INFORMATION SOURCES USE PATTERNS AMONG AGRICULTURAL RESEARCHERS IN SOUTH WESTERN NIGERIA

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Abstract

This paper examined the information sources use patterns among agricultural researchers in south western Nigeria. This is based on the fact that the way scientists seek information to support teaching, and research is changing as new technologies and information system delivery emerges. A systematic sampling, using a sampling interval of 2 was used to select 88 researchers from seven agricultural research institutes. Data were collected through the use of a structured questionnaire that had earlier been subjected to face validity and reliability using the split-half technique with a coefficient of 0.85, on four major categories of information sources identified as library, electronic tools, agricultural databases and FAO in-house databases. The data were subjected to frequency counts and percentages and One way analysis of variance. The results show that from library sources the prominent sources are Dissertation and thesis (86.36 percent), Journals (86.36 percent), Catalogues (85.22 percent) and Abstracts (82.95 percent). Internet (71.59 percent) and World Wide Webs (71.59 percent) are the most commonly used electronic tools as sources of information among researchers. Popular agricultural databases that are used as sources of information by agricultural researchers are AGROSTAT (75 percent), CARIS (73.86 percent), Life Science Collections (72.72 percent) and AGRICOLA (72.72 percent). In terms of the use of FAO in-house databases, FAO Trade year book (82.95 percent), FAO Fertilizer year book (82.95 percent) and FAO Forest product and trade (81.81 percent) are commonly used as information sources. A significant difference exits in the use of information sources among researchers (F = 25.50 p < 0.05) with library sources and FAO in-house databases having the highest means of 69.25 and 68.92 respectively. It is there fore important that constraints to the use of these information sources be overcame so that the information seeking behavior of agricultural researchers will improve.

Key Words: Information Seeking Behaviour, Information Sources, Agricultural Researchers, South Western Nigeria.

Introduction

Agricultural research has contributed immensely to improving food security situation through their findings that have been reported in a variety of media including books, monographs, reports and journals both locally and internationally. However, majority of agricultural information users have poor access to information generated especially with regards to those produced locally (Aina, 1995). Gregorio et al (1989) asserted that modern agriculture efforts must be supported by good library documentation service which will keep researchers informed of the advances in their specialization and provide exhaustive coverage of publications related to their work and those of their colleagues and knowledge of new lines of investigation which may be significant to research.

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Agricultural information has been defined by Aina (1990) as all published or unpublished knowledge on all aspect of agriculture, which has been categorized as technical/scientific, commercial, social/cultural and legal information. The development of new varieties and breeds are technical, while information on prices, credits, marketing and advertising are commercial. The local and cultural settings and their impact on agricultural practices is social/cultural information and all legislations and policy are classified as legal information. Adedigba (1990) reported that all the libraries in the National Agricultural Research Institutes were established because of the need to satisfy the specialized information need of scientists and the desire to have information materials within easy reach and with appropriate timeliness.

Gooch (1987) opined that agricultural information is a commodity not readily available in developing countries, which correctly reflects the Nigerian situation. The importance of information in research activities made Chukwudebe (2000) to describe information as a fourth factor of production. Aderogba (2000) found that accessibility to modern information process and technology affect performance of researchers. The agricultural research information system is characterized by very few avenues for reporting research findings.

Saracevic (1998) described information seeking as an interaction between people and information. Based on model developed by Belkin (1996), this view integrates factors and processes where interface connects resources both informational and computational) and the user (user characteristics, user query and environment) at different temporal (as interaction progresses) and conceptual (surface / behavioural, cognitive and situational levels. Thus information seeking research currently rests on the nature of interactions with information.
According to Gary (1997), he defined information seeking as a process in which humans engage to purposefully change their state of knowledge. The process is inherently interactive as information seekers direct attention on adapt to stimuli, reflect on progress, and evaluate the efficacy of knowledge base of the information seeker. Information seeking is thus a cybernetic process in which knowledge state is changed through inputs, purposive outputs, and feedback

As agricultural research improves in Nigeria, the need for relevant data and their systematic organization for easy retrieval need to be strengthened. Successful storage and retrieval of the exponentially growing body of scientific information is quickly becoming dependent upon the internet, CD-ROM, databases and World Wide Webs (WWW). The way scientists seek information to support teaching, and research is changing as new technologies and information system delivery emerge. (Walker 1998). Information seeking and utilization has been used to determine productivity of researchers. In some instance researchers are described as informational overload, which implies a situation where researchers have too much information and are unable to pick out the right bits or informational deprived when researchers do not have enough information to take research decisions. (CTA, 2000).Agricultural researchers can access information through agricultural indexes and abstracts, Compact Disks Read Only Memory (CD-ROM), databases which are available only in few libraries and documentation centers. The performance of the agricultural sector in the economy of Nigeria is evidently unsatisfactory. Among other reasons is the low level of information and communication technology among agricultural scientist in Nigeria, lack of free access to electronic technology and ineffective use of libraries. Researchers therefore have limited access to information, sharing of information among relevant user populations through networks is hardly practicable, thus the infrastructure of agricultural information provision to user populations are lacking.

Therefore the need to find out if the agricultural researchers are able to obtain the information they need as they go about searching for relevant and pertinent information arises. It is also important to find out what sources of information they usually utilize while trying to meet their objectives. The information seeking and utilization of researchers can be used as measures to determine the productivity or knowledge base of researchers. Sequel to the foregoing reasons, what is the information sources use patterns among agricultural researchers in south western Nigeria.

Methodology
The study was carried out in South Western zone of Nigeria. The agricultural sector forms the base of the overall development thrust of the zone. The zone covers an area ranging from swamp forest to western up lands, in between are rain forests and deciduous forest. The area lies between latitudes 5^0 and 9^0 North and longitudes 2^0 and 8^0 East. It has a land area of about 114,271km2 representing 12% of the country total land areas. The high concentration of agricultural research institutes in this part of the country justifies the choice of the area for this study, thus representing 52.4% of the total research institutes in the country NARP, (1996). These agricultural research institutes have either their headquarters or sub-stations located in this zone. These research institutes are: National Institute of

Horticultural Research and Training (NIHORT), Cocoa Research Institute of Nigeria (CRIN), Forestry Research Institute of Nigeria (FRIN), Institute of Agricultural Research and Training (IAR&T), National Institute for Oil Palm Research (NIFOR), Rubber Research Institute of Nigeria (RRIN), Federal Institute of Industrial Research, Oshodi (FIIRO), Nigeria Institute of Oceanography and Marine Research (NIOMR), Nigeria Stored Products Research Institute (NSPRI), National Agricultural Extension Research Liaison Service (NAERLS), and National Cereals Research Institute (NCRI).

The population of this study comprised of all scientists in agricultural research institutes in the South-Western Nigeria. There are one hundred and seventy five (175) researchers in the agricultural institutes in the study area. The distribution is as follows: NIHORT (25), CRIN (26), FRIN (57), NSPRI (4), NAERLS (2), NCRI (2), and IAR&T (60). A systematic sampling, using a sampling interval of 2 was used to select 50 percent of the respondents from each of the research institutes to give a total of 88 respondents. Data were collected through the use of a structured questionnaire that had earlier been subjected to face validity and reliability using the split-half technique with a coefficient of 0.85. Four major categories of information sources were identified namely library, electronic tools, agricultural databases and FAO in-house databases. Under each category, different sources were listed from which researchers indicated their use or otherwise. The data were subjected to frequency counts and percentages and One way analysis of variance was use to determine the significant differences in the use of the major information sources.

Results and Discussion

Table 1 presents the results of the use of information sources among agricultural researchers in south western Nigeria. From each of the four main categories of information sources prominent sources are identified and discussed. From library sources the prominent sources are Dissertation and thesis (86.36 percent), Journals (86.36 percent), Catalogues (85.22 percent) and Abstracts (82.95 percent). This may be attributed to the availability of these sources in the most recent times. Also the fact that some of these sources are freely distributed to libraries could be responsible for this trend of result. The non prominent use of other sources may be due to the nature poor collection and non subscription by most libraries. Internet (71.59 percent) and World Wide Webs (71.59 percent) are the most commonly used electronic tools as sources of information among researchers. The lack of the infrastructure in the research institutes could have limited the use of electronic sources to these two tools. Another factor that may be responsible is the ability ad skills to use the electronic sources despite the fact that availability and access predominates in determining utilization. Popular agricultural databases that are used as sources of information by agricultural researchers are AGROSTAT (75 percent), CARIS (73.86 percent), Life Science Collections (72.72 percent) and AGRICOLA(72.72 percent). This may be due to the area of specialization of the researchers as most often production figures and statistics are required in building up research argument. The long existence of these databases could also have enhanced their popularity among the researchers.

In terms of the use of FAO in-house databases, FAO Trade year book(82.95 percent), FAO Fertilizer year book (82.95 percent) and FAO Forest product and trade(81.81 percent) are commonly used as information sources. The fact that these are often send as complimentary copies to research institutes and that their statistics is often adaptable to many areas of specialization within the research institutes could be responsible for the high use by researchers.

Table 1: Use of information sources among researchers

Library sources	Yes	No
Abstracts	73(82.95)	15(17.04)
Agricultural text books	61(69.31)	24(27.27)
Catalogues	75(85.22)	13(14.77)
Conference proceedings	72(81.81)	16(18.18)
Dissertation and thesis	76(86.36)	11(12.5)
Journals	76(86.36)	11(12.5)
Monographs	67(76.13)	21(23.86)
Newsletters	72(81.81)	16(18.18)
Newspapers	63(71.59)	25(28.40)
Research publications	57(64.77)	31(35.22)
Encyclopedia and Dictionary	67(76.13)	21(23.86)
Other textbooks	72(81.81)	16(18.18)
Electronics tools		
Electronic mail	35 (39.77)	53(60.22)
Online public access catalogue	58(65.90)	30(34.09)

Internet	63(71.59)	25(28.40)
CD-ROM	49(55.68)	39(44.31)
World Wide Webs	63(71.59)	25(28.40)
Agricultural databases		
AGRICOLA	64 (72.72)	24(27.27)
SCISSEARCH	53(60.22)	25(28.40)
AGRICS	58(65.90)	30(34.09)
AGRINDEX	61(69.31)	27(30.68)
CAB Abstract	63(71.59)	24(27.27)
BIOSIS	58(65.90)	30(34.09)
Life Science Collection	64(72.72)	24(27.27)
PASCAL	60(68.18)	28(31.81)
FSTA	61(69.31)	27(30.68)
Food ADLIBA	59(67.04)	29(32.95)
TROPAG &Rural Development	53(60.22)	25(28.40)
ASFA	60(68.18)	28(31.81)
CARIS	65(73.86)	23(26.13)
AGREP	61(69.31)	27(30.68)
CRIS	61(69.31)	27(30.68)
CIARL	62(70.45)	26(29.54)
AGROSTAT	66(75)	22(25)
FAO in-house database	**Yes**	**No**
FAO Quarterly	68(77.27)	20(22.72)
FAO Production year book	70(79.54)	18(20.45)
FAO Trade year book	73(82.95)	15(17.04)
FAO Fertilizer year book	73(82.95)	15(17.04)
FAO Forest product and trade	72(81.81)	16(18.18)
FAO Balance sheet	66(75)	22(25)
INIS inter. Nuetear infor sys	68(77.27)	20(22.72)
INSTEAD	64(72.72)	24(27.27)
INTERFAIS	63(71.59)	25(28.40)
SPAAR	64(72.72)	24(27.27)
RURAL E	64(72.72)	24(27.27)

Table 2 shows the results of the comparison of the use of the major information sources. A Duncan Multiple Range Test was used for the intra- comparison of the sources among researchers. A significant difference exits in the use of information sources among researchers (F = 25.50 p < 0.05). Library sources and FAO in-house databases has the highest means of 69.25 and 68.92 respectively. Although these means are not significantly different from each other, they are both significantly different from the use of agricultural data bases and electronic tools. It is there fore important that constraints to the use of these information sources be overcame so that the information seeking behavior of agricultural researchers will improve.

Table 2: One way analysis of variance showing significant differences in the use of the major information sources

	Sum of Square	df	Mean Square	F	p		
Between groups	2484.25	3	828.08	25.50	0.00	Library	69.25 [c]
Within groups	2727.65	84	32.47			Electronics	55.00 [a]
Total	5211.89	87				Agric. databases	60.77 [b]
						FAO in-house database	68.92 [c]

CONCLUSION

The paper has clearly shown the prominent sources from the broad categories of information sources used by agricultural researchers. It has also reinforce the use of . library sources such as Dissertation and thesis, Journals, Catalogues, Abstracts, Internet, World Wide Webs and agricultural databases which include AGROSTAT, CARIS, Life Science Collections and AGRICOLA as important information sources that can be exploited by researchers. The policy implication of the findings have such that to improve the performance of agricultural researchers, the provision of information sources as well as the facilities to enhance their use is very important in the research institutes. Specific training needs of the researchers to seek for appropriate information from different sources should also be identified as a skill-gap.

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