table 3 reveals an awesome assessment of the available information sources in the libraries of ARIs in terms of their adequacy (quantity, currency and relevance). Majority of the respondents viewed available information resources as inadequate. For example 177 (99%), 176 (98%), 175 (97%), 174 (97%), 173 (96%), 172 (96%), 171 (95%) of the respondents viewed journals, stand computers, textbooks/manuals, atlases, internet services/materials/documents, CD ROM, technical reports and conference proceedings among others as inadequate. An observation carried out by this researcher equally discovered that most available information resources, especially those in print formats were grossly inadequate. The highly rated information resources by the respondents represented the core required for effective agricultural research. Only newspapers were rated as adequate by majority of respondents, 165 (92%). Though partially relevant, newspapers are inconsequential to effective agricultural research.

Table 4: Mean ratings and standard deviations of respondents on the factors militating against availability of information resources for research by scientists in Agricultural Research Institutes in Nigeria (N179)

S/N	Problem Statements	$\bar{x}$	SD	Decision
1.	Inadequate funding of the library	2.83	1.02	Agree
2.	Lack of enough qualified librarians to provide, process and make available needed information resources	2.90	1.03	Agree
3.	The library does not share its information resources with sister research libraries	2.50	1.08	Agree
4,	The library is too small to accommodate reasonable amount of information resources	2.57	1.02	Agree
5.	The federal government and parent institutes are not giving enough support to the development of research libraries	2.85	1.98	Agree
6.	High inflation rate and cost of information resources	2.83	1.02	Agree
7.	Unavailability of required information resources locally	2.58	1.03	Agree

Table 4 is a reflection of the agreement with all the factors identified to be militating against availability of adequate information resources for research by scientists in ARIs in Nigeria. The scientists agreed that lack of enough qualified librarians to provide, process and make available needed information resources (2.90), the federal government and parent institutes are not given enough support to the development of research libraries (2.85), inadequate funding of the libraries (2.83), high inflation rate and cost of information resources (2.83), unavailability of required information resources locally (2.58), the library is too small to accommodate reasonable amount of information resources (2.57) and the library does not share its information resources with sister organizations are major factors militating against availability of information resources for research. There is also a close range of standard deviation scores indicating close agreement in the respondents' opinions.

Discussion of the Findings

The findings of the study in Table 2 showed that majority of the types of information resources available in the libraries of ARI were in print format while those in non-print were not adequately provided. Even with the availability of printed types of information resources, most of them were observed to be outdated and inadequate. Ikhizama (2004) corroborated this observation when the author found out that information resources of books and journals in agricultural research institutes' libraries were inadequate as 94.7% of the libraries relied on donations as method of acquisition of materials. In addition to that, it was further observed that little or no effort was made to subscribe to new serials, especially journals that are supposed to provide the basis for provision of current information on agricultural development in Nigeria and abroad. Serials are an important resource in every library and therefore, in some fields (such as agriculture) the use of serials takes precedence other books and other formats. (Bertuca, 1990).

Unfortunately too, the finding in Table 2 also revealed that the Information and Communication Technology (ICT) facilities which are supposed to provide the most current

information on various aspects of agricultural development were not provided by most ARIs libraries. Obasuyi (2006) concurred this view when the author found out that only one library at IAR&T has full computerization, 5 had partial and 7 were at nil stages of computerization.

The point made from these findings and observations are reflections of the fact that, in order for the agricultural scientists to perform their research according to expectations and compete favourably with agricultural scientists elsewhere in the world in the quality of research output, they need current and adequate information resources in their areas of research.

The findings in Table 3 reveals that majority of the respondents viewed available information resources as inadequate. Coupled with this is an observation made by the researcher that most available information resources, especially those in print format were grossly inadequate. This finding conforms with that of Ikhizama (2004) when the author discovered, in a study that information resources of books and journals were inadequate as 94.7% of the agricultural libraries relied on donations as method of acquisition of materials. Reliance on donations by research libraries is very dangerous for quality research because the tendency is that materials, especially from abroad may either have been over used or even contain information that may not be relevant to the current realities of agricultural development in Nigeria. The implication of this is that the ARIs may not be able to realize in totality the research aims and objectives for which they were initially established. Consequently, the impact of research on agricultural development in Nigeria will continue to be at its low ebb as identified by Kaniki (1988). To revamp this situation of inadequacy of information resources in ARIs in Nigeria, there is a great need for the libraries to subscribe for the current and relevant information resources in the specialized areas of their research.

Meanwhile, the findings of the study in Table 4 revealed that there were several factors militating against the provision of information resources for research in ARIs in Nigeria. These factors include lack of enough qualified librarians to provide, process and make available required information resources. This finding agreed with that of Salo and Ibeum (2006) when the authors discovered that about 60% of the research institutes' libraries in Nigeria are short staffed and poorly equipped in terms of information resources. In addition to the above finding, it was also revealed that the federal government and parent research institutes are not giving enough support to the development of research libraries in Nigeria. In support of this finding, Oji (2010) observed that despite the fact that Nigeria enjoyed an economic boom in the late 1960s and early 70s, its libraries have always lived with austerity from 1960s until today (because) libraries in Nigeria are given little priority in relation to other economic and social services.

The findings in Table 4 further revealed that there is inadequate funding of research libraries. The findings of Aziagba and Umeazor (2008) agreed with this when in a study they discovered that principal among factors militating against provision of information resources such as Information and Communication Technology (ICT) is funding. In view of that, Bitagi (2014) argued that funding of Nigerian libraries and especially those in ARIs, could therefore, be regarded as mother of all problems militating against most library development since it is required at all levels (of library development).

Other findings from Table 4 include the fact that there is high inflation rate and cost of information resources and unavailability of required information resources locally. These findings also agreed with that of Oji (2010) when the author identified major factors militating against availability of information resources in Nigerian libraries to include high inflation rate, inadequate bibliographical tools and poor funding from parent or sponsoring organizations or institutions. Furthermore, the ARIs libraries were found to be too small to accommodate

reasonable amount of information resources while yet, they were not sharing their information resources with sister libraries. The sharing of resources is necessary for one library to augment the shortfall in a particular area of collection deficit.

Based on the findings of this study, it could be concluded that while agricultural libraries' collections were not rated high in adequacy (currency, quantity and relevance) the researchers still relied on these libraries for meeting their information needs for research. The end result, certainly, will be producing research results that are ineffective and outdated. This is the situation in which the ARIs in Nigeria have found themselves and that is why agricultural development in Nigeria is considered to be backward if compared with that of developed nations. Hence, reliance on importation of a greater percentage of agricultural products for food and industry.

Recommendations

Based on the findings of this study, the following recommendations are made: Qualified and experienced librarians should be employed by the ARIs to man their libraries. The Federal Government and parent institutions should be more proactive on issues that affect development of research institutes libraries. The Federal Government should improve the funding to all ARIs in Nigeria with a directive that at least 20% of allocations to them be spent on agricultural research libraries' development. All researchers in ARIs should be encouraged to publish information resources in their areas of specialization. A consortium of libraries in the ARIs should be established to facilitate sharing of information resources among libraries and researchers.

References

Aina, L.O. (2004). *Library and information science text for Africa*. Ibadan: Third World Information Service Ltd.

Aziagba, P.C. and Umeazor, S.N. (2008). Electronic resources and use in Nigerian university libraries. *Middlebelt journal of library and information science*, 8 (1&2), 27-36.

Bertuca, O.J. (1990). The serials librarian and the reference department: A valuable relationship. In R. Kinder & B. Katz (Eds.). *Serials and reference services*. New York: The Harworth Press.

Bitagi, A.M. (2014). *Information resources utilization for research by scientists in Agricultural Research Institutes in Nigeria*. Unpublished Ph.D Thesis, University of Nigeria, Nsukka.

Daily Trust (2012). *List of Federal Government Agencies and Commissions*. Tuesday. Feb.7

Ifidon, S.E. and Ifidon, E.I. (2007). *Basic principles of research methods*. Benin city: Goodnews Express Communications.

Ikhizama, B.O. (2004).Information resources for agricultural development: The role of agricultural research libraries in Nigeria. *Nigerian libraries*, 38 (1), 10-19.

Kaniki, A.M. (1988). Agricultural information services in Less Developed Countries (LCDs). *International library review* 20 (3), 321-336.

Longley, D and Shain, M. (1989). *Macmillan dictionary of information technology*. London: The Macmillan Press Ltd.

Obasuyi, L. (2006). The impact of computer and internet application on National Agricultural and Research Institutes (NARIS) library services. *Gateway library journal: Journal of Ogun State Chapter of the Nigerian Library Association*, 9 (1), 23-35.

Ogundana, L.D. (2000). *Information agenda for government libraries and information centres in the new millennium*. In a compendium of paper presentations at the 2000 Annual National

Conference and AGM (pp 50-55). Abuja: NLA.

Oji, S.E. (2010). Availability, adequacy and use of library resources in tertiary institutions in Bauchi metropolis. *Tincity journal of library, archival and information science*, 1 (2), 15-21.

Salo, V.A. & Ibeum, M.O. (2006). Assessment of the preparedness of some research institutes' libraries in meeting modern challenges in information provision in the 21st century. *The information technologist: An international journal of information and communication technology*, 3 (2), 9-18.