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Rural Farmers' Problems Accessing Agricultural Information: A Case Study of Nsukka Local Government Area of Enugu State, Nigeria

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Introduction

Rural farmers account for the greater part of the population of any developing country such as Nigeria. Governments of developing countries have a major responsibility of ensuring that there is adequate rural development in their various communities and local governments which would lead to effective and efficient agricultural systems that will not only supply food and animal protein but also foster the utilization of natural resources in a sustainable manner (CGIAR, 1995). When the rural farmers lack access to knowledge and information that would help them achieve maximum agricultural yield, they are not only grope in the dark but are driven to the urban centres in search of formal employment, as the only option for survival (Munyua, 2000). Blait (1996) pointed out that the least expensive input for improved rural agricultural development is adequate access to knowledge and information in areas of new agricultural technologies, early warning systems (drought, pests, diseases etc), improved seedlings, fertilizer, credit, market prices etc. There have been short-comings of traditional print and library based methods (Van and Fortier, 2000) of providing such agricultural information to rural farmers who are generally illiterate and relatively remote from formal sources of information (e.g. extension stations, libraries). Aina (2007) also, was of the opinion that farmers would benefit from global information, if information centres, are cited in rural areas complete with all information and communication gadgets.

Rural farmers in Nsukka local government area of Enugu state are not noted to produce enough food, probably due to some constraints that lead to lack of access to timely and up-to-date information which would have enabled them to achieve optimal yield from their farmlands. Such information is highly desired by these farmers and can only be made available to them via extension workers, community libraries, state and local government agricultural agencies (ADP, ENADEP etc), e-mail or the World Wide Web (WWW) in a telecentre (Telecommons Development Group, 2000). In this modern day of information technology, telecentres provide the rural farmers with prompt and reliable information about what is happening in areas of improved seedlings, better methods of cultivation and fertilizer application,

pest and weed control/eradication, new advances in livestock production and disease control etc. Where rural farmers are not faced with constraints in accessing agricultural information, traditional media such as rural radio, has been used in delivering agricultural messages to rural farmers (Munyua, 2000). Other ways of delivering these messages or information to the rural farmers include print, video, television, films, slides, pictures, drama, dance, folklore, group discussions, meetings, exhibitions and demonstrations (Munyua, 2000).

The lack of access to basic agricultural knowledge and information by rural farmers in Nsukka local government area of Enugu State which may be as a result of certain constraints has made these farmers to stick to their old traditional methods of farming system and animal husbandry practice, hence resulting in poor crop and livestock productivity. Information and knowledge are very vital in agricultural development of any community and where they are poorly disseminated as a result of certain constraints, the community's agricultural development becomes highly impeded. Therefore, this study was designed to investigate the constraints of the rural farmers in Nsukka local government area of Enugu State in accessing agricultural information.

Statement of the Problem

Over the years, our rural farmers depend on indigenous or local knowledge for improved farming system/animal husbandry. Such knowledge (indigenous or local knowledge) refers to skill and experience gained through oral tradition and practice over many generations (Norem, et al., 1988). Acquisition of such primitive skill by our rural farmers (e.g. rural farmers in Nsukka local government area of Enugu State) has not helped to improve agricultural yield. All that is witnessed in our rural agricultural system range from poor farm yield, emergence of new crop and animal diseases, resistant plant weeds and pests that attack farm crops, old farm implements, poor quality fertilizers etc. Agricultural information are always meant to get to rural farmers via extension workers, community libraries, radio, television, film shows, agricultural pamphlets, state and local government agricultural agencies etc. Rural farmers in their effort to access these agricultural knowledge and information from available sources, for better farming system and improved agricultural yield, are confronted with certain constraints. The present study was therefore designed to identify the constraints which hinder rural farmers in Nsukka local government area of Enugu state from accessing agricultural information for improved crop production and better animal husbandry practice.

Research Questions

Three research questions were raised for this study and they include:

1. What are the common sources of agricultural information which the rural farmers in Nsukka local government area of Enugu State are more likely to access for better crop production and improved animal husbandry practice?

2. What are the various types of farming systems practiced by the Nsukka rural farmers?

3. What are the constraints that rural farmers in Nsukka local government area of Enugu State, encounter in their effort to access agricultural information for better crop production and improved animal husbandry practice?

Methodology

Five towns in Nsukka Local Government area of Enugu State were randomly selected for this study. The selected towns are Nsukka, Obukpa, Ede-Oballa, Opi and Alor-uno. Twenty (20) farmers were sampled from each selected town and

that made the total population of farmers sampled in the entire five towns to be 100.

Instrument

Two forms of instruments (questionnaire and scheduled interview) were used for data collection in this study. The section A part of the questionnaire required the rural farmers' respondents to supply the necessary biodata and other information pertaining to their socio-economic characteristics. Section B part of the questionnaire contained the core questions that were raised for the study. Each research question raised for the study had specific questions under it. The questionnaire was structured on a four-point Likert type of rating scale of Strongly Agreed (4 points), Agreed (3 points), Disagreed (2 points) and Strongly Disagreed (1 point). A total of 5 questions and 38 items were raised for the rural farmer respondents. Few selected farmers were also interviewed to enable the researcher gather more information on constraints of Nsukka rural farmers in accessing relevant agricultural information. The interview questions were structured in line with those of the questionnaire.

Data Analysis

Data collected for the section A part of the questionnaire were analyzed using descriptive statistics, involving percentage. Analysis of data collected for the section B part of the questionnaire was based on four-point Likert rating scale (Nworgu, 2006). SPSS software was used to calculate the means of each item in each research question. Means and standard deviations of means (std) of each item in each question were calculated and presented. Items with means of 2.50 and above indicate agreement while items with means less than 2.50 indicate disagreement.

Results

Biodata and selected socio-economic characteristics of Nsukka rural farmers' respondents.

Table 1: Percentage gender distribution of Nsukka rural farmers' respondents

Gender	Percentage
Male	69.8
Female	30.2

From the result of this study, majority of the Nsukka rural farmers' respondents are males-69.8%. Only 30.2% of the Nsukka rural farmers' respondents are females.

Table 2: Percentage age range of Nsukka rural farmers' respondents

Age range in years	Percentage (%)
10-15	6.2
16-25	9.4

26-35	6.2
36-45	26.0
46-55	49.9
56-65	4.2
66 and above	1.0

The 46-55 years age range of Nsukka rural farmers' respondents are the most active group of rural farmers (49.9%) in the Nsukka LGA. 26.0% of the respondents fell within the age range of 36-45 years. Other respondents with their various age range are as follows: 10-15 (6.2%), 16-25 (9.4%), 26-35 (6.2%), 56-65 (4.2%) and 66 and above (1.0%).

Table 3: Percentage distribution of the types of farming system practiced by Nsukka rural farmers' respondents

Farming systems	Percentage
Crop farming	49.0
Livestock farming	51.0

51.0% of Nsukka rural farmers' respondents engage in livestock farming practice while 49% of the other respondents practice crop farming.

Table 4: Percentage distribution of the different types of livestock farming system practiced by the Nsukka rural farmers' respondents

Types of livestock farming	Percentage
West African Dwarf sheep and goats	24.0
Local chickens (Backyard poultry)	10.4
Broilers (Exotic poultry)	8.3
Layers (Exotic poultry)	6.2
Piggery	34.4
Those who do not engage in any livestock practice	16.7

34.4% of the Nsukka rural farmers' respondents keep pigs. Other respondents keep West African Dwarf sheep and goats (24.0%), local chickens (Backyard poultry) (10.4%), broilers (exotic poultry) (8.3%), layers (exotic poultry) (6.2%). 16.7% of the respondents do not engage in any livestock farming system.

Table 5: Descriptive statistics on types of agricultural information that the Nsukka rural farmers respondents have benefited from in the past

Agricultural information	N	Mean	± Std error
Introduction of new herbicides and pesticides/uses.	96	2.98	.085
Better crop rotation practices and fertilizer application.	96	2.69	.084
Types of soil and the best soil type for planting.	96	2.64	.080
Introduction of improved seedlings	96	3.34	.087
Crop disease treatment and control.	96	2.96	.064
Livestock disease treatment and control.	96	2.93	.070
Use of artificial insemination (AI) on local sheep and goats.	96	2.12	.076
New methods of crop preservation.	96	3.06	.114
Introduction of new animal vaccines and drugs.	96	3.18	.134

The results of the Likert analysis of the data collected from the rural farmers' respondents showed a wide range of agricultural information which these rural farmers have benefited from in the past. Such agricultural information include: introduction of new seedlings (3.34±.087), introduction of new vaccines and drugs (3.18±.134), new methods of crop preservation (3.06±.114), introduction of new herbicides and pesticides/uses (2.98±.085), crop disease treatment and control (2.96±.064), better crop rotation practices and fertilizer application (2.69±.084) and types of soil and best soil type for planting (2.64±.080)

Table 6: Descriptive statistics on organs employed in accessing agricultural information in Nsukka LGA by the rural farmers' respondents

Organs used in dissemination agricultural information	N	Mean	±Std
Community library	96	2.17	.078
Newsletters	96	2.38	.067
Posters	96	3.39	.079
Exhibitions	96	2.40	.076
Leaflets	96	2.95	.060
Radio	96	3.61	.056
Television	96	3.61	.063
Extension workers	96	2.60	.092

ADP/ENADEP agents	96	2.52	.099

From the result of this study, the following were identified as organs used by the rural farmers' respondents in Nsukka LGA in accessing agricultural information-posters (3.39±-079), radio (3.61±.056), television (3.61±.063), leaflets (2.95±.060), extension workers (2.60±.092) and ADP/ENADEP agents (2.52±.099).

Table 7: Descriptive statistics on rating of problems that are associated with crop and livestock production in Nsukka LGA by Nsukka rural farmers' respondents

Constraints	N	Mean	±Std
Destruction of crops by locust	96	3.30	.098
Destruction of crops by farm worms	96	3.29	.091
Destruction of crops by rain	96	2.36	.077
Poultry diseases (Newcastle disease, Gomboro disease, fowl pox, etc.)	96	3.52	.080
Poor agricultural yield as a result of poor seedlings	96	3.58	.078

The rural farmers that were sampled in this study identified a wide range of constraints of farmers in Nsukka LGA vis avis crop and livestock production. The identified constraints or problems are poor agricultural yield due to poor seedlings (3.58±.078), poultry diseases (3.52±.080), destruction of crops by locust (3.30±.098) and destruction of crops by farm worms (3.29±.091).

Table 8: Descriptive statistics on constraints encountered by the Nsukka rural farmers' respondents in their quest to access agricultural information from their community

Constraints	N	Mean	±Std
Poor public relation of the extension workers	96	3.43	.082
Inability to read and write (illiteracy)	96	3.40	.086
Poor radio and television signals	96	3.41	.069
Agricultural information on radio and television is always aired at odd hours when farmers who desire such information have gone to their farms.	96	3.14	.105
Lack of rural electrification/constant power interruption in communities that have electricity supply	96	3.41	.087
Lack of access roads for easy community visit of extension workers	96	3.48	.077
Agricultural information is not broadcast on radio and television in Nsukka dialect.	96	3.30	.105

Lack of money to purchase newsletters, leaflets on agricultural information	96	3.41	.088

From this study, myriads of constraints are always encountered by the Nsukka rural farmers' respondents in their quest to access agricultural information for better crop and livestock production. Such constraints include: lack of access roads in their communities (3.48±.077), poor public relation of extension workers (3.43±.082), poor radio and television signals (3.41±.069), none availability of electricity/constant power interruptions in most Nsukka villages (3.41±.087), poor financial power to purchase newsletters, leaflets that publish relevant agricultural information (3.41±.088), illiteracy (3.40±.086) and agricultural information not being broadcast on radio and television in native Nsukka dialect (3.30±.105).

Table 9: Descriptive statistics on strategies that would help rural farmers in Nsukka LGA to mitigate the constraints that face them (rural farmers) in accessing agricultural information

Measures that would help in mitigating the constraints of accessing agricultural information	N	Mean	±Std
Construction of good access roads to enable regular visits by extension workers and other agricultural agents	96	3.65	.063
Building community libraries that would help in procuring books, newsletters, leaflets, etc on agricultural information	96	3.28	.081
Need for community rural electrification via the help of Enugu State government.	96	3.38	.092
Introduction of new power transformers to assuage power interruptions	96	3.51	.076
Installation of radio and television antennas at strategic places by radio and television co operations in the state to aid in better reception of radio and television signals.	96	3.54	.072
Need to broadcast agricultural information on radio and television once a week, in native Nsukka dialect to enable the illiterate farmers understand and apply the innovations.	96	3.36	.098
Radio broadcast on agricultural information should be aired when majority of the rural farmers would have returned from their farms (2 and 3 pm).	96	3.41	.087

To mitigate the constraints of accessing agricultural information in Nsukka LGA, the rural farmers' respondents positively rated the following measures: construction of good access roads leading to various Nsukka communities/villages (3.65±.063), installation of radio and television antennas at strategic position in Nsukka area to aid radio and television reception in towns and villages in Nsukka LGA (3.54±.072), mounting of electric transformers in villages/communities in Nsukka LGA (3.51±.076), airing of agricultural information programmes on radio between the hours of 2 and 3 pm when the rural farmers would have returned from their farms (3.41±.087), proper community rural electrification via the help of Enugu State government (3.38±.092), broadcasting of agricultural information on radio and television in Nsukka dialect (3.36±.098) and building of community libraries in Nsukka villages so as to help in furnishing some rural literate farmers with books, leaflets, newsletters etc on agricultural information (3.28±.081).

Discussion

In this study, the percentage gender distribution of the rural Nsukka farmers' respondents show that males (men) (69.8%) are more involved in farming work than females (women). Only 30.2% of the females were identified as farmers in this study. This observation is not surprising as farming activity is more or less a tedious work that requires enormous strength and energy. Nweke (1980) and King (1992) revealed that men perform more difficult farming operations, such as land preparation (clearing bushes and making of mounds and ridges) while women and children perform lighter operations, such as planting, fertilizer application, weeding etc.

In the area of study (Nsukka LGA), majority of the rural farmers' respondents who practice farming are in the age range of 46-55 years (49.9%). Few of the respondents in the age range of 36-45 years (26.0%) also practice farming in their different communities. These days, the active young men and women (26-35 years and 36-45 years) who should form the bulk of the work force have deserted the rural communities and moved to the cities in search of government employment. Obviously this trend has not encouraged rural productivity as it has left farming in the hands of the old, the illiterate and very few energetic young men who live in the villages, perhaps only due to unavoidable circumstances (Adebayo, 1999). 49.9% of the rural farmers' respondents in this study engage in crop farming while 51.0% practice livestock farming. Most of the livestock farmers' respondents in Nsukka LGA keep pigs (34%) and West African Dwarf sheep and goats (24%).

Having accessing to agricultural information is an essential ingredient that would always lead to better crop and livestock production in any community. Farmers in Nigeria seldom feel the impact of agricultural innovation either because they have no access to such vital information or because it is poorly disseminated (Ozowa, 1995). In this study, the Nsukka rural farmers' respondents have in the past benefited from a wide range of agricultural information as evidenced from the result presented in Table 5. Some of the rural farmers' interviewees reported that they have in the past received new improved maize seedlings and cassava stem (*Manihut palmata*) from ADP and ENADEP. All these are geared towards better maize and cassava production in Nsukka LGA. The rural farmers' respondents have also benefited from distribution of new vaccines and drugs from the Enugu State ministry of Agriculture for healthy livestock production in Nsukka LGA. Other aspects of agricultural information which the rural farmers respondents have benefited from in the past as evidenced from the result of this study include: new methods of crop preservation, introduction of new herbicides and pesticides for the control of farm weeds and insect pests, methods of crop disease treatment and control, better systems of crop rotation and fertilizer application and types of soil and best soil type for planting.

Rural farmers are meant to know and also adopt agricultural innovations relevant to their situations. It is the duty of institutional and government organs (the Agricultural Extension and Research Liaison Services-AERLS, the extension services of the Agricultural Development Project-ADPs, Ministries of Agriculture at both state and federal levels, Media Forum for Agriculture, Cooperative Extension Centres-CEC of universities etc) to ensure that towns and villages in Nigeria have easy access to agricultural information for enhancement of crop productivity and better animal husbandry practice. From the result of this study (Table 6), the major organs used in accessing agricultural information by the rural farmers' respondents in Nsukka LGA are posters, radio, television, leaflets, extension workers and ADP/ENADEP agents. Ozowa, (1995) stated that media such as leaflets, newsletters, posters, exhibition, visual aids and radio/television programmes are used in communicating agricultural information to towns and villages. Radio and television (though controlled by government) are popular organs in disseminating agricultural information to rural farmers. Of all the existing channels of agricultural communication, Nigerian farmers rank extension (extension services/agents) highest in terms of providing credible information and advice, especially on

agricultural technology (Ozowa, 1995). A major function of extension is to get the farmer into a frame of mind and attitude conducive to acceptance of technological change.

Some crop and livestock production constraints or problems are encountered by the Nsukka rural farmers' respondents in this study (Table 7). These constraints or problems include poor agricultural yield, poultry diseases, destruction of crops by locusts and destruction of crops by farm worms. When Nsukka rural farmers have adequate access to agricultural information regarding to these identified crop and livestock constraints in Nsukka LGA, there is bound to be better production results. Poultry drugs and vaccines as well as pesticides from the state ministry of Agriculture will be able to take care of the ravaging poultry diseases and crop farm worms and pests menacing crops on farms.

In most cases, when rural farmers try to have access to agricultural information, they are often groped with some constraints and the resultant effect of this is always poor agricultural yield. The result of this study revealed a good number of constraints which the rural farmers' respondents encounter in accessing agricultural information from their communities. These constraints are lack of access roads for regular visits by extension officers, poor public relation of some extension staff, poor radio and television signals, none availability of electricity supply in most Nsukka villages, lack of funds to purchase newsletters, leaflets on agricultural information; illiteracy and inability of radio and television stations in Enugu State to broadcast agricultural information programmes in native Nsukka dialect. Aina (2007) associated the following problems or constraints with dissemination of agricultural information in Africa:

1. Inadequate financial power of farmers in Africa.

2. African farmers are illiterate. Majority of them cannot read or write in any language.

3. Farmers in Africa live in areas, where there is lack of basic infrastructure, such as telephone, electricity, good road network, pipe borne water etc.

4. Few number of extension workers (the ratio of agricultural extension workers to farmers is low).

5. Poor radio and television reception signals in most village communities in Africa.

Some of the rural farmers interviewed frowned at the attitude of some extension workers who visit their area. According to these rural farmers' interviewees, some of the extension workers demand some money before they can give out vital agricultural information. This attitude of some extension staff will never help the rural farmers to achieve optimal farm yield.

From the result of this study as presented in Table 9, a number of measures were identified by the rural farmer' respondents as necessary strategies to mitigate the constraints experienced by Nsukka rural farmers in accessing agricultural information. These measures include construction of good access roads, installation of radio and television antennas at strategic positions in Nsukka for better radio and television signal receptions, mounting of electric transformers in villages/communities in Nsukka LGA, airing of agricultural information programmes on radio between the hours of 2 and 3 pm; when the farmers would have come back from their farms, provision of community rural electrification via the Enugu State government, broadcasting agricultural information programmes on radio and television in native Nsukka dialect and building of community libraries in towns and villages in Nsukka LGA. Community libraries will no doubt help in procuring books, newsletters, leaflets on agricultural information which the literate farmers can borrow and read through. The community library staff can also partner with the state ministry of Agriculture to organism seminars and workshops on agricultural innovations for the rural farmers.

Conclusion

For easy access and effective utilization of agricultural information in this digital age, there is need for establishment of information centres in all rural communities in Nigeria. Such information centres would be able to provide the rural farmers the desired agricultural information in a format that would be comprehensible to them, taking into cognizance the prevailing high illiteracy rate, cultural differences and limited technology (Aina, 2007). Nigerian rural farmers are still backward when it comes to latest developments in various areas of farming practices, e.g. telecommunication infrastructures. Telecommunications infrastructure is a major aspect of information dissemination in the rural areas. According to Griffith and Smith (1994), telecommunications infrastructure connects homes, businesses, schools, hospitals, libraries to each other and to vast array of electronic information resources. Both the state and federal government should work towards the development of telecommunications infrastructure in all the rural areas (information centres) in Nigeria so as to help the rural farmers' access agricultural information for optimal farm production. Information centres in every rural community should be equipped with up to date information and communication gadgets, such as computers with internet access, local area and wide area networks, radio and television sets, telephones and fax machines, multimedia projectors, video and audio recorders (Griffith and Smith, 1994). The states and federal government should also consider the need for rural communities to have mini community libraries in their areas. By so doing, such community libraries would be able to engage the services of qualified librarians who would be in position to liaise with the staff of information centre in their area so as to help in capturing relevant agricultural information from Internet, ministries of agriculture and other agro allied establishments. Such captured information would then be repackaged in a format that the rural farmers would understand and put into practice for better farming operations. For effective dissemination of agricultural information in rural communities by extension staff, ADP and ENADEP workers, there is need for construction of good access roads that would lead to all the remote rural communities in the country.

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