

Information-Seeking Behaviour of Extension Personnel in Edo State, Nigeria

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Abstract: The study assessed the information-seeking behavior of extension personnel in Edo state, Nigeria. Specifically, it characterized and examined the type and source of information sought by the extension personnel. Data were retrieved from 137 respondents from the three agricultural zones in the state. Data collected were subjected to analysis using frequency distribution, mean and multiple Pearson correlation. Results showed that the information type largely sought by the respondents included animal production technology (mean=3.61), while the least sought was agricultural credit (3.39) and value chain (3.39). Institutional information sources were the major sources of information on the different information type for the respondents. The multiple pooled correlation results showed that the demographic characteristics of the extension personnel do not significantly ($P>0.050$) influence their information seeking behavior. However, with respect to information seeking behavior for specific information type, the extension personnel educational level ($r = 0.208$) had a positive and significant influence on their information seeking for crop production. Also, their educational level had significant but negative influence on their information seeking for agricultural inputs. The study concludes that the extension personnel were actively involved in information seeking and the institutional sources of information were their major sources of information for agricultural extension work in the study area.

Keywords: information-seeking behavior, extension personnel, ADP, Edo state, Nigeria

INTRODUCTION

The use of information is inevitable to almost all aspects of human development. The need to be informed and knowledgeable individuals leads to the process of identifying information needs. This process alone cannot work without knowing the ways individuals articulate, seek, evaluate, select and finally use the required information, which is commonly known as information-seeking behaviour. According to Manir [1], the understanding of information needs and information-seeking behaviour of various professional groups is essential as it helps in the planning, implementation and operation of information system and services in the given work settings. Extension personnel need information that will serve their functional purposes, which will help them improve their information or training delivery services to farmers [1]. Information-seeking behaviour involves personal reasons for seeking information, the kind of information which is sought, and the ways and sources with which needed information are sought [2].

Understanding the information seeking behaviour and information use of extension personnel have become crucial to effectively meet farmers information needs. This understanding may also lead to the discovery of their information behaviours and profiles that can be used to enhance the existing information models, systems or even develop new ones.

In addition, it will also help the researchers and other information professionals to be effective in providing information to these categories of users; as such to effectively do this task they require a fuller understanding of the information seeking behaviour, needs, and uses of the extension personnel. Today, the main concern in agricultural extension management of human resources is the improvement in performance and capacity building either through providing information or training with a view to increasing workers efficiency. Unless the extension workers are well informed about their activities and what they are supposed to do, it is very difficult for them to improve their level of performance [3]. Thus, one way of enhancing the performance of extension workers is to provide them with necessary information that will serve their needs.

Over the years, agricultural extension has been at the fore-front in the delivery of relevant information to farmers for increased agricultural productivity. According to Agbamu [4], agricultural extension service delivery all over the world has been concerned with communicating research findings and improved agricultural practices to farmers. The efficiency with which these information and practices are conveyed to farmers, to a large extent would determine the level of agricultural productivity. In recent times however, there has been concern as to how

those charged with the responsibility of delivering the information to farmers, also acquire the information, type of information they have, how and where they get such information [5].

Information flow thus becomes a very critical input in the agricultural development process in the country, as one of the main challenges affecting the adoption of new technologies by farmers is lack of information [6]. This is because the information flow process delivers to farmers the required knowledge needed to implement modern systems of farming. In the Nigeria system and in Edo state in particular, the ADP is largely responsible for communicating information on relevant production technique to farmers [7]. The ADP is therefore a crucial partner in the development process, since it delivers information to farmers. The type of information the agency gets and communicates to farmers, to a great extent, is influenced by where it gets the information from, how it got the information, how timely the information is and how relevant the information is to the farmers. The information that the extension workers deliver to farmers are information produced by other institutions involved in the agricultural development process, such as research institutes and universities. In Nigeria, there are various agencies, research institutes, agricultural universities/colleges and non-governmental organizations that generate innovations and improved farm practices or technologies [8].

In the past decade, some African countries have experienced slow agricultural development. In particular, the performance of the Nigeria agricultural sector in the economy of Nigeria is evidently unsatisfactory [9]. The agricultural sector has not grown as fast as the population. Decline in agricultural development is attributed to a number of constraints that include inappropriate national agricultural development policies, lack of adequate information provision, low adoption of agricultural technologies and ineffective institutional frameworks [5]. However, inadequate provision of relevant, reliable and comprehensive information support to stakeholders (farmers) in agricultural production has been identified as a major constraint [10]. Also, the agricultural extension system in some developing countries is experiencing challenges largely to do with inadequate access to information by extension staff in dealing with farmers' information needs. There is also concern about information access and how lack of technical information on farming affects extension officers and leads to their failure to effectively tackle farmers' farm challenges [16].

The study was aimed at assessing the information-seeking behavior of extension personnel in Edo state. Specifically, it examined the demographic characteristics of extension personnel, characterized and examined the type of information sought by extension

personnel. It also identified the sources of information type sought by extension personnel. The relationship between the demographic characteristics of extension personnel and the frequency of information seeking was also determined.

METHODOLOGY

The study was conducted in Edo State, Nigeria. The State lies between latitude $05^{\circ}44'$ and $07^{\circ}34'$ North of the equator and longitude $06^{\circ}04'$ and $06^{\circ}43'$ East of the Greenwich meridian. Edo State is an inland state in south-south geopolitical zone of Nigeria. The area is approximately $17,802\text{km}^2$. The topography of the state is generally low-lying rising gradually towards the North with the Somorica hill at 600metres being the highest point. There are 18 Local Governments areas in the State. The State has three Agricultural zones; these are Edo South, Edo Central and Edo North with a temperature ranging from $21-25^{\circ}\text{C}$ during cold weather to about $26-34^{\circ}\text{C}$ in hot weather of the region. The research was carried out using survey method.

Given the small population size of extension personnel in the state, which was 144, comprising of 57 in Edo South, 46 in Edo Central and 41 in Edo North, all of them were selected for the study. Validated questionnaire was used to obtain data from the agricultural personnel. Frequencies, mean, standard deviation were used to analyze the objectives while Pearson Product Moment Correlation was used to analyze the formulated hypothesis. Pearson Product Moment Correlation is used to test the relationship between two variables one of which is dependent (Y) and the other independent (X) [16].

Variable Operationalization

Type of Information needed: Respondents were asked to indicate the type of information needed in terms of the type of information accessed or sought from the different information sources on a 4 point Likert scale ranging from 'Highly needed (4), fairly needed (3), little needed (2) and not needed (1). Frequency distribution was used to analyse their response. The weighted mean score of 2.50 was used to determine which information is needed or not. The weighted mean (2.50) was obtained as follows: $(4+3+2+1)/4 = 2.50$. Information with values of 2.50 and above was considered needed or otherwise when less than 2.50.

RESULTS AND DISCUSSION

Demographic characteristics of respondents

The pooled result (Table 1) shows that majority (46%) of the respondents were 41-50 years old with an average age of 43years, which suggest that the extension personnel were middle aged, and therefore, have the energy to execute extension work and also seek information. Results by Omorogbee and Ajayi [11] confirmed that most extension agents are middle aged.

Similarly, Ehilenbodiaye, *et al.* [12] reported an average age of 43 years for extension personnel in their study. The pooled results also revealed that majority (71.5%) of the respondents were males while females constitute 28.5%. This implies a gender imbalance in personnel mixture in the public agricultural extension service in the State, with implicit consequence on the institution outreach to female farmers. Washington [13] reported that extension services were generally dominated by male extension personnel. Similar report by Manir [1], confirmed that extension service institutions are dominated by males (94.2%).

The pooled results also revealed that the respondents were literate, with majority (52.6%) having OND/NCE, 20.4% having HND, while 27% had University degree. Their high educational attainment implies that extension personnel in the study area are better able to understand and work with agricultural technologies and information they seek from different information sources. Similar finding, i.e. high formal education of extension personnel, have been reported by Manir [1]. Also, Washington [13] noted that extension work is demanding greater expertise from those who practice it, especially the extension personnel as the

farmers they assist face difficulties that would have been unimaginable a generation ago. Majority (62.8%) of the respondents had a working experience of more than 10 years, which implies that the respondents in the study area were quite experienced in extension work. The pooled average experience was 10 years, which means that the extension personnel were quite familiar with extension work, and expectedly would have had course to seek divergent information sources, and would be able to assess the reliability of the information sources. Studies by Ehilenbodiaye, *et al.* [12] reported a mean working experience of extension personnel to be 18 years in Edo and Delta states.

The result also revealed that majority (52.5%) of the respondents in the study area were between grade level 8-12, while 22.7% were below grade level 8. This implies that more than half of the respondents belong to the senior cadre and have the greater advantage to source information. The result also revealed the working status of respondents showed that majority (67.2%) were extension agents, 19.7% were block extension officers, while 13.1% were subject matter specialists.

Table 1: Demographic characteristics of respondents

Characteristics	Options	ZONE							
		Edo South		Edo Central		Edo North		Pooled	
		Freq	%	Freq	%	Freq	%	Freq	%
Age (years)	30 & below			2	4.4	2	5.7	4	2.9
	31-40	11	19.3	17	37.8	15	42.9	43	31.4
	41-50	31	54.4	22	48.9	10	28.6	63	46.0
	>50	15	26.3	4	8.9	8	22.9	27	19.7
	Total	57	100.0	45	100.0	35	100.0	137	100.0
	Mean	46		41		42		43	
Sex	Female	28	49.1	4	8.9	7	20.0	39	28.5
	Male	29	50.9	41	91.1	28	80.0	98	71.5
	Total	57	100.0	45	100.0	35	100.0	137	100.0
Educational qualifications	OND/NCE	30	52.6	22	48.9	20	57.1	72	52.6
	HND/	9	15.8	9	20.0	10	28.6	28	20.4
	University degree	18	31.6	14	31.1	5	14.3	37	27.0
	Total	57	100.0	45	100.0	35	100.0	137	100.0
Working experience (years)	1-5	2	3.5	15	33.3	14	40.0	31	22.6
	6-10	11	19.3	2	4.4	7	20.0	20	14.6
	>10	44	77.2	28	62.2	14	40.0	86	62.8
	Total	57	100.0	45	100.0	35	100.0	137	100.0
	Mean	11		9		8		10	
Rank (grade level)	<8			14	31.1	17	48.6	31	22.7
	8-12	36	63.1	21	46.7	15	42.9	72	52.5
	>12	21	36.8	10	22.3	3	8.7	34	31.1
	Total	57	100.0	45	100.0	35	100.0	137	100.0
Working status	BEO	11	19.3	12	26.7	4	11.4	27	19.7
	Extension agents	33	57.9	31	68.9	28	80.0	92	67.2
	Subject Matter Specialist	13	22.8	2	4.4	3	8.6	18	13.1
	Total	57	100.0	45	100.0	35	100.0	137	100.0

Type and frequency of information sought by respondents

The result reveal that the respondents frequently sought different agricultural information since the mean scores exceeded 2.50. The findings agree with the opinion of Omoregbee and Ajayi [11], that extension workers all over the world, especially in developing countries, need regular, adequate, effective, competent and up-to-date modern/scientific information in all aspects of agricultural production. A comparison of the pooled average score reveal that, information on animal production technology (mean=3.61) was the most frequently sought information by the respondents. This might be due to the fact that farmers in the study area now engage more in livestock production, as it is seen as the quickest way of income generation compared to crop production. Hence, Ehilenbodiaye *et al.* [12] stated that, for extension workers to effectively render extension services, they need to be abreast with information of new practices concerning animal production. The next important information type sought by the respondents were agricultural inputs (mean=3.53) while the least were value chain issues (3.39) and credit related issues (3.39).

Comparing agro-ecological zones, the respondents in Edo central zone, on the average (grand mean= 3.58) appeared to more frequently seek information on the different information type more than the respondents in Edo south zone (grand mean= 3.52) and Edo north zone (3.32). For the crop production technology type, information on pest control (mean= 3.79) and fertilizing/ chemical application (mean=3.64) were the most sought by the respondents. For the agricultural credit type, information on sources of loan (mean= 3.63) was the most sought. Also, for marketing type, information on product planning (mean= 3.57) and current prices of farm produce (mean= 3.57) were the most sought by the respondents. For animal production technology type, information on disease control (mean= 3.72) and feeding techniques (3.66) were the most sought. For agricultural input, information on improved varieties (mean=3.70) and agro-chemicals and fertilizers (mean=3.54) were the most sought. For value chain type, information on processing (mean= 3.53) and packaging (mean= 3.36) were the most sought while for farm management, information on record keeping (mean=3.54) was the most frequently sought. A possible explanation for the type of information most frequently sought by the respondents among the different categories of information type could be that, in the field, extension personnel are confronted more on issues relating to that type of information by their clientele.

Sources of Information Type Sought by Respondents

Table 3 examines the sources from which the different information types were sought by the respondents. The average frequency showed that institutional source was the major source of information on the different information type for the respondents.

For example, on the average, about 60.3% of the respondents source information on crop production technologies from institutional sources, especially information on agro-chemicals (63.5%) and cultivation techniques (61.3%). About 27% of the respondents, on the average, sought similar information (crop production technologies) from print sources while only 6.4% sought such information from internet/ media sources. On the average also, about 49.5% of the respondents sourced information on agricultural credit from institutional sources, especially information on sources of loan and loan interest rate (51.1% and 51.1% respectively). About 23% of the respondents, on the average, sought similar information (agricultural credit) from print sources, while 14.3% sought such information from internet/ media sources. Also, on the average, about 48.8% of the respondents sought information on marketing from institutional sources, especially information on product planning (53.3%) and current prices of farm product (49.3%). About 28.8% of the respondents, on the average, sought similar information from print sources while 14.7% sought such information from internet/ media sources.

For information on livestock production technology, about 50% of the respondents, on the average, sought it from institutional sources, especially information on disease control (51.1%). Similarly, about 33.9%, on the average, sought such information (livestock production technology) from print sources, while about 8% sought similar information from internet/ media sources. About 65.9% of the respondents sought information on agricultural inputs from institutional sources, especially information on improved varieties (70.8%). About 20% sought similar information from print sources, while 7.1% sought such information from internet/ media sources. About 52.3% of the respondents sought information on value chain from institutional sources, 30.4% sought similar information from print sources, while 9.5% sought such information from internet/ media sources. On the average, about 58.4% of respondents sought information on farm management from institutional sources, 32.9% sought it from print sources, while 4.7% sought such information (farm management) from internet/ media sources.

The finding therefore shows that institutional sources were the major source of information on the different aspects of farming by the respondents. This agrees with the study done by Devi and Lahiri [14]. They reported that agricultural extension workers mostly depend on the Department of Agriculture (which is an institutional source) for meeting their current information needs.

Relationship between demographic characteristics of extension personnel and information seeking behavior (frequency of information seeking)

Pearson Product Moment Correlation was used to analyze the hypothesis, which states that: There is no

significant relationship between the demographic characteristics of extension personnel and their information seeking behavior i.e. frequency of information seeking. Analysis was done for the aggregate or pooled information seeking behavior as well as specific behavior targeted at specific category of information sought by the extension personnel. The result is presented in Table 4. The pooled results suggest that there was no significant relationship between agricultural extension personnel demographic variables and their frequency of information seeking. The result for age ($r = -0.041$), which is negative, suggests that younger workers tend to seek information more than the older workers. The other variables such as sex, education, work experience and rank ($r = 0.039$,

0.031, 0.108 and 0.017 respectively) were positively correlated with information seeking behavior. This means that male extension personnel were more frequent in their information seeking behavior relative to the female workers. So also were the more educated and the more experienced personnel as well as those of higher rank, as the positive sign suggest they are more frequent in their information seeking than the less educated, less experienced personnel and those of lower rank respectively. However, the results were not significant ($P > 0.050$). The results suggest that the demographic characteristics of the personnel do not play any important or significant role in their pursuit of agricultural information from the different sources.

Table 2: Type and frequency of information sought by respondents

Information type	Edo South		Edo Central		Edo North		Pooled	
	Mean*	SD	Mean*	SD	Mean*	SD	Mean*	SD
Crop Production Technology								
Pest control	3.89	0.45	3.82	0.39	3.57	0.7	3.79	0.52
Fertilizing/ Chemical application	3.67	0.61	3.76	0.48	3.43	0.88	3.64	0.66
Cultivating	3.65	0.64	3.6	0.5	3.43	0.95	3.58	0.69
Weeding	3.33	0.87	3.31	0.67	3	1.06	3.24	0.87
Harvesting	3.37	1.1	3.29	0.76	2.77	1.11	3.19	1.03
Crop Production Need (mean)	3.58		3.56		3.24		3.49	
Agric. Credit								
Sources of loan	3.56	0.63	3.8	0.5	3.51	0.74	3.63	0.63
Loan interest rate	3.42	0.63	3.47	0.73	3	1.08	3.33	0.81
Mode of repayment	3.3	0.65	3.38	0.86	3.23	1	3.31	0.82
Loanable amounts	3.35	0.64	3.58	0.62	2.86	1.31	3.3	0.89
Agric. Credit Needs (mean)	3.41		3.56		3.15		3.39	
Marketing								
Product planning	3.63	0.59	3.67	0.6	3.34	0.76	3.57	0.65
Current prices	3.56	0.66	3.67	0.52	3.46	0.66	3.57	0.62
Improved marketing practices	3.63	0.59	3.56	0.59	3.2	0.8	3.5	0.67
Sales timing	3.46	0.68	3.44	0.72	3.34	0.87	3.42	0.74
Forecast of market trends	3.39	0.7	3.64	0.53	3.09	0.92	3.39	0.74
Marketing Needs (mean)	3.53		3.6		3.29		3.49	
Animal Production Technology								
Disease control	3.75	0.54	3.82	0.49	3.51	0.74	3.72	0.59
Feeding techniques	3.65	0.58	3.78	0.56	3.54	0.61	3.66	0.59
Breeding	3.63	0.49	3.51	0.55	3.43	0.85	3.54	0.62
Reproduction	3.51	0.6	3.6	0.65	3.46	0.74	3.53	0.65
Animal production needs (mean)	3.64		3.68		3.49		3.61	
Agric. Inputs								
Improved varieties	3.56	0.5	3.87	0.34	3.71	0.62	3.7	0.51
Agro chemicals and fertilizers	3.53	0.68	3.53	0.55	3.57	0.78	3.54	0.66
Farm machinery	3.23	0.76	3.56	0.59	3.31	0.96	3.36	0.77
Agric. Inputs needs (mean)	3.44		3.65		3.53		3.53	
Value Chain								
Processing	3.49	0.71	3.53	0.69	3.57	0.81	3.53	0.73
Packaging	3.33	0.79	3.4	0.69	3.34	0.94	3.36	0.79
Product/produce grading	3.35	0.83	3.36	0.74	3.03	1.07	3.27	0.88
Value chain need (mean)	3.39		3.43		3.31		3.39	
Farm Management								
Record keeping	3.63	0.59	3.56	0.55	3.37	0.77	3.54	0.63
Elementary accounting system	3.61	0.59	3.6	0.58	3.14	0.97	3.49	0.73
Farm management needs (mean)	3.62		3.58		3.26		3.52	
Grand mean	3.52		3.58		3.32		3.49	
*frequently sought (mean ≥ 2.50)								

To see if these characteristics have important influences on their information seeking behavior with respect to specific information type, further correlation analysis was done (Table 4). The result for crop production information reveals that only education ($r=0.208$; $P<0.050$) significant and positive. This means that extension personnel with higher education tend to seek for information regarding crop technology more than the less educated workers. Also, for agricultural inputs, only education ($r=-0.287$; $P<0.05$) was found to have a significant but negative influence on extension personnel information seeking behavior (frequency of information seeking). The negative sign means that the less educated extension personnel tends to seek information more on agricultural inputs more than the more educated extension personnel.

The result for agricultural credit information, marketing, animal production, value chain and farm management reveals that the demographic variables had no significant influence on the information seeking behavior of the extension personnel since none of the coefficient were significant. This suggests that extension personnel seek for this information regardless of their demographic characteristics. Heinstron [15] study revealed that personality characteristics of information seeker greatly influence their information seeking behavior. However, this study found the role played by the extension personnel characteristics to be non-significant.

Table 3: Sources of Information Type Sought by Respondents

Information type	Institutional sources		Print sources		Internet/media		Others	
	Freq	%	Freq	%	Freq	%	Freq	%
(a) Crop production technology								
Cultivating	84	61.3	38	27.7	9	6.6	6	4.4
Fertilizing/ Chemical application	87	63.5	34	24.8	13	9.5	3	2.2
Pest control	85	62	39	28.5	8	5.8	5	3.6
Weeding	78	56.9	42	30.7	5	3.6	12	8.8
Harvesting	79	57.7	37	27	9	6.6	12	8.8
Average	83	60.3	38	27.7	9	6.4	8	5.6
(b) Agric. Credit								
Sources of loan	70	51.1	32	23.4	18	13.1	17	12.4
Loan interest rate	70	51.1	28	20.4	19	13.9	20	14.6
Loanable amounts	68	49.6	32	23.4	19	13.9	18	13.1
Mode of repayment	63	46	34	24.8	22	16.1	18	13.1
Average	68	49.5	32	23.0	20	14.3	18	13.3
(c) Marketing								
Product planning	73	53.3	37	27	18	13.1	9	6.6
Current prices	67	49.3	40	29.4	19	14	10	7.4
Forecast of market trends	66	48.2	38	27.7	25	18.2	8	5.8
Sales timing	65	47.4	43	31.4	18	13.1	11	8
Improved marketing practices	63	46	39	28.5	21	15.3	14	10.2
Average	67	48.8	39	28.8	20	14.7	10	7.6
(d) Animal production technology								
Breeding	69	50.4	48	35	13	9.5	7	5.1
Reproduction	66	48.2	50	36.5	12	8.8	9	6.6
Disease control	70	51.1	44	32.1	11	8	12	8.8
Feeding techniques	69	50.4	44	32.1	8	5.8	16	11.7
Average	69	50.0	47	33.9	11	8.0	11	8.1
(e) Agric. Inputs								
Improved varieties	97	70.8	26	19	6	4.4	8	5.8
Farm machinery	83	60.6	30	21.9	13	9.5	11	8
Agro chemicals and fertilizers	90	66.2	26	19.1	10	7.4	10	7.4
Average	90	65.9	27	20.0	10	7.1	10	7.1
(f) Value chain								
Processing	67	48.9	47	34.3	9	6.6	14	10.2
Packaging	74	54	42	30.7	12	8.8	9	6.6
Product/produce grading	74	54	36	26.3	18	13.1	9	6.6
Average	72	52.3	42	30.4	13	9.5	11	7.8
(g) Farm management								
Record keeping	80	58.4	48	35	5	3.6	4	2.9
Elementary accounting system	80	58.4	42	30.7	8	5.8	7	5.1
Average	80	58.4	45	32.9	7	4.7	6	4.0

Table 4: Relationship between demographic characteristics of extension personnel and information seeking behavior (frequency of information seeking)

Independent variables	Dependent variables (Information seeking behavior) – coefficient (r)							
	Crop Production	Agric. Credit	Marketing	Animal production	Agric. Inputs	Value chain	Farm management	Pooled
Age	0.146	-0.079	-0.031	-0.076	-0.075	-0.055	-0.12	-0.041
Sex	-0.093	0.09	0.033	0.04	0.104	0.041	-0.012	0.039
Education	0.208*	-0.036	0.099	0.108	-0.287**	-0.078	-0.127	0.031
Work experience	0.124	-0.088	0.106	0.096	0.049	0.084	0.097	0.108
Rank	0.141	-0.076	-0.018	0.065	-0.06	-0.047	0.035	0.017

*Significant at the 5% level (critical $r = 0.179$)

CONCLUSION AND RECOMMENDATIONS

The study has shown that the extension personnel sought all the different agricultural information type (i.e. information on crop production technology, agricultural credit, marketing, animal production technology, agricultural inputs, value chain and farm management). The institutional sources were the major source of information on the various information types. It is therefore concluded that the extension personnel were actively involved in information seeking. The pooled correlation result showed that the demographic characteristics of extension personnel do not play significant ($P > 0.050$) influence on their information seeking behavior.

It is therefore recommended that:

- There should be adequate funding or sponsorship of extension personnel to conferences and workshops. These conferences and workshops provide a forum where the personnel can learn of new development or research findings relating to agriculture.
- There should be a proper linkage of extension institution and the agricultural research centers such as universities and research institutes. This is to minimize the long bureaucratic process in getting information from such sources.
- The government should recruit young graduates for extension work as it has been revealed in the correlation result that younger extension personnel tend to seek information more than the older extension personnel.

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