AGRICULTURAL INFORMATION GENERATION AND DISSEMINATION BY AGRIC EXTENSION WORKERS IN ANAMBRA STATE AGRICULTURAL DEVELOPMENT PROGRAM, AWKA

BY

Egwuonwu Ugochi Iruoma
Lecturer 1, MLIS
Department of Library and Information Science
Nnamdi Azikiwe University, Awka.
ui.Egwuonwu@Unizik.Edu.Ng
08034996014

Osuchukwu Ngozi Perpetua
Department of Library and Information Science
Nnamdi Azikiwe University, Awka.
np.Osuchukwu@Unizik.Edu.Ng
08033121230
&
Adokwe, Chinenye Christiana
Department of Library and Information Science
Faculty of Education
Nnamdi Azikiwe University, Awka.
Chrischinny06@gmail.com
07042794111

ABSTRACT

This study investigated agricultural information generation and dissemination by Agric Extension Workers in Anambra state agricultural development program, Awka. Descriptive survey research design was adopted for this study. Questionnaire and an observation check list were used for data collection. The study comprised of 25 respondents which consists extension workers in the Anambra state agricultural development program. Four research questions guided the study. Mean was used to answer research questions. The major findings of the research include: that some of the agricultural information generated by agro extension workers in Anambra state agricultural development program are; information on pests and disease control, information on marketing of farm produce, the methods agricultural information are disseminated by agric extension workers include; through social media, through non-governmental organization. The challenges include; absence of extension agents and insufficient information on government policies and solutions are among others; poor communication system should be improved and training and retraining of extension workers. The study recommended that poor communication system should be improved for the extension workers and there should be adequate training and retraining of extension workers.

Key words: Agricultural Information, Agricultural Information Generation, Agricultural Information Dissemination, Agric Extension Workers , Agricultural Development Program

Background to the Study

Information is an abstract concept that refers to that which has the power to inform. Unprocessed information available at one step are processed into information that can be interpreted and processed at another step. Information can exist in different types and forms such as Agricultural information which deals mainly on information pertaining to agriculture.

Agricultural information refers to the collection, analysis and dissemination of data and knowledge related to agriculture, including crops, livestock, fisheries, forestry and natural resources. It is essential for farmers, researchers, policy makers, and other stakeholders to make informed decisions and improve agricultural productivity, and profitability (Klerkx and Aarts, 2013). Agricultural information can be classified into several categories, including production statistics, market information, weather forecasts, extension services, research findings, and policy analysis (Young, 2018). Production statistics provide information on quantity and quality of agricultural outputs such as crop yields, livestock production and fish catch, which enable farmers to assess their performance and plan for the future.

Agricultural information is crucial for the development of the agricultural sector. It provides farmers with the necessary knowledge and skills to increase their productivity, improve their income, and ensure food security (Njeru, Ayuya, and Ouma, 2017). They went further to state that policymakers use agricultural information to make informed decisions on policies related to agriculture, including subsidies, trade agreements, and research funding. According to Pande and Bhattarai (2017), researchers use agricultural information to develop new technologies and practices that enhance the productivity and sustainability of agriculture. Furthermore, agricultural information is vital for the effective management of natural resources, such as water and soil (Kariuki and Mburu, 2020). It enables farmers to adopt sustainable agricultural practices that

conserve natural resources and reduce the impact of agriculture on the environment. Agricultural information also plays a crucial role in the prevention and management of plant and animal diseases, which can have significant economic and social consequences (Pandey and Bhattarai, 2017).

There are various sources of agricultural information, including government agencies, non-governmental organizations, research institutions, and private sector companies (Demiryurek, 2018). Government agencies such as the United States Department of Agriculture (USDA) and the Food and Agriculture Organization (FAO) of the United Nations provide valuable agricultural information, including statistics, policy reports, and research findings (World Bank, 2017). According to World Bank (2017), non-governmental organizations such as the International Rice Research Institute (IRRI) and the Consultative Group on International Agricultural Research (CGIAR) conduct research on agriculture and disseminate their findings to farmers and policymakers. Research institutions such as universities and research centers also play a crucial role in generating agricultural information. Private sector companies, including seed and fertilizer companies, provide farmers with information on the latest technologies and practices that can enhance their productivity.

Agric extension workers are professionals who work with farmers, rural communities, and other stakeholders in the agricultural sector to provide advisory services, technical assistance, and training on a range of agricultural topics (Asogwa, 2015). Their primary role is to help farmers adopt new technologies and practices that can improve productivity, increase profitability, and reduce environmental impact (Echeta, 2016). They provide information on best practices for soil management, water conservation, pest control, and crop selection.

The Agricultural Development Programme (ADP) in Nigeria were designed in response to the fall in agricultural productivity, and the concern to sustain domestic food supplies, as labour had moved out of agriculture into more remunerative activities that were befitting from the oil boom (Okolo, 2014). The establishment of the Agricultural Development Programmes (ADP) in Nigeria ushered in a new era in the history of Nigerian agriculture because for the first time an Agricultural Development Programme (ADP) focused attention on cassava farmers as an important component of agricultural development (Nwosu, 2014).

A Federal entity titled Agricultural Projects Monitoring Evaluation and Planning Unit (1975), reviewed in recent times (Akinbamowo, 2013) was created to support the Agricultural Development Programme projects. The Agricultural Development Programmes appear to have strong support to continue as agricultural development implementing agents in the states (Akinbamowo, 2013). According to Uzor (2015) this however, has not been translated into support in budgetary funding, so that most Agricultural Development Programmes have experienced serious funding constraints when Bank loan support decline. The constrained budget situation gives some priority to a critical review of the respective roles and functions of the regular state ministry Departments and the Agricultural Development Programmes (Rasheed, 2014).

The Agricultural Development Programme concept has put the rural small holder sector at the center of government agricultural development strategy. Considering the fact that agriculture constitutes about 40 per cent of Nigeria's Gross Domestic Product (GDP), employs almost three-quarters of Nigerians and is yet to be substantially modernized, the ADP system should be sustained so as to continue to reap the two fold benefit of developing the agricultural sector and alleviating poverty in the rural sector (Okolo, 2014).

Information source is an institution or individual that creates or brings about a message (Statrasts, 2014). The characteristics of a good information source are relevance, timelessness, accuracy, cost effectiveness, reliability, usability, exhaustiveness and aggregation level (Statrasts, 2014). According to Oladele (2019), the efficiency of technologies generated and disseminated depends on effective communication which is the key process of information dissemination. The development of agricultural technologies requires among other inputs, a timely and systematic transmission of useful and relevant agricultural information (messages) through relatively well-educated technology dissemination (extension) from formal technology generation system (research) via various communication media (channels) to the intended audience – farmers (Oladele, 2019). It is expected that the message from the client (effect) be passed back to the source or research (feedback) for the communication process to be complete. Despite the attempt at technological innovation transfer, the wide gap between the levels of production which research contends is attainable and that which farmers achieve suggests a missing link (Oladele, 2019). Also, weak linkages between the farmer, extension and researcher mean that the farmers are not included in the planning of the innovation and hence do not know where to get their technologies despite the fact that they are the end users. Agricultural information disseminated by different information sources needs to be determined. It is imperative therefore to identify the sources of agricultural information utilized by farmers.

According to Omoregbee and Adu, (2013) agricultural extension services are designed to provide small-scale farmers with information on modern farming techniques, new technologies, and best practices. These services also provide farmers with access to markets, credit facilities, and other support services.

The use of information and communication technologies (ICTs) have the potential of revolutionizing the way agricultural information is generated and disseminated. For example, mobile phones can be used to provide farmers with first hand weather information, market prices, and other important information.

However, there are several challenges that need to be addressed to improve agricultural information generation and dissemination. According to Klerkx and Aarts (2013) one of the major challenges is the lack of infrastructure, particularly in rural areas. Many small-scale farmers do not have access to electricity, let alone the internet. Therefore, there is a need to invest in infrastructure to ensure that information can be disseminated to rural areas (Young, 2018). Another challenge is the lack of awareness among small-scale farmers about the importance of agricultural information. Many farmers are not aware of the benefits that can be derived from access to agricultural information. Therefore, there is a need to create awareness campaigns to educate farmers about the importance of agricultural information (Pretty, 2020).

To ensure that agricultural information is effectively generated and disseminated to small-scale farmers, it is important to establish effective communication channels. These channels should be designed to cater to the specific needs of small-scale farmers, taking into consideration their level of literacy and access to technology.

One approach to improving communication channels is to establish Community-Based Organizations (CBOs) that can serve as intermediaries between farmers and extension services (Food and Agriculture Organization of the United Nations, 2019). CBOs can help to bridge the gap between small-scale farmers and extension services by providing training and support to farmers. They can also help to disseminate information on best practices and new technologies. Another effective approach is to establish Farmer Field Schools (FFS). FFS are designed to provide

hands-on training to farmers on various aspects of farming, including crop production, livestock management, and post-harvest handling (Pardey and Beintema, 2021). FFS are particularly effective in areas where access to extension services is limited, as they provide an opportunity for farmers to learn from each other.

Agricultural information is relevant to the needs of small-scale farmers, it is important to involve them in the process of information generation and dissemination. Farmers should be consulted on their specific needs and preferences, and their feedback should be incorporated into the design of extension services and other communication channels. This will help to ensure that the information provided is useful and practical for small-scale farmers. It is on the note that the researcher is investigating agricultural information generation and dissemination by Agric extension workers in Anambra state agricultural development program, Awka

Statement of the Problem

Despite government effort to promote food production in Nigeria-through the use of various policy and programme, it appears that the efforts are yet to yield enough result. Village farmers seem still to be lacking information about the latest research findings even where available, many still may not have access to it. Government is bombarding public eardrum with slogans and platitudes: operation feed the nation, green revolution, self-reliance-lots of publication in different forms like journals, books and bulletin were produced and circulated among organization agricultural productivity at the village level is still at the low ebb. The impact of new research finding is yet to be filed at the village level. Farmers are yearning for new technology that will enhance their productivity. Information for development is not to be advantages of the rural farmers the problems militating against effective dissemination of information to farmers are:

Lack of adequate and prompt fund for public awareness activities, lack of adequate and undated materials for research purposes, communication barrier, topography, wrong perception of researchers towards farmer illiteracy and superiority complex of research over farmers. In order to find out place of information in agricultural development, an analytical research of this nature is necessary and data gathered will provide empirical evidence that will guide policy makers, students, researchers, extension workers and development bank officers for formulation new and better policy.

Moreover, the information provided may be insufficient, outdated or not relevant to their needs. Therefore, this research project is aimed at investigating agricultural information generation and dissemination by Agric extension workers in Anambra state agricultural development program, Awka,

Purpose of the Study

Specifically, the study tends:

1. To identify various agricultural information generated by agric extension workers in Anambra state agricultural development program
2. To determine methods agricultural information are disseminated by agro-extension workers
3. To determine the challenges agricultural extension workers, face in generating agricultural information
4. To proffer solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program

Research Questions

The following research questions guided the study:

1. What are the various agricultural information generated by agro extension workers in Anambra state agricultural development program?
2. What are the methods agricultural information are disseminated by agro extension workers?
3. What are the challenges agricultural extension workers face in generating agricultural information?
4. What are the solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program?

Methodology

The research design adopted in the study was descriptive survey research design. The area of the study is Anambra state agricultural development programme, Awka. The population of this study is 25, which consist of agricultural extension workers in Anambra state agricultural development program, Awka. The agricultural extension workers were chosen as the sample to be used because they are the staff of Anambra state agricultural development program, Awka and they are in the best position to know and tell how agricultural information is being generated and disseminated in Anambra state agricultural development program, Awka.

No sample was taken because the population was small and manageable for the researcher to handle, so all 25 respondents consisting of the staff of Anambra state agricultural development program, Awka were used.

The research instrument used for data collection was questionnaire and an observation check list. The questionnaire was titled “agricultural information generation and dissemination in Anambra state agricultural development program, Awka,” This questionnaire items were designed based on the aspects of the research questions. The questionnaire is divided into two sections,

section A and B. The section A of the questionnaire contain Bio-data of respondents and section B with subsections each convening one of the research questions/purpose of the study.

Copies of the questionnaire were administered to the staff of Anambra state agricultural development program, Awka.

The researcher used frequencies and simple percentage as well as mean rating in analyzing the data collected from the field. Midpoint for responses in four (4) point rating scale was 2.50 which was the mean of the four scales derived as follows, 4+3+2+1=10/4=2.50. Items to the values 2.50 and above were also given positive interpretation (agreed) while items to the values below 50% and 2.50 were interpreted negatively (disagreed).

Results

Research Question 1: What are the various agricultural information generated by agric extension workers in Anambra state agricultural development program?

Observation checklist on the various agricultural information generated by agro extension workers in Anambra state agricultural development program

S/N	ITEMS	Generated	Not generated
1.	Information on pests and disease control	√	
2.	Information on marketing of farm produce	√	
3.	Information on credit and loan facilities available to farmers	√	
4.	Information on fertilizer availability and use	√	
5.	Information on new findings on varieties of crops and animals	√	
6.	Information on new techniques and farm implements	√	
7.	Information on weed control and management	√	
8.	Information on disease resistant varieties of crops and animals	√	
9.	Information on cropping system	√	

10.	Information on food storage and processing	√

Table 1 shows observation checklist for the various agricultural information generated by agric extension workers in Anambra state agricultural development program. According to observation by the researcher, the various agricultural information generated by agro extension workers in Anambra state agricultural development program are; information on pests and disease control, information on marketing of farm produce, information on credit and loan facilities available to farmers, information on fertilizer availability and use, information on new findings on varieties of crops and animals, information on new techniques and farm implements, information on weed control and management, information on disease resistant varieties of crops and animals, information on cropping system and information on food storage and processing.

Research Question 2: What are the methods agricultural information are disseminated by agro extension workers?

Mean ratings on the methods agricultural information are disseminated by agro extension workers

S/N	ITEMS	Mean (x)	Decision
1.	Social media	3.45	Agree
2.	Through Non-governmental organisations	3.60	Agree
3.	Through research institutions	3.82	Agree
4.	Publications in National journals of agriculture	3.95	Agree
5.	Presenting at a national conference and workshop on agriculture	3.74	Agree
6.	Presenting agricultural information to directly to local communities	3.78	Agree

Table 2 shows mean ratings for the methods agricultural information are disseminated by agro extension workers. According to the responses generated from the respondents, all the items generated positive mean ratings of 2.50 and above. This means that all the items were accepted by

the respondents. Therefore, the methods agricultural information are disseminated by agro extension workers are; through social media, through non-governmental organization, through research institutions, publications in national journals of agriculture, presenting at a national conference and workshop on agriculture and presenting agricultural information directly to local communities. The responses generated positive mean ratings of 3.45, 3.60, 3.82, 3.95, 3.74 and 3.78 respectively.

Research question 3: What are the challenges agricultural extension workers face in generating agricultural information?

Mean ratings on the challenges agricultural extension workers face in generating agricultural information

S/N	ITEMS	Mean (x)	Decision
1.	Absence of extension agents	3.40	Agree
2.	Insufficient information on government policies	3.84	Agree
3.	Poor communication system	3.95	Agree
4.	Insufficient credit facilities	3.70	Agree
5.	Insufficient fund	4.00	Agree

The items in table 3 shows the challenges agricultural extension workers face in generating agricultural information. It was gathered that the responses gotten from the respondents generated positive mean ratings of 3.40, 3.84, 3.95, 3.70 and 4.00 respectively. Therefore, the challenges agricultural extension workers face in generating agricultural information are; absence of extension agents, insufficient information on government policies, poor communication system, insufficient credit facilities and insufficient fund.

Research question 4: What are the solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program?

Mean ratings on the solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program

S/N	ITEMS	Mean (x)	Decision
1.	Poor communication system should be improved	3.95	Agree
2.	Training and retraining of extension workers	3.85	Agree
3.	Provision of more credit facilities	3.88	Agree
4.	Provision of funds	4.00	Agree
5.	Government policies on agriculture should be made known to the extension workers	3.65	Agree

Items in table 4 indicated the possible solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program. The respondents agreed to all the items presented which generated positive mean ratings of 3.95, 3.85, 3.88, 4.00 and 3.65 respectively. Therefore, solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program are that; poor communication system should be improved, training and retraining of extension workers, provision of more credit facilities, provision of funds and that government policies on agriculture should be made known to the extension workers

Discussion

From the results, some of the agricultural information generated by agro extension workers in Anambra state agricultural development program are; information on pests and disease control, information on marketing of farm produce, information on credit and loan facilities available to farmers. This is in line with the findings of Ozowa (2015) who indicated that the information needs may be grouped into five headings: agricultural inputs; extension education; agricultural technology; agricultural credit; and marketing. Modern farm inputs are needed to raise small farm productivity. These inputs may include fertilizers, improved variety of seeds and seedlings, feeds, plant protection chemicals, agricultural machinery, and equipment and water.

Furthermore, the methods agricultural information is disseminated by agro extension workers are; through social media, through non-governmental organization, through research institutions, publications in national journals of agriculture. This is in line with the findings of Njuguna and Kooijman (2019) who reported that the sources of agriculture information ranked most frequently in the top were neighbors, local meetings and government extension. Farmer training colleges and organized tours were mentioned least frequently. Non-Governmental Organizations and churches were important sources of information in some divisions. Radio was mentioned as an important medium of agricultural information.

The challenges agricultural extension workers face in generating agricultural information among other include: absence of extension agents, insufficient information on government policies, poor communication system, insufficient credit facilities and insufficient fund. This is in line with the findings of World Bank (2017) who noted that budgetary allocation in most developing countries remains a major problem, hindering the agricultural extension service in its efforts to transfer information to farmers with a view to increase agricultural production. Government budgetary allocations on agriculture continue to increase but in reality the agricultural production has increased as expected.

More so, some of the solutions to the challenges faced by agricultural extension workers in Anambra state agricultural development program among others are: poor communication system should be improved, training and retraining of extension workers, provision of more credit facilities, provision of funds and that government policies on agriculture should be made known to the extension workers. This is in line with the findings of Igwe and Esonwune (2014) who claimed that to address these challenges, there is a need for enhanced coordination among stakeholders. This can be achieved through the establishment of a centralized platform for the

collection, management, and dissemination of agricultural information. Such a platform should involve all stakeholders, including governments, research institutions, non-governmental organizations, and the private sector.

Conclusion

From the interpretations and discussion of results of this study as they affect the research questions, the following conclusions were made; The findings of the study revealed that some of the agricultural information generated by agro extension workers in Anambra state agricultural development program are; information on pests and disease control, information on marketing of farm produce, information on credit and loan facilities available to farmers. Again, the findings showed that the methods agricultural information are disseminated by agro extension workers are; through social media, through non-governmental organization, through research institutions, publications in national journals of agriculture.

Recommendations

Based on the findings from the study, the researcher wishes to recommend as follow:

1. Poor communication system should be improved for the extension workers
2. There should be adequate training and retraining of extension workers either through conferences, seminars or workshop.

References

Asogwa, I.A (2015). Analysis of policy issues in technical efficiency of small-scale farmers using stochastic production function with application to Nigerian farmers. *Paper prepared for presentation at International Farm Management Association Congress*, Wagemngen, Netherlands

Bao-hong, (2015). Appropriate-Intermediate and modern technologies for rural farmers in Nigeria: Process and Prospects. *Farm Management Association of Nigeria conference*, 2015,pp 155 - 158.

Berg, W. C. (2016). *Raising and sustaining the productivity of small holder farming systems in the Tropics*. Agbe Publishing, Alkmaar Holland.

Echeta, N.A. (2016). *Socio-economic characteristics of farmers affecting loan repayment in Enugu State of Nigeria*. Unpublished M.Sc. Thesis, Department of Agricultural Economics, University of Nigeria, Nsukka.

Fakayode, B., &Ajao, (2017) . Input - Output Relationship and Resource Use Efficiency in Cassava Production in Jama"a L. G. A. of Kaduna State. *Proceedings of the 10th Annual Conference of Nigeria Association of Agric Economics*, 7 - 10th October held at University of Abuja.

Fan, R. & Rosegrant, N. (2014). Methods for studying collective action in rural development, *CAPRi Working Paper*. Washington D.C.: International Food and Policy Research Institute

Food & Agriculture Organization. (2015).Agricultural Investment and Productivity in Developing Countries.*FAO Economics and Social Development Paper No. 148*. FAO Document Repository.

Food and Agriculture Organization of the United Nations. (2019). Agricultural Extension and Advisory Services. Retrieved from http://www.fao.org/agriculture/ag-extension-services/en/

Igwe & Esonwune, (2014). An X-ray of Nigeria's agricultural sector exports and gross domestic product under diverse exchange rates policies: 1960-2002. *Journal of Economics and Allied Fields, 2*(2).

Kariuki, J. G., & Mburu, J. (2020). Challenges facing farmers in accessing agricultural information in Kenya. *International Journal of Scientific and Research Publications*, 10(2), 1-7.

Klerkx, L., Adu-Acheampong, R., Nederlof, S., & Znabou, S. (2013). Scaling pathways for integrated soil fertility management in Africa: lessons and challenges for policy and practice. *Sustainability*, 5(5), 2211-2241.

National Research Council. (2011). *Agricultural extension and rural development: breaking out of traditions. National Academies Press.*

Njeru, P., Ayuya, O. I., & Ouma, G. (2017). Agricultural extension delivery in Kenya: Status, challenges, and opportunities. *Journal of Agricultural Extension and Rural Development*, 9(8), 183-193.

Nwosu, C. S. (2014). Comparative Economics of Resource Use by ADP and Non-ADP Cassava Farmers in Orlu Agricultural Zone of Imo State, Nigeria.*Proceedings of the 39th Annual Conference of Agricultural Society of Nigeria*, University of Benin, October 9th - 13th, pp 1 - 4.

Okolo, O. (2014). Efficiency of resource -use in cassava production in Kogi State, Nigeria: Implications for food security and environmental degradation. *Journal of Environmental Extension, 4*, 13-17.

Omoregbee, F. E., & Adu, E. O. (2013). Information and communication technologies (ICTs) for agricultural extension in developing countries: prospects and challenges. *Journal of Agricultural Extension and Rural Development*, 5(5), 96-104

Pandey, S., & Bhattarai, M. (2017). Role of agricultural information in rural development: A review. *Journal of Agriculture and Environmental Sciences*, 6(1), 1-16.

Pretty, J. (2010). Agricultural sustainability: concepts, principles and evidence. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 365(1554), 287-295.

United States Department of Agriculture (USDA). (2020). *Agricultural information and statistics*. Yes am around now from https://www.usda.gov/topics/data.

World Bank. (2017). *Agricultural information and communication technologies for development (ICT4Ag)*. Washington, DC: World Bank.

World Bank. (2021). *Agriculture, value added (% of GDP) - Nigeria*. Retrieved from https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?locations=NG