# INFORMATION SOURCING, ORGANIZATION AND DISSEMINATION BY AGRICULTURAL EXTENSION WORKERS IN BORNO STATE AGRICULTURAL DEVELOPMENT PROGRAMME

**BY**

**Saidu Adamu Mbaya**

**MARCH, 2015**

# INFORMATION SOURCING, ORGANIZATION AND DISSEMINATION BY AGRICULTURAL EXTENSION WORKERS IN BORNO STATE AGRICULTURAL DEVELOPMENT PROGRAMME

**BY**

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**MLS/EDUC/15045/2010-2011**

**A THESIS SUBMITTED TO THE SCHOOL OF POST GRADUATE STUDIES, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS DEGREE IN LIBRARY SCIENCE (MLS)**

**DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE**
**FACULTY OF EDUCATION**
**AHMADU BELLO UNIVERSITY, ZARIA**

**March, 2015**

## DECLARATION

I hereby declare that this thesis titled "Information Sourcing, Organization and Dissemination by Agricultural Extension Workers in Borno State Agricultural Development Programme" submitted for the award of Masters Degree of Library and Information Science (MLS) is my own original work and has not previously been submitted in any other institution of higher education. I further declare that all sources cited or quoted are indicated and acknowledged.

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Saidu Adamu Mbaya Date

## CERTIFICATION

This thesis entitled “Information Sourcing, Organization and Dissemination by Agricultural Extension Workers in Borno State Agricultural Development Progrmme” written by Saidu Adamu Mbaya has met the requirement governing the award of Masters Degree in Library Science (MLS) of the Ahmadu Bello University Zaria. Therefore is hereby approved for its contribution to knowledge and literary presentation.

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## DEDICATION

Dedicated to my late parents, Mal. Adamu and Malama Halima, my wife Hadiza, and children Fastuma, Abubakar, Nasiru, Amina, Halima, and Adama

## ACKNOWLEDGMENTS

First and foremost, I thank Almighty ALLAH for giving me the opportunity and sound health to complete this research work successfully. My sincere thanks and appreciation goes to my major supervisor Professor Umar Ibrahim, as without his valuable and constructive corrections and guidance, the completion of this work would not have been possible. Thus, I am very much indebted to him for all his support and willingness to advice and encouragement given to me on all my efforts to complete this work successfully. I wish to register my profound appreciation and gratitude to my co-supervisor Dr Baba Aduku for his constructive corrections, advices and encouragement throughout the period of writing this thesis. He took over the supervision after the demise of Dr Ahmad Aliyu Lemu despite the overloaded candidates earlier assigned to him for supervision. Special appreciation also goes to the co-supervisor late Dr Ahmed Aliyu lemu (May His Soul Rest in Peace), whom this work started with him. He contributed valuable and constructive comments during writing the research proposal. Successful and timely accomplishment of this study would have been very difficult without his generous devotion from the early design of the research proposal. My sincere appreciation and thanks goes to Profesor Zakari Mohammaed for the valuable time he spent in editing the title of this research work at the initial stage,

I also wish to extend my sincere appreciation and gratitude to Dr Ezra S. Gbahje and Dr Babangida Umar Dangani for their valuable advices and encouragement given to me throughout the period of writing this thesis. My sincere appreciation and gratitude goes to the entire Academics staff of the Department; namely Prof. Tijani Abubakar (Dean, Faculty of Education) Prof. I. I Ekoja, Dr. Abdullai I. Musa (HOD), Dr. K. O. Momoh, Dr. (Mrs) H. M. Daudu, Dr. Abu Yusuf, Mal. M. M. Hayatu, Mrs M. F. Mohammed, Mal. Abdulrahman Jibrin, Mal. Idris A. Dauda and Prof. L. I. Yazid for their contributions, support, and advices to me during the period

of writing this thesis. My thanks also goes to Mal Mukhtar Ibrahim and Mal Baba, the non-accademics staff in the Department for their support to me. I wish also to register my appreciation to my colleaques; namely Mr Nansoh Shehu, Alh. Yakubu Mohammed and Murtala Aliyu for their contributions and advices given to me during the period of writing this work.

I finally thank the Management Staff of BOSADP for giving me the opportunity to conduct this research in their Organization. My special appreciation goes to the entire administrative staff of the extension services department, especially Alh. Isa Audu Teli, Director Extension Service and the three zonal extension managers, Dr Da Mohammed Umara Lawan, Dr Sule Bukar and Mallam Mohammed Abba for their cooperation and assistance giving to me during the administration of the questionnaire. I also thank the respondents for sparing their valuable time to respond to the questionnaire.

## ABBRIEVIATIONS

ADP Agricultural Development Programme

AEP Agricultural Extension Policy

AES Agricultural Extension Services

AEW Agricultural Extension Workers

BOSADP Borno State Agricultural Development Programme

FGN Federal Government of Nigeria

GDP Gross Domestic Product

NAERLS National Agricultural Extension and Research Liaison Services

OFAR On Field Adaptive Research

SBADP Southern Borno Agricultural Development Programme

SEW Supervisory Extension Workers

VEW Village Extension Workers

WB World Bank

YOSADP Yobe State Agricultural Development Programme

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## ABSTRACT

*The study was undertaken to determine the Information Sourcing, Organization and Dissemination by Agricultural Extension Workers in Borno State Agricultural Development Programme (BOSADP). Five research questions were investigated ranging from types of agricultural information sourced, methods adopted in sourcing the information, organization of agricultural information sourced, channels or ways of dissemination of agricultural information sourced and challenges encountered in the process of sourcing and disseminating the agricultural information by agricultural extension workers in BOSADP. Literature related to the objectives of the study was reviewed. Survey research method was adopted for the study. The total populations studied were 304 extension workers in BOSADP. A proportionate stratified sampling procedure was used to select 170 respondents out of the total population. 170 questionnaire was administered out of which 147 was duly filled and returned. The instruments used for data collection were close ended questionnaire and documentary sources. A descriptive statistic was used to analyze the data and was presented in tables using frequencies and percentages. The study revealed a high percentage sourcing of information on livestock production and application of inputs like fertilizer, pesticides etc. The study also revealed that agricultural extension workers adopted the method of sourcing agricultural information through discussion with farmers associations among others. On the organization of information sourced, respondent agreed that the information sourced were organized alphabetically by subject and were stored in file cabinets. The respondents agreed that they disseminate agricultural information through direct contact with farmers. The study revealed that extension workers were faced with multiple of challenges in the process of sourcing and dissemination of information, such challenges includes, low level of agricultural information exchange among stakeholders and poor funding of extension activities having recorded. The study concluded that the authority of BOSADP should provide all necessary and sustainable logistics to the extension services department so as to remove all possible bottlenecks or challenges hindering the agricultural extension activities in the State.*

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# CHAPTER ONE

# INTRODUCTION

## 1.1 Background to the Study

Agriculture remains the mainstay of almost all economies of the sub- Saharan African which Nigeria is not an exception. In Nigeria agriculture had been the most effective and viable sector in revenue generation to the economy before the advent of the oil and gas sector. It is now second to oil and gas in terms of revenue generation, and contribution to national gross domestic product (GDP) and first in all employment opportunities in the country. This view was highlighted by President Goodluck Jonathan (2012) when he averred that agriculture accounts for about fourty percent (40%) of Nigerians gross domestic product (GDP) and over seventy percent (70%) of all employment. The sector also increases productivity which drives down rural poverty and revive rural economy. In addition Ugwu and Kanu (2012) also stated that more than seventy percent (70%) of Nigerian population depend on agriculture and provides subsistence farming for two-third of Nigerians who are low income earners.

Agriculture and farming are synonymous when it comes to their definition, a layman simply sees it as the ordinary cultivation of land to obtain food and cash crops for his/her livelihood, but to professionals and corporate organizational bodies they see it beyond that. Ugumba, et al (2010) define agriculture and farming as the practice of cultivating the land or raising stock and the production of agricultural goods through the growing of plants and the raising of domesticated animals. In a similar definition, United Nation Development Programme UNDP, (2008) sees agriculture as the cultivation of land for producing crops and proper utilization, processing, marketing and extension of not only crops but also other agricultural commodities such as fish, meat, eggs, forest product etc. Following the definitions given above, it can be

discerned that agriculture involves many activities such as cultivation of land for crop production, agro-forestry, and animal husbandry.

The history of agriculture in Nigeria can be traced as far back as when man started living in the area. Jibowo (2005) however divided the history of agriculture in Nigeria into three different periods; pre-colonial, colonial, and post-colonial periods. The pre-colonial period involved mainly the introduction of crops and livestock production practices. During the colonial era conscious efforts were made by the British colonialist to increase agricultural production through the provision of improved varieties of seeds and training to farmers. During this period the British established the Department of Botanical Research in 1893 popularly known as Moore Plantation in Ibadan, the establishment of the unified Department of Agriculture in 1921, the kwara irrigation scheme in 1926 and the Niger Agricultural Project in 1949. The post-colonial saw the establishment of Federal Ministry of Agriculture with its extension component in 1967 following the creation of twelve states out of the four regions. All these efforts were made because of the relevance of agriculture to the people and the Nigerian economy at large. The states created were not also left out in the establishment of State Ministries of Agriculture with extension units as vital area to enlighten the farmers on the use of agricultural inputs.

**Agricultural Extension Services (AES)**

Agricultural Extension Service (AES) was conceived to extend research based findings and information on agriculture to the farmers via agricultural extension workers with the aim of improving their agricultural produce and standard of living. It is expected to be the largest organization in an agricultural activities being the major sources of information to farmers.

Arokoyo and Delwa, (2000) defined extension as the main vehicle for information and technology transfer and more broadly for creating aspiration and attitude to change for carrying

problems of the farmers back to researchers. In a similar definition Jibowo, (2008) views agricultural extension as the dissemination of improved technical information in agriculture and consequently improving their yields, farm income, standard and level of living. Agricultural extension therefore can be seen as the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems through obtaining information and skills on new farming technologies so as to improve their livelihood and well-being. AES involves the transfer of agricultural information and new implements to farmers and from farmers experience to the researchers through the extension workers. AES cannot be possible without available agricultural research findings and extension workers to disseminate the information, thus the need for research experts and extension workers to work closely. It is in line with this, Kimaro, Mukandiwa and Mario (2010), note that a strong link between extension workers and researchers will improve the quality of information being disseminated as well as adoption of new technologies by farmers, and consequently lead to increase in agricultural production and improved livelihoods of the rural poor. For these reasons therefore, agricultural extension workers should enhance the flow of accurate and current agricultural information at the right time, and give necessary technical advices to the farmers. Agricultural extension service represents a very important link in the dissemination of information. It is through extension workers that adopted information technologies can be transferred to the end-user since they are farmers' main information source.

**Concept and Role of Agricultural Information in Agricultural Development Programmes**

The word "information" is complex and difficult to define because it is multi-disciplinary and this is evident in the various definitions given by different authors. This is not surprising because information is as old as man, and that it affects and is affected by all aspects of human activities.

The various definitions reflect the emphasis of their use and the user. It is against this background that Cliss as cited in Ukachi (2006) observed that the data processing manager might conceive information in terms of data, the records manager in terms of records and reports, the librarian or information scientists in terms of documents or materials and the rural women in terms of message. Furthermore, Ajewole (2001) categorized the definition of information into three. The first is the scientific and technical information (STI). This is within the domain of scientific and technological communities. The second is socio-cultural which viewed information as knowledge, which is transferable in the conduct of various activities. In the third category, information is perceived as a basic resource and an indispensable and irreplaceable link between a variety of activities, intellectual and material, in the service of society, institutions and individuals. Information therefore can be regarded as a processed data which has meaning, purpose and relevance in decision making. So, timely availability of relevant information is vital for effective performance of managerial functions such as planning, organizing, leading and control. Tadesse, (2008) define agricultural information as the various sets of information and messages that are relevant to agricultural production activities of farmers such as crop production and protection, animal production and management, and natural resource production and conservation. For the purpose of this study agricultural information therefore refers to agriculture related data which are transformed into meaningful and useful context or form for effective decision making in agriculture or farming related activities.

The role of agricultural information in increasing agricultural production in Borno State as a whole may not be possible to quantify but there is no doubt that effective agricultural information services contributes significantly to agricultural production. Through agricultural information farmers can adopt new technologies or farming systems, know when to plant and

harvest, which crop to produce and which animal to rear and where to sell. It is also through agricultural information farmers can know where to acquire Bank facilities and other farming inputs, as well as how to control pest and diseases. Agricultural development occurring with weak information services on current agricultural research findings is usually slow. It is in this regard that Arokoyo and Delwa, (2000) narrated that a sustained high level of agricultural production and income is not always possible without an effective extension services, A continued wide spread improvement in agricultural extension services require a professional and effective information service delivery. Hence the establishment of National Agricultural Research and Extension services and Agricultural Development Project mandated to carry out agricultural researches and disseminate information to farmers via agricultural extension workers. Akinsorotan and Oladele (2009) opined the mission of the Agricultural Development Programme (ADP) is to help farmers increase food production and farm income through the dissemination of information on the use of improved technology.

Agricultural information is divers because it involves large numbers of people and organizations in sourcing, organizing, disseminating and using it to take decision on crop production, livestock production, supply of inputs, produce processing and marketing, and so on. Therefore as noted by Mundy, (1992) flow of agricultural information is vital because without information about likely markets and prices, the producer cannot make decisions about what crops to grow and when to buy and sell. Similarly, without information about the location to get quantitative and qualitative produce, the processor cannot plan how much finished product to supply to consumers. Hence to compete with each other and to maintain stable production, producers need information about new technologies, most often developed by researchers at universities, research institutes, and private companies. To add further, Food and Agricultural

Organization (FAO, 2005) observed that agricultural marketing information played an important role in improving food marketing systems and promoting food security by giving farmers accurate knowledge on price movement, and thereby enabling them to identify competitive trading opportunities. Agricultural information is therefore crucial to all stakeholders in the sector, ranging from research organizations, experts, administrators, extension workers, farmers, processors, marketers, consumers and etc. Availability of such information will assist stakeholders in making final decision which is expected to fight poverty and improve the standard of living of the society at large and boast the national economy. This according to Sam, (2012) can only be possible when there is a coordinated agricultural information system that will be responsible for generating and sourcing of information. The information system should also have the capacity to improve agricultural information management to ensure effective networking through enhance access, sharing and dissemination of locally generated agricultural information. It should also develop repositories, such as, databases of experts, libraries for generated agricultural information resources. The information system should aim at improving communication among all stakeholders in agricultural information and advocate for investment in agricultural information.

**Information Needs of Agricultural Extension Workers**

Agricultural Extension Workers (AEW) are known to be the link between agricultural researchers, information systems and farmers. Therefore information needs of AEW basically depend on the information needs of the researchers and the farmers, because AEW exchange information among themselves, i.e. from researchers to farmers and vice versa. The information needs of extension workers according to Mugwisi, Ocholla and Mostert, (2012) includes; range management, animal breeding, agricultural engineering, dairy farming and plant breeding,

horticulture, crop production and protection, plant diseases, pests control, climate change and soil fertility. Extension workers need market-related information, to advise farmers particularly on selling their produce in order to help the farmers reduce loss. FAO (2005) asserts that accurate and timely agricultural marketing information also enables farmers to make more informed decisions and minimizes the loss that would be caused by the overproduction of certain commodities.

Information sources are tools that can possibly meet the information needs of different categories of extension workers. They are the information carriers while the extension worker is the medium through which agricultural information is passed to the farmers. There are different source of information but what matters are 'what' sources are available and relevant to the different categories of extension workers, and what sources of information are useful for their different sourcing methods and choices. Hence authentic and reliable information source makes that source useful and sustainable to the user. Information sources of agricultural extension workers may differ depending on the type of service they render. But however, most studies conducted by scholars on the matter revealed some similarity of information sources of extension workers. Farooq, et al (2010) asserted that the main information sources of agricultural extension workers include publication, Agricultural Research Institutes, Television/Radio, Training and visit of Agricultural Officers to farmers. Similarly Alfred and Odefadehan (2007) reveals that the various information sources of extension workers include their organizations, individual associates, local, national and international seminars, workshops, trainings, print and electronic media, telecommunication, and internet services.

**Information Management in Agriculture**

Information management in agriculture in the view of Zakaria and Nagata (2008) means the

study of information flow between agricultural researchers, extension workers and farmers. It is an established method for ensuring a systematic and successful information management life-cycle in agriculture related activities. The concept of information management is about making sure of asking the right questions at the right time regarding the management requirements of internally produced information. It does this by breaking down the information 'lifecycle' movement into phases and identifies the most relevant issues that influence how information should be managed during each phase. Information management lifecycle generally include, information generation or creation, processing and organizing, storage and retrieval, and use.

Information generation is often the first stage in information management that require some thinking and planning so that the manager can create and manipulate information as quickly and easily as possible. Information generated should fit the purpose of the organization, capture the current, right and reliable information, and in the most appropriate format. To ensure good information management in agriculture a lot of factors need to be considered because, these factors will influence the type of information being created, its purpose, content and usage. Infokits (2007) noted that such factors shall include, who generate the information? Who will manage it? How is it going to be managed? Dose its content suit the purpose of the generation? And who will use it? These processes need to be flexible enough to accommodate the variety of information being created and to ensure that the right decisions regarding its management are considered and made at the right time throughout its lifecycle.

Information generated should be processed and organized in such a manner that it can easily be accessed and utilized. Information processing involves the transformation of collected data into meaningful and useful form for specific purposes. It may not be useful unless it is subjected to a process through which it is manipulated and organized, its content analyzed and evaluated.

Information created should therefore be processed by verifying the original source, recording and classifying them. Once it is processed it becomes ready for organization, and this involves sorting them based on either their use, similarity of purpose, date of creation or their code numbers. Organization of recorded information should be done in a descriptive form such as the title, subject and date of the document. For easy accessibility the processed information can be arranged using either in chronological or alphabetical order.

Information generated and processed need to be stored in an organized manner for onward use and re-used. Storage and retrieval are very essential stages in information management life-cycle because it gives the opportunity of continued use and re-used. Information recorded on paper form or printed form are stored manually in a file cabinet or vaults and in electronic devices such as magnetic disks or tapes, CD-ROMs, and DVDs in case of computer based storage systems. This recorded information is stored in a safe place to avoid destruction by insect, fire or theft. Thus, information whether in file cabinets or computers can be recalled for further processing and re-use. Information stored should therefore be retrieved anytime and transferred to the user for use. Unless it is made available to users who need it, it becomes worthless. It should be made available or delivered to the users so that they can use it for decision making.

**Information Dissemination in Agricultural Work**

Agricultural Extension services department is the most important public service rendered in BOSADP with the widest range of responsibilities for agricultural information dissemination via agricultural extension workers. It is therefore important to have an effective media or channels of communicating the latest agricultural information and technologies to these people for adoption. To achieve this there is a need to strengthen the existing information system and the channels of

communication so as to provide information that is timely, relevant, accurate, reliable, and in an appropriate language and format. Hence, the need for closer relationship between agricultural extension workers and farmers so that provision of broad and variety of information can be possible. Agbamu (2006) classified three models or methods of transferring information to farmers depending on the number of farmers that can be reached. These models are Farmer Home Model or Method, Group/Association Model or Method and Service Station Model. Farmer Home Model or Method is a contact method which has to do with a face- to- face discussion under a relaxed and informal atmosphere by an extension worker with a farmer for a specific objective. This method is established with one farmer at a time or a farm family that comprises father, mother, children and any relative in the household. This method provides the opportunity for extension workers to obtain first hand information on farmers' situation and problems. It enables the extension worker to plan for the home visit such as date of visit, inform farmer about the visit in advance, purpose of the visit and identify the farmer to be visited.

Group/Association Model or Method involve bringing farmers together in one form or another by the extension worker in order to undertake his extension work. This method takes into account the inclination of an extension worker to respond to the pressures and opinions of groups in which he participate and to listen to views of others before arriving at a decision about making changes. This model promotes interactions among members. When the extension worker presents an idea to a group, the group members may ask questions, exchange ideas with one another and may stimulate one another into participation or action. Group/Association model is frequently used in extension work because it enables the extension worker to reach more farmers at a time thereby saving cost and time. This is done through demonstrations, fieldtrips, group discussions etc. Service Station Model or Method involves using media techniques and new

technologies to reach large number of people at the same time. Information is conveyed to farmers over a wide area at high speed and at lower cost. This model use broadcast media such as radio, television, video/ film shows and audio tapes. Other media used is print sources such as bulletins, pamphlets, newsletters leaflets and internet services.

The question that is still being asked is what media, channels or technologies are most appropriate to use for transferring these research findings to the farmers since most of them are illiterate and reside in the rural areas? Irfan, et al (2006) indicated that such medium could include: radio, television, computer, cell phone, public campaign and the library service. In a contribution to the most appropriate and enormous advantages of these media or channels over the others (radio, television, cell phone, public campaign and library service) looking at the background of rural farmers. Okwu, Kuku and Abba (2007) reported that "radio is one broadcast medium which almost all experts have found to be the most appropriate medium of mass communication in the rural population". Radio therefore remains most favored as a medium of communication in rural communities because of the advantage of demanding less intellectual effort than the print media messages and also because it is able to reach remote areas, even where there are no extension agents, as long as there is a good reception. So the use of radio as an extension tool should be widely accepted for its ability to reach illiterate farmers and provide them with information related to all aspects of agricultural production in a language they understand. The importance of radio in this era of rapidly developing information and communication technologies therefore cannot be over-emphasized, since it is believed to be a powerful mechanism for linking old and new technologies, providing information resources cheaply to those who need to improve their livelihoods.

**Background Information on Borno State Agricultural Development Programme (BOSADP)**

The Borno State Agricultural Development Programme (BOSADP) is an integrated Programme which came into being following the merger of Borno Accelerated Development Area Programme (BOADAP) and Southern Borno Agricultural Development Programme (SBADP) in 1988, with the following main objectives;

1 To improve Agricultural Extension Services for regular agronomic, livestock, fisheries, and forestry advice to small scale farmers via village agricultural extension workers.

2 To establish a central agricultural inputs supply unit for an efficient distribution of seeds, fertilizer, agrochemicals and other farm inputs throughout the state.

3 To construct rural feeder roads to enhance rural communities in the areas of inputs delivery and produce evacuation to required areas

4 To provide water for small scale irrigation, human and livestock consumption through drilling of boreholes, tube wells, wash boreholes, cement wells and livestock ponds.

These were supported through tripartite loan agreement in ratio of:

1 World Bank == 71%

2 Federal Government of Nigeria (FGN) == 17%

3 Borno State Government (BOSG) == 12%

The loan came to an end in 1994 and the Programme is currently being financed by Borno State Government. (Gana, 2006).

In order to achieve the objectives of the BOSADP, the Programme is divided into various departments with specific schedules of duties to perform and easy coordination as follows:-

1 Programme Managers Office

2 Finance and Accounts

3 Planning, Monitoring and Evaluation

4 Agricultural Extension and Technical Services

5 Fadama and Engineering Services

6 Rural Institution Developments

7 Administration and Supplies

Furthermore, the state is divided into three zones with Zonal Managers as the Heads, namely:-

Zone 1: Biu, Hawul, Kwaya Kusar, Shani, Bayo, Damboa, Askira/Uba, Gwoza and Chibok Local Government Areas with Biu as Zonal Headquarter.

Zone 11: Bama, Konduga, Maiduguri Metropolitan, Jere, Mafa, Dikwa, Ngala, Kala Balge and Kaga Local Government Areas with Bama as Zonal Headquarter.

Zone 111: Kukawa, Monguno, Marte, Abadam, Guzamala, Mobar, Nganzai, Gubio, and Magumeri Local Government Areas with Kukawa as Zonal Headquarter. (BOSADP Edict, 1988)

In BOSADP, agricultural extension services department is vested with the responsibility of informing the farmers through the extension workers on recent agricultural research findings on either land preparation, cultivation, planting period, improved seeds, climatic factors like rainfall range, desertification problems, use of modern implements, fertilizer application, pest control and even market prices of agricultural produce. However, the successes of such extension services depend on how the extension workers enhance the flow of information. This can be determined by the information provided, which should be based on the relevancy, accuracy, timeliness, and appropriateness to the farmers needs and utilization.

**1.2 Statement of the Problem**

Information transfer to farmers is the utmost mission of the Agricultural extension workers in

Agricultural Development Programme (ADP), farmers are expected to be keen to learn and know a lot on farming practices from the information disseminated to them. Ideally, the primary responsibilities of agricultural extension services are to inform and educate farmers to accept recent agricultural research findings so as to improve their standard of living through the transfer of improved farming practices. But because the farmers reside in remote areas and mostly uneducated, research findings cannot easily reach them without an effective information dissemination system. Functionality of such information dissemination systems like extension workers, libraries and information centers are therefore very essential for effective performance of Agricultural Development Programme.

Agricultural Extension workers are not only supposed to be the link between agricultural researchers and farmers but also serve as the engine of Agricultural Development Programmes. They are expected to source information from researchers and their organizations (ADPs) for onward transfer to farmers. On the other hand they are equally expected to bring back any information to the researchers and the ADPs.

Hence, because of the important role played by Agricultural Extension Workers in Agricultural Development Progammes, it is very important to understand and periodically evaluate them. It is also important to know the various ways they source information from, how they organize the information sourced and ultimately how they disseminate it.

In addition, effective organization of information resources is highly needed and this depends on the availability of skilled and experienced extension personnel or information professionals to plan, process, store in an organized manner, and disseminate the information appropriately and timely to the farmers. Allahyari (2009) noted that the basic problem of agricultural information resource organization is that of lack of skilled personnel, especially the field personnel to satisfy

the requirements of sustainable agriculture. This inadequacy of organizational skills among extension workers according to him lead to the failure of having an organized information resource centers and consequently having access to these resources becomes difficult to farmers. Hence, the Extension Services Department quest to disseminate agricultural information for the purpose of adopting new research findings so as to improve productivity in agriculture and well-beings of farmers becomes impossible.

Therefore to address the above observed problems, there is the need to find out how Agricultural Extension Workers in Agricultural Development Programmes, particularly in BOSADP source, organize and disseminate agricultural information to farmers with a view to increasing their agricultural productivity which will consequently improve their standard of living.

**1.3 Research Questions**

The following research questions were posed to serve as guide to this study;

1 What types of agricultural information do agricultural extension workers in Borno State Agricultural Development Programme source?

2 What methods do agricultural extension workers in Borno State Agricultural Development Programme adopt in sourcing agricultural information?

3 How is information sourced by Agricultural extension workers in Borno State Agricultural Development Programme organized?

4 How do Agricultural extension workers in Borno State Agricultural Development Programme disseminate information to farmers?

5 What are the challenges affecting information sourcing and dissemination by agricultural extension workers in Borno State Agricultural Development Programme?

## 1.4 Objectives of the Study

The objectives of this study are as follows;

1 To find out the types of agricultural information sourced by agricultural extension workers in Borno State Agricultural Development Programme.

2 To find out the methods adopted by agricultural extension workers in Borno State Agricultural Development Programme in sourcing agricultural information.

3 To determine how information sourced by agricultural extension workers in Borno State Agricultural Development Programme are organized.

4 To find out the ways agricultural extension workers in Borno State Agricultural Development Programme disseminate information to farmers.

5 To determine the challenges faced by agricultural extension workers in Borno State Agricultural Development Programme in the process of sourcing and disseminating agricultural information to farmers.

## 1.5 Significance of the Study

The study is significant in the sense that its findings will benefit BOSADP by identifying the prevalent problems faced by agricultural extension workers in their effort to source, organize and disseminate appropriate and timely information to farmers. This will alert the authority of true situational problems militating against effective performance of extension works thereby encouraging the Government and authority of BOSADP to solve the prevailing problems. It will also benefit the Government in making a reliable policy statement on agricultural extension services and hence form a baseline for improvement in the extension work in the state.

The study will add knowledge to the growing literature on agricultural extension services generally, and specifically on BOSADP.

## 1.6 Scope and Limitation of the Study

The Extension Service Department in Borno State Agricultural Development Progeamme is divided into three zones, called Zone 1, Zone 2 and Zone 3, and this study covers all the Zones as its scope. The study covers all the agricultural extension workers in all the zones being the information disseminators to farmers. The study does not intend to cover any other staff as respondent in the Extension Services Department of Borno State Agricultural Development Programme although they support the extension workers in performing their functions.

The limitations of the study are constraints to persistent security threats in Borno State, time and fund which make it difficult to cover every detail in the agricultural extension services in the State.

## 1.7 Operational Definition of Terms

The key operational terms used in this study are defined as they relate in this research, thus

**Agricultural Extension Service;** is a service vested with responsibility of transferring agricultural information to the farmers and general public enlightenment.

**Agricultural Extension Workers;** Personnel who sources agricultural information from research experts and other sources of information for onward dissemination to farmers.

**Farmers;** People involved in practical farming activities and the recipients of agricultural information from extension workers.

**Information Sourcing;** The ways individuals articulate their information needs, source, evaluate, select, and use the information to satisfy some goals,

**Information Organization;** The technical method of separating the unlike or grouping together of related information sourced in accordance with some common characteristics.

**Agricultural Development Programme;** Formal governmental organization that provide different agricultural services to farmers with a view to improve agricultural productivity,

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# CHAPTER TWO

# REVIEW OF RELATED LITERATURE

## 2.1 Introduction

This chapter provides a review of literature related to this study. This is done in order to avoid duplication of research effort and to show how this research will differ from the literatures reviewed. Thus, in reviewing the related literatures and in order to exhaustively discuss the literatures, the following sub-headings were adopted.

2.2 Agricultural extension work in Nigeria

2.3 Concept and role of agricultural extension workers

2.4 Information needs of agricultural extension workers

2.5 Types of agricultural information soured by agricultural extension workers

2.6 Information sources and sourcing methods of agricultural extension workers

2.7 Organization of information sources by agricultural extension workers

2.8 Information management in agricultural extension work

2.9 Information dissemination in agricultural development programme

2.10 Challenges of agricultural information sourcing and dissemination in agricultural development programme

2.11 Summary of the review

## 2.2 Agricultural Extension Work in Nigeria

There seems to be no divergent views on the definition of Agricultural extension work. The literature reviewed, such as Arokoya and Delwa (2000), and Jibowo (2005) view agricultural extension as the dissemination of improved technical information in agriculture which will consequently lead to improving farmer's yields, income, and standard of living. Agricultural

extension work therefore encompasses all aspects of agriculture, which includes the provision of timely information, the linking of farmers with sources of farming inputs and credit facilities and most importantly, the provision of education services to farmers. In the context of this study agricultural extension work is seen as transferring information to farmers in form of offering advice, educating farmers, supporting group formation and facilitating collective action and decision making.

Although, according to Eremie (2003) agricultural extension work in Nigeria started during the colonial period which was carried out in form of apprenticeship to farmers, the organization and conduct of agricultural development and extension programmes begun only in 1960 when Nigeria became independent. One and half decade after Agricultural Developments Projects (ADPs) were introduced as a result of bilateral talk between the Federal Government of Nigeria and the World Bank. With this, World Bank support for agricultural extension in Nigeria commenced with the establishment of nine enclave Agricultural Development Projects. The main aim of this was to tackle the stagnation of agricultural production and reduce food import by attending to three major constraints, such as generation and dissemination of information on improved agricultural technology among others. The World Bank worked with the Government of Nigeria and other development partners so as to help strengthen and reorganize the extension services, with the objectives of helping the farmers improve their income and standard of living, and making the services more efficient. For these objectives to be achieved the clients need to be involved in the development process, from planning to implementation and evaluation, and extension workers should be held accountable where necessary. Madukwe (2008) criticized this by arguing that these objectives could not be achieved because the place of extension in the administrative machinery of the ministry was a very small unit until the establishment of the

Agricultural Development Programme (ADP). The location was low in the hierarchy of the ministry and that it was not involved in decision-making, the budget was relatively small and staff of the unit had little or no training in extension education. In addition the expiration of the World Bank counterpart funding almost cripple the sustainability of the Programme. Similarly Okwu and Ejembi (2001) observed that the extension system operated as a unit in the various State Ministries of Agriculture, and that system was characterized as having an unfavourable extension agent's definite pattern of field movement among villages, lack of definite plan of work and calendar of operations.

For these above stated reasons Koyenikan (2008) therefore suggested that agricultural extension in Nigeria must be given a priority attention and have a guiding policy, arguing that the development of agricultural sector cannot be achieved without an efficient and effective extension system. Perhaps it is this suggestion that led to a call by stakeholders in agriculture in Nigeria for a well-articulated and comprehensive Agricultural Extension Policy (AEP) which should make extension agents, farmer-driven and participatory. The call also encouraged decentralization of Nigeria agricultural extension system as well as efficient coordination at various levels to ensure effectiveness and sustainability.

In their contribution Naswem, Daudu and Ejembi (2008) compared the extension policies and programmes of United Kingdom and Nigeria in their study. They note that the extension policy in Nigeria is characterized by political instability while in contrast United Kingdom had focused extension policies supported by legislation derived from peculiar experiences of the country. The Agricultural Act provided basis for success in Britain which has only 1.2% of the population engage in farming, while in Nigeria farmers cannot meet domestic food needs despite having about 70% of its population in the farming activities. In view of the positive correlation between

legislated extension policy and high performance, Naswem, Daudu, and Ejembi concluded that there is need for Nigeria to have an effective legislated policy document on Agricultural Extension.

**2.3 Concept and Role of Agricultural Extension Worker**

Scholars like Khalil et al (2008) and Omotayo (2005) defined Agricultural extension worker as an administrative leader and coordinator for formulating, developing, implementing and evaluating agricultural extension programmes as well as transferring information to farmers and developing them in managing resources in the rural areas. Agricultural Extension Worker is therefore personnel responsible for sourcing agricultural information from research experts and other sources of information for onward dissemination to farmers. Agricultural Extension workers have important role to play in order to actualize the crucial role of agricultural extension in national development. Asiabaka (2002), Aina (2006), Mugwisi, Ocholla and Mostert (2012) noted that the major function of an extension worker is to disseminate appropriate information to farmers. Their role becomes crucial in the sense that farmers in Africa are largely illiterate so they cannot use the print word as a vehicle for disseminating information rather information dissemination is by personal contact and reports of farmers experiences to agricultural researchers. In addition, Asiabaka (2002) assert that extension workers serve as intermediary or go between or even link between agricultural development institutions such as research institutes, universities, colleges of agriculture and farmers. They also carry out the formulated agricultural extension policies, link the farmer with sources of farming inputs and credit facilities, provide educational services to farmers, and play active role in the rural community development of any nation. The contributions closely relates to one of the objectives of this study which the researcher intend to find out. In different views, Agbamu (2005) Madukwe (2008)

criticize the performance of extension workers that it has been generally, unsatisfactory because of the way staff carry out their supervisory roles. Agbamu (2005) and Madukwe (2008) notes that a good number of formal training institutions from where extension agents graduate lack the competence and modern training facilities for inculcating technical, farming and communication skills. And this consequently resulted to unqualified and inexperienced staff hence cannot be expected to perform their roles effectively and efficiently so as to achieve the organizational goals.

Agricultural Extension workers do not only play the role of information disseminators to farmers but also serve as advisers, teachers, technicians, administrators, consultants, public enlightens and as well as taking the responsibility of linking farmers and other stakeholders to information systems. They also help farmers to identify their problems and making attempt to solving them. Anaeto, et al (2012) in a supportive statement notes that extension workers serve as advisers, technicians and middleman operating between agricultural research institutions and the farm families. They are change agents, consultants and advocates in helping farmers to identify their problems and finding solution to the problems. Extension workers also work for the creation of community harmony essential for group projects. While Oladoja (2004) states that extension works contribute to agricultural development, thus an extension worker is needed to explain and pass across new technologies to farmers and also teach them on how to adopt and improve production and income as well. Omotayo (2005) observed that agricultural extension work depends largely on information exchange between and among farmers and a broad range of other actors. Extension workers take the responsibility of linking the farmers and the stakeholders in the agricultural knowledge and information system, and are well positioned to

make use of ICT to access expert knowledge or other types of information that could facilitate the accomplishment of their routine activities.

### 2.4 Information Needs of Agricultural Extension Workers

Agricultural extension workers occupy strategic position in the agricultural information flow cycle. They liaise between the farmers and research scientists on one hand, and between farmers and policy makers on the other hand. A constant supply of timely and appropriate information to this group of agricultural information users will enhance the quality of information they provide to farmers, researchers, and policy makers. While Case (2002) defined information need as recognition that personal knowledge is inadequate to satisfy a goal that needs to be achieved, Dervin, Foreman-Wernet and Lauterbach (2003) see it as a gap in individual's knowledge in sense-making situations.

Agricultural information influences agricultural productivity in a variety of ways and this is achieved by having relevant, reliable and useful information. Hence, the establishment of extension services, which is mandated by agricultural organizations to create information systems so as to disseminate information to farmers. It is in this regard that Samuel (2001) identified agricultural information as one of the resources required for the improvement of agricultural production. He defined agricultural information as the data or resource that must be acquired and used in order to make an informed decision, arguing that having adequate and well-presented agricultural information will improve the efficiency of farmer’s productivity and livelihoods.

Scholars have extensively discussed on the quantity and areas where agricultural extension workers needs information. Anaeto, (2005) revealed that agricultural extension workers in Nigeria today, provide wide spectrum of services, and therefore need information on

improvement in production, marketing, storage, processing, fish farming, agro-forestry, input supply and distribution. Other information needed according to him include, irrigation, land management, farm mechanization, erosion control, livestock management, human resources development, programme planning and evaluation, and information on home economics for women in agriculture.

While Simumba (2007) noted that extension workers need information on farming problems, as well as information on micro-credit schemes to technical information such as integrated pest management, low cost technologies to increase production and to conserve perishable products and prevent post-harvest losses, Tavaiqia and Walton (2004) revealed that extension workers need more information on marketing and market access, extension / communication methodologies and opportunities in agriculture. They further argued that other information needs include, research management, forest technology, quarantine, engineering, and sustainable agriculture. Tavaiga and Walton in their assessment were however surprised for lack of need for information on pests and diseases, which has been a stable needs for many years. Gundu (2009) observed that majority of extension workers in developing countries including Nigeria need information on farming systems, pest and diseases, cropping, education, management, livestock management, marketing and pricing, harvest management, health and nutrition, farm security, finance and credit. It is evident from the studies reviewed that information need of extension workers in Nigeria and other developing Countries are similar. Most of their information needs revolve around technical (disease and pest outbreak), administrative, harvest management, finance and micro-credit, and market prices among others. In another contribution, organization like FAO (2002) noted that extension workers need variety of agricultural information such as availability of agricultural support services, Government regulations, crop production and

managements, disease outbreaks, adaptation of technologies by other farmers, wages rates, and so on. The organization further argued that agricultural information must be available and accessible to all farmers in order to bring the desired development.

**2.5 Types of Agricultural Information**

There are various types of information on agriculture related activities. These could include information on crop production and protection, livestock production, agro-forestry, pest and diseases control, fertilizer availability and application, agricultural credit facilities, market prices, improved seeds varieties, rainfall gauge and so on. Oduwale and Ikhizma (2003) identified various types of agricultural information, such as information on pest and diseases control, services available from government and private organizations, marketing farm produce, credit and loan facilities to farmers, utilization of fertilizer etc. Aina, Kaniki, and Ojambu (1995) defined agricultural information as published and unpublished knowledge on all aspects of agriculture which are inter disciplinary in nature and has universal application. They classified the types of agricultural information into the following categories;

Technical/Scientific information:- This type of information is obtained from researches and development work conducted in Universities, agricultural research institutes, agricultural colleges and private agricultural research organizations. It is aimed at increasing agricultural production by providing high yielding seedlings, control of major pests and diseases and so on. This type of information is highly needed by agricultural extension workers.

Commercial information:- Information under this category gives enlightenment on the marketing of agricultural produce in order to maximize profits. This type of information covers credit facilities cooperative societies, national prices for export of commodities or produce.

Commercial information is important to extension workers, farmers, agro-based industries, policy makers and planners in agricultural field.

Socio/cultural information:- This involves information on traditional agricultural practices, local cultures, norms/values and background information and training done in different communities as well as on the availability of labour etc. This type of information will be useful to agricultural researchers, policy makers and extension workers.

Legal information:- This type of information educates all stakeholders in agriculture on legislated laws on production and distribution of agricultural produce. Government through the legislative arm generates agricultural information laws and acts that have direct bearing on farmers, extension workers and agricultural practices. This type of information is important to all categories of students studying agriculture related disciplines, extension workers and farmers.

**2.6 Information Sources and Methods of Sourcing Information by Agricultural Extension Workers**

The information sources of extension workers depend on the type of work and services they perform. Information sources are tools or information carriers that meet the information needs of extension workers. Many studies were conducted to determine the type of information sources of agricultural extension workers. Alfred and Odefadehan (2007) identified various information sources of extension workers to include organizations, individual associates, local, national and international seminars, workshops, trainings, print and electronic media, telecommunication, and internet services. Koyenikan (2011) categorized the information sources as formal and informal sources. According to him the formal sources include state radio stations, local and international print media (such as newspapers, newsletters, and journals) and seminars/ workshops, while the informal sources are farmers, family, friends and personal assessments and judgment. In another

related study carried out by Farooq, et al (2010) specifically highlighted the role of Agricultural Research Institutes and Agricultural Officers as information sources while Rama and Joan (1996) identified agent in the office, agent in another country, extension specialists, immediate supervisor, news agencies, state/federal agencies, school teachers and administrators as prominent information sources to agricultural extension workers. However, Mugwisi, Ocholla and Mostert (2012) after emphasizing the position of libraries, internet, colleagues, personal and departmental collections, workshops and seminars, argued that extension workers preferred print sources.

Information sourcing methods are terms which encompass the ways individuals articulate their information needs, source, evaluate, select, and use the information to satisfy some goals, Wilson (2000) describes information sourcing method as purposive in nature and is a consequence of a need to satisfy some goal. In the course of sourcing, the individual may interact with people, manual information systems, or with computer-oriented information systems. However to, Oladele (2002) information sourcing encompasses both purposive and passive activities. Information sourcing includes face-to-face communication with others, as well as the passive reception of information, for example in watching television advertisements without any intention to act on the information given. He further added that information sourcing is a human process that requires adaptive and reflective control over the actions of the information seeker. As, Singh and Satija (2006) point out, information sourcing behavior of extension workers resulted from the recognition of some needs, which as a consequence makes demands upon the formal system such as libraries and information centers, or some other person in order to satisfy the perceived information need. Idowu (2002) conducted a study on information seeking and utilization among agricultural researchers in Nigeria. The study demonstrates the level of

awareness and the use of agricultural information sources among agricultural researchers and extension workers in Nigeria. The findings described the researchers' scenario as a situation where researchers have too much information and are unable to pick out the right sources. The policy implication of the findings showed that, to improve the performance of agricultural researchers and extension workers, the provision of information sources as well as the facilities to enhance their use is very important in the research institutes and information dissemination systems. Pezeshki-Rad and Zamani (2005) revealed that extension personnel source their information from Persian books, Persian scientific magazines and scientific technical reports. Videos, newspapers, television, the internet, radio, and telephone were occasionally used by the extension workers. Similarly, Mohammadi (2002) noticed that age, level of education, and years of experience were related to information sourcing behavior of extension workers. And to, Dulle (2000), agricultural extension workers source their information from the use of personal sources, attendance at professional meetings, seminars, short courses and conferences and the reading of newspapers while contact with researchers and the use of agricultural libraries were very unpopular.

**2.7 Organization of Information Sourced by Extension Workers**

Information sources in any library requires orderly and proper organization so that they can be easily located, hence the need for classification and cataloguing of such resources. Ndagana (2000) and Nwalo (2003) refers to classification of information resources in the library as the separation of the unlike or grouping together of related resources in accordance with some common characteristics. The principle behind information sources classification in a library is to bring books on same subject matter together on the shelf for easy location which will consequently save the time of the user. Classification is very useful tool for the organization and

easy location of information resources. There are several classification schemes used by libraries among which include Dewey Decimal Classification Schemes (DDC), the library of Congress Classification (LC), the Universal Decimal Classification (UDC), etc. Cataloguing is an index to a library's collections or a list of books or other materials in the library arranged or organized in some definite order. They identified the function of a catalogue as a tool to help readers find a book which the author, title and the subject is known. The catalogues also show what the library has and assist readers in choosing a book with latest edition. Library catalogues are organized or arranged using either dictionary, classified or divided catalogue where all entries are made under titles, authors, joint authors, subject headings or using class marks or arrange alphabetically using author/title catalogue or subject/ author catalogue. Burke (2009) also observed that libraries in their effort to bring same resources together and organizing them so that they can be easily located and effectively utilized adopted the use of library website so that electronic resources can be organized and accessed easily through online searches. He emphasized that staff should be educated enough to lead users to the best and appropriate website to access the electronic resources. In a similar dimension, Akparobore (2007) narrated that although the library studied is automated, this has not been effective, since there are no specialists to handle computer operations in the various divisions and units. Those that are working are merely carrying out routine services, leaving the technical operations, which library automation is meant for, to suffer. He concluded that there is a need for training and retraining to minimize the problems impeding the organization of library resources.

### 2.8 Information Management in Agricultural work

The need to have effective capacities to manage and deliver appropriate and relevant agricultural information services to farmers is paramount. Zakaria and Nagata (2008) described

information management in agriculture as a study of information flow between agricultural extension workers, agricultural researchers and farmers. Therefore this calls for the use of an efficient and effective agricultural information management system with a view to generating, managing, and disseminating agricultural information among stakeholders. So building capacity in agricultural information resources management and enabling policy for agricultural information management should be encouraged. It is in response to this that, International Association of Agricultural Information Specialists (IAALD) (2006) agreed that there is a critical need to build capacity among agricultural information professionals and institutions to enable them participate in poverty reduction and improvement of food security and livelihoods programmes on the continent. The association added that building capacity in information collection, processing, storage and dissemination and the use of modern information and communication technologies, techniques and standards, are essential for effective agricultural information management. Unfortunately, Government of Uganda (GoU) (2003) noted with dismay that most countries in Africa do not have efficient information and communication technology policies or strategies that could facilitate and support the development of a viable agricultural information management and communication infrastructure, and therefore sharing of agricultural information resources among stakeholders at the national and international levels remains very low. Government of Uganda (2003) went further to criticize Government of African Countries for their inability to provide appropriate policies and strategies for agricultural information specialists, including lack of funding and lack of guidelines on how to handle information resources being generated and distributed. In addition, Ortiz (2006) indicated that the Governments of developing countries have played an important role in the management of agricultural information but lamented further that there has been lack of a guiding policy for

information specialists and agricultural extension workers to use in managing the information resources efficiently and effectively. It will be good therefore to form inter-institutional or inter-organizational cooperation which will be a basis for interaction and sharing of information resources and ideas. In a similar contribution, Geerders (2004) supported statement that there should be a central database where agricultural information shall be managed so that users can have access to the information easily and that security of the resources should also be paramount. Borisova and Nedyalkov (2006) also argued that information management, and information and communication technologies (ICTs) are the two major areas to bridge the rural digital divide, but however noted that despite the availability of traditional ICTs in developing countries including Nigeria and modern tools acceptance are still low. They added that information management in agriculture is a process where information on agriculture-related business strategy should be based on farmers information need. This will consequently helps information managers and extension workers to collect, process, and disseminate information in ways that will improve the livelihood of the farmers. The study centered in general framework of management, which includes production/operations management, financial management, marketing, etc.

**2.9 Information Dissemination in Agricultural Development Programmes**

The role of information provision in increasing agricultural productivity cannot be overemphasized especially in Borno State, where majority of the people are engaged in agriculture and are mostly illiterate. They do not benefit from information in print word, which is the most effective way of disseminating information to various agricultural information users, especially farmers. Hence extension workers in Borno State perform the role of agricultural information disseminators to farmers through physical contact and Radio/TV stations. Apantaku, et.al (2005) pointed out that in Nigeria the responsibility of transferring agricultural information

and innovations to farmers is usually coordinated by government owned agricultural extension outfits and this responsibility is presently discharged nationwide by the ADPs. The mass media played great role in provision of information in shortest possible time over a large area. Many studies such as Yahaya (2002), Agwu and Uche-mba (2010), and Abubakar, Ango and Buhari (2009) reported the positive and significant relationship of mass media with adoption of agricultural technologies. While Yahaya (2002) pointed that, trends in Nigeria's agricultural development scenario show that mass media have tremendous potentials for agricultural information dissemination; Agwu and Uche-mba (2010) note that information dissemination in ADPs in Nigeria is based on the Training and Visit (T&V) delivery system which is traditionally supported by mobile cinema, video, radio and telephone. Under this system, they averred that research findings are transmitted to farmers through extension personnel after periodic trainings, while administrative directives and agricultural information are passed and received among agricultural administrators and practitioners through memos, letters and notices. Similarly, Abubakar, Ango and Buhari (2009) revealed that farmer's access to agricultural information is basically through radio and television, to which Okwu, Kuku and Abba (2007) noted to be one broadcast medium which almost all experts have found to be the most appropriate medium of mass communication in the rural population and favoured as a medium of communication in rural communities because of the advantage of demanding less intellectual effort than the print media messages. And this is because it can reach remote areas, even where there are no extension agents, as long as there is a good reception. In the same vain Arokoyo (2005) reported that to date, the radio and televisions have been the major ICTs used in agricultural extension delivery in Nigeria. Despite the importance of these channels, they are principally owned and controlled by government. This means that only programmes that are government-owned and

government-based are featured. Accordingly, Rivera and Alex (2003) decried such arrangement which is characterized by government monopoly is not the favorite option for developing countries. Moreover, they argued the increasing criticisms of the public extension organization for ineffectiveness, inefficiency, and poor coverage leave doubt as to the appropriateness and sustainability of the Government approach to such information dissemination system. This situation explains why planners and policy makers are advocating for privatization of extension services in most developing countries. Oladimeji (2006) is unanimous on the fact that, the mandate of disseminating agricultural information in Nigerian rests with National Agricultural Extension and Research Liaison Service (NAERLS), and the Agricultural Development Projects (ADPs). But he however disagree that farming activities broadcast on radio and television are most favoured by farmers, rather he noted that the diversity of the languages in Nigeria pre-supposes that for farmers to have access to agricultural information through the radio and television, and that the language of presentation should be based on the language of the listeners.

In a different view, Oladosu and Okunade (2006) posited that these mass media method of information dissemination are no longer enough to handle the timely information that is supposed to circulate within agricultural systems and farming population. And that various strategies to encourage farmers to adopt agricultural innovations should be employed. These strategies could include establishment of farm institutes, extension work station, experimental farms, visits to farms and various types of farm settlement schemes. They further argue that for these strategies to succeed, extension services department in the ADPs must be well staffed and sufficient number of the extension workers be provided on the field. Also they must be well remunerated with adequate training courses and mobility systems. Dimelu and Nwonu, (2011) note that information dissemination to farmers have not improved both in terms of intensity of

involvement and coverage. Although they maintain that linkage of ADP organization with other agencies showed slight improvement, linkage efforts concentrated on staff training but involvement in transferring the information to the end-users in some areas remains low because the extension workers are not ready to visits the farmers in the villages due to logistic problems. Margono and Sugimoto (2011) noted that dissemination of useful agricultural information to farmers in developing countries on one hand has not been effective due to weak linkages between government and extension workers. On the other hand, not all of the existing information collections at the central agricultural libraries are accessible to all potential users. Based on this understanding of the circumstances ADPs in Nigeria must strengthen the contact between extension workers and farmers, and employ professional extension workers who have adequate training in extension methods and communication skills.

**2.10 Challenges of Agricultural Information Sourcing and Dissemination in BOSADP**

The responsibility of disseminating agricultural information to farmers by agricultural extension department in the ADPs has not been effective due to some challenges which include poor budgetary allocation, weak linkages between government and extension workers, lack of qualified human resources, lack of working tools, inappropriate information content and lack of decentralization of extension work among others.

Agwu and Chukwuone, (2005) observed that the most difficult and challenging policy issue facing the agricultural extension service in agricultural development programmes today is how to secure a stable source of funding. Although the ADPs have had some very successful development initiatives, nevertheless the programmes have suffered serious setbacks due to poor funding and funding instability following the expiration of the World Bank's component of the funding arrangement. They maintained that contributions from States and Federal government

always fall, grossly, short of budget, hence hindering the proper implementation of extension programmes in the ADPs. While Madukwe and Ozor, (2004) pointed that the major constraint to effective agricultural extension service in Nigeria include; weak linkages with agricultural research, poor staff mobility system, inadequate and unqualified staff, and weak financial support, Agwu (2004) noted that the major challenge to agricultural development in Nigeria and other African countries have been the low level of agricultural information exchange among the different stakeholders in the agricultural sector as a result of limited access to current and relevant information in the form of primary documents and machine-readable databases as well as poor documentation, storage and retrieval techniques.

Akinnagbe and Ajayi (2010) in a different view elaborated that the major challenges faced by extension workers include changes in the organization structure and professional attitude of superiors, lack of strengthened farmers' organizations, lack of farmers' acceptability to new research findings, and lack of funding sustainability and logistics issues among others. In another contribution on challenges faced by agricultural extension workers, Agbamu (2005) identified such challenges as varying from country to country because extension systems are practiced in different places and each system has its peculiar problems. However he said a lot of the problems are common to the developing countries because of similar socio-economic circumstances and stages of development. Accordingly, he argued that the problems touch major bottlenecks to efficient extension services in the developing countries, and these problems range from ineffective Agricultural Research-Extension linkages, insufficient and inappropriate agricultural technologies for farmers, disproportionate extension workers to farm family ratio, lack of clientele participation in programme development, failure of input supplier to ensure effective and timely distribution to farmers, and evaluation of extension programmes as well as lack of

efficient extension policy. Banmeke and Ajayi (2005) notes that despite the tremendous achievements of the agricultural sector in Nigeria, the ADPs have been besotted by a myriad of problems, especially with the terminal end of the counterpart funding by the World Bank. These problems range from the nonavailability of necessary facilities and poor motivation for effective functioning of extension workers, resulting in low morale, low level of role perception and poor performance.

World Bank (2007) 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 not increased as expected. While Farooq et al (2010) pointed out that extension service in developing countries like Nigeria are associated with, lack of teaching equipment or facilities, poor linkages between research and extension organizations, and dispersion among the farmers themselves is hampering extension worker's performance, Sharma (2003) noted that in delivering agricultural information to the farmers, public sector extension face some challenges especially in developing countries. She argued that traditional extension was expensive because it cost a lot of money to produce and print extension message leaflets and it is time consuming process. In traditional extension the quality of messages get eroded as it passes through different channels before it reaches the farmers, poor communication capacity of existing extension system and there was little use of up-to-date communications technology, including the use of electronic communication to improve feedback and technical support between research and extension personnel. The other drawback of traditional extension system was that it was very limited, and the challenges in terms of reaching all the farmers were becoming more and more difficult.

Ngomane et al. (2002) said the challenges facing public sector agricultural extension in African countries were rooted in the history of African smallholder farming, institutional arrangements, structural adjustment programs, the policy framework, new clients, and the reorientation of the agricultural extension system. They concluded that agricultural extension system is statutorily mandated to serve the poor subsistence farmers, so it has to be transformed to meet not only the subsistence farmers, but to adequately serve the emerging commercial farmers.

**2.11 Summary of the Review**

From the review it was observed that agricultural extension work in Nigeria started during the colonial period which was carried out in form of apprenticeship to farmers, with the main aim of tackling the stagnation of agricultural production and reduce food import, by attending to the major constraints such as generation and dissemination of information on improved agricultural technologies among others. The World Bank collaborated and worked with the Government of Nigeria and other development partners so as to help strengthen and reorganize the extension services, with the objectives of helping the farmers improve their income and standard of living, and making the services more efficient. However these objectives could not be achieved because the place of extension in the administrative machinery of the ministry was a very small unit until the establishment of the Agricultural Development Programme (ADP). The location was low in the hierarchy of the ministry and that it was not involved in decision-making and extension workers do not have favourable and definite pattern in extension work. To achieve these objectives Nigeria must have an effective legislated policy document on agricultural extension.

The review also revealed that the main function of agricultural extension workers is to disseminate agricultural information on improved farming technologies to farmers with a view to

increase their agricultural productivity and living standard. Agricultural extension workers serve as an intermediary or go between or even link between agricultural development institutions such as research institutes, universities, colleges of agriculture and farmers. It was also revealed that an extension worker is needed to explain and pass across new technologies to farmers and also teach them on how to adopt and improve production and income as well, although this depends largely on information exchange between and among farmers and a broad range of other actors.

The review noted the agricultural information needs of extension workers from the various works consulted to be similar. Among such works consulted include that of Anaeto (2005) who revealed that the information need of extension workers ranges from rainfall ranges, farm problems such as pest and disease outbreaks, crop protection and production, livestock management, planting periods, weeding, and method of fertilizer applications. Other information needed include the use of insecticides and herbicides, micro-credit facilities, market prices of product, erosion control, and desertification among others.

It has also been observed from the review that the information sources of agricultural extension workers largely depend on the type of tasks or services they perform. However, despite the little differences of their information sources, Alfred and Odefaden (2007), and Koyenikan (2008) has collectively observed that majority and prominent of information sources of extension workers remains the same and this includes publication or print sources, trainings/workshops, Agricultural Research Institutes, libraries and departmental collections, internet services, senior agricultural officers and specialists, Televisions and Radios among others. It was also observed that while Wilson notes that extension workers source their information as a result of recognition of needs and this was done through purposive and passive methods, Oladele (2002) observed that some source their information through face-to- face communications with other stakeholders

while others source it through the formal information systems, such as libraries, information centers, trainings and workshops as well as computer- oriented information systems.

The review revealed that with adequate information resource collection, processing, storage, dissemination and use of modern information and communication technologies, effective management of agricultural information sources can easily be possible as contributed by IAALD. The association added that capacity building of human resources is also necessary to provide the know-how to manage these resources properly. However, this can only be achieved with the support of enabling Government policy to guide the management of these resources.

It has been observed from the review that, in the Nigerian setting majority of the people engaged in agriculture are mostly illiterate and do not benefit from information in print word, which is the most effective way of disseminating information to various agricultural information users, especially farmers, hence it was done through physical contact, Radio and Television stations. Although, Oladimeji (2006) agreed that the mandate of disseminating agricultural information in Nigerian rests with National Agricultural Extension and Research Liaison Service (NAERLS) and the Agricultural Development Projects (ADPs), he however disagree that farming activities broadcast on radio and television are most favoured by farmers, rather he noted that the diversity of the languages in Nigeria pre-supposes that for farmers to have access to agricultural information through the radio and television, and that the language of presentation should be based on the language of the listeners.

From the review it was noted that the dissemination of agricultural information has not been effective due to some constraints and challenges encountered by extension workers. These includes lack of enough budgetary allocation, weak linkages between Government and extension workers, lack of adequate and qualified human resources and enabling policy to guide the

extension work. Others include lack of working facilities or tools, inappropriate information content and above all lack of farmer's acceptability to new research findings among others

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# CHAPTER THREE

# RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter presents the research method adopted in the conduct of the study. It discusses the population of the study, sample and sampling procedure, instrument for data collection, validity of the instrument, reliability of the instrument as well as procedures for data collection and data analysis.

## 3.2 Research Method Adopted for the Study

This study adopted survey research method. Survey method according to Glasow (2005) involves collection of information from the population of a study through responses to questions. Survey research method was chosen because it can handle large amounts of data from different varieties of samples and also well suited to gathering demographic data that describes the composition of the population. It is also an efficient method in systematic collection of data from a broad spectrum of individuals. The respondents of this study are posted all over the State, thus the use of the survey method will enable the researcher to reach them at relatively cheaper cost. The survey research methodology was adopted because it enables the researcher to confirm the objectives of the study and accurate description of a situation with a view to correcting the inadequacies.

## 3.3 Population of the Study

The population of the study is made up of all the three hundred and four (304) supervisory extension officers and village extension workers serving in the 27 Local Government Area offices (blocks) of Borno State Agricultural Development Programme. The twenty seven (27) local Government area offices (i.e 27 blocks) were divided into three zones called Zonal office

and named; Zone 1, Zone 2, and Zone 3. The zonal offices are managed by Zonal Extension Managers. Each zonal office has nine Local Governments area offices (i.e nine supervisory blocks) under its supervision which are also sub-divided into supervisory blocks. Again each supervisory block is divided into four sub-supervisory areas called "cell" with extension workers posted to serve in each of the sub-supervisory area or cell. A Supervisory Extension Officer who is answerable to the Zonal Extension Manager oversees the affairs and activities of the four sub-supervisory areas or cells. The distribution of the extension workers per Local Government Area or Block was based on the population density of the farm families or farmers. The total population of the supervisory extension workers and village extension workers under study stood at three hundred and four (304). See table 3.3 below. (OFAR Trails and Extension Activities, 2012)

Table 3.3, Distribution of Extension Workers by Local Government Area or Block.

| Local Government/Supervisory Block | Number of Extension Workers |
|---|---|
| Abadam | 10 |
| Askira Uba | 11 |
| Bama | 11 |
| Bayo | 9 |
| Biu | 12 |
| Chibok | 11 |
| Damboa | 12 |
| Dikwa | 10 |
| Gubio | 9 |
| Guzamala | 9 |
| Gwoza | 10 |
| Hawul | 11 |
| Jere | 10 |
| Kaga | 10 |
| Kalabalge | 10 |
| Konduga | 10 |
| Kukawa | 11 |
| Kwaya kusar | 10 |
| Magumeri | 10 |
| Mafa | 9 |
| Maiduguri metropolitan | 9 |
| Marte | 9 |
| Mobar | 10 |
| Monguno | 12 |
| Ngala | 12 |
| Nganzai | 10 |
| Shani | 10 |
| No. of Supervisory Extension Workers | 27 |
| Total number of extension workers | 304 |

Source: OFAR Trails and Extension Activities (2012)

### 3.4 Sample and Sampling Procedure

The nine Local Government supervisory areas (blocks) in each of the three Zones were stratified and arranged alphabetically. In addition, all Local Government supervisory areas were purposively selected since their primary assignment and objectives they tend to achieve is the same. Table 3.4.1 shows the description of the twenty seven (27) Local Governments

supervisory areas in the Zones, arranged alphabetically under each zone along with the number of their various supervisory and village extension workers.

Table 3.4.1 Distribution of Supervisory and Village Extension Workers in Each Zone.

| S/NO | ZONE 1 | S.E.W | V.E.W | ZONE 11 | S.E.W | V.EW | ZONE 111 | S.E.W | V.E.W |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Askira/U. | 1 | 11 | Bama | 1 | 11 | Abadam | 1 | 10 |
| 2 | Bayo | 1 | 9 | Dikwa | 1 | 10 | Gubio | 1 | 9 |
| 3 | Biu | 1 | 12 | Jere | 1 | 10 | Guzamala | 1 | 9 |
| 4 | Chibok | 1 | 11 | Kaga | 1 | 10 | Kukawa | 1 | 11 |
| 5 | Damboa | 1 | 12 | Kala/B | 1 | 10 | Magumeri | 1 | 10 |
| 6 | Gwoza | 1 | 10 | Konduga | 1 | 10 | Marte | 1 | 9 |
| 7 | Hawul | 1 | 11 | Mafa | 1 | 9 | Mobar | 1 | 10 |
| 8 | Kwaya K | 1 | 10 | Maiduguri | 1 | 9 | Monguno | 1 | 12 |
| 9 | Shani | 1 | 10 | Ngala | 1 | 12 | Nganzai | 1 | 10 |
| **10** | **TOTAL** | **9** | **96** | | **9** | **91** | | **9** | **90** |

Afolabi (1993) specify that thirty percent (30%) of a given population is enough for research findings and generalization. The researcher samples the population by alphabetically arranging the Local Government supervisory areas from each of the three Zones. A proportionate stratified sampling technique was used to select five Local Government supervisory areas. The total number for each Zone was selected by selecting two Local Governments supervisory areas from the top of the list, the fifth on the serial number and the last two at the bottom of list, giving a total of five Local Governments from each of the three Zones making a total of fifteen supervisory areas out of the twenty seven supervisory areas in the State. This means the total number of supervisory and village extension workers of this selected supervisory areas automatically forms the sample population of the study. Table 3.4.2 shows the selected sample population.

Table 3.4.2, Selected Sample Population from the Three Zonal Supervisory Areas.

| S/NO | ZONE 1 | S.E.W | V.E.W | ZONE 11 | S.E.W | V.EW | ZONE 111 | S.E.W | V.E.W |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Askira/U. | 1 | 11 | Bama | 1 | 11 | Abadam | 1 | 10 |
| 2 | Bayo | 1 | 9 | Dikwa | 1 | 10 | Gubio | 1 | 9 |
| 5 | Damboa | 1 | 12 | Kala/B | 1 | 10 | Magumeri | 1 | 10 |
| 8 | Kwaya K | 1 | 10 | Maiduguri | 1 | 9 | Monguno | 1 | 12 |
| 9 | Shani | 1 | 10 | Ngala | 1 | 12 | Nganzai | 1 | 10 |
| **10** | **TOTAL** | **5** | **52** | | **5** | **52** | | **5** | **51** |
| **11** | **GRAND TOTAL** | | | | | | | | **170** |

From the selected sample population shown, the population of the study stood at one hundred and seventy (170). By implication they represent the total population of supervisory and village extension workers in the twenty seven (Blocks) supervisory areas of Borno State Agricultural Development Programme (BOSADP). The number is found adequate because it is sufficiently large enough to be a representative or generalization of the study population

**3.5 Instrument for Data Collection**

In this study the main instruments used for data collection were structured questionnaire designed by the researcher, and documentary sources. The questionnaire was carefully designed so as to allow for the gathering of relevant data required for the analysis of the objectives of the study advanced in Chapter One. Documentary sources such as records kept by the Borno State Agricultural Development Programme, journals and text books were also consulted for data collection. The decision to use questionnaire was arrived at considering the spread of the population, nature of data to be collected and the cost involvement.

**3.5.1. Questionnaire**

To deduce information from the respondents, close ended questionnaire was adopted where

respondents were to make choice among specified alternative answers. This was used so as to produce greater uniformity among respondents along the specific dimension in which the researcher is interested. One set of questionnaire was designed and divided into six parts: part "A" contains the demographic details of the respondents such as name of work organization, Local Government Area of respondents, highest educational qualification, years of extension work experience and job rank and Grade Level. Part "B to "F" contains questions that are relevant and sought to answer the research questions formulated in the study. To be specific, part "B" treated question that sought to find out the types of agricultural information sourced, "C" dwelt on the methods adopted by extension workers in sourcing for agricultural information, "D" contained question on how information sourced are being organized. Part "E" questions sought to find out the ways extension workers disseminate information to farmers, while part "F" treated question on the challenges faced in sourcing and disseminating agricultural information.

**3.6 Validity of the Instrument**

A content validation of the instrument was adopted and this is to give room to validation by others so that it becomes effective research instrument. In order to ascertain the validity of the instrument (questionnaire) and capable of eliciting required data from the respondents, it was subjected to scrutiny by relevant research experts including the two supervisors and three other subject matter specialists for necessary observations, corrections and amendment. Validity refers to the degree to which measuring instrument is designed for a specific measurement. Asika (2009) stated that it enables a researcher to elicit the correct response from the sample subjects. Validity is concerned with the issues of appropriateness for the purpose, comprehensiveness of scope, accuracy and consistency in supplying needed data.

### 3.7 Reliability of the Instrument

In order to establish the reliability of the instrument (questionnaire) of this study, a pilot study using the questionnaire was conducted which were administered to agricultural extension workers of Yobe State Agricultural Development Programme (YOSADP). Reliability according to Anikweze (2009) refers to the degree that the instrument is free from error in providing information about the target population and to the degree that it provides repeatable, consistent result. The test-retest method of affirming instrument reliability was employed. A total of fifteen copies of the questionnaire were administered which were duly completed and returned. To affirm the reliability of data collected, the statistical package for the social sciences (SPSS) of Cronbach Alpha coefficient formula was used to analyze the data. The Cronbach Alpa coefficient reliability stood at 0.82 of part "B" to "F" of the questionnaire. A high value of the Cronbach Alpha coefficient with a minimum of 0.70 values can be used as a reasonable test of scale reliability. This affirms that the instrument tested is reliable and therefore can be used for this study. Therefore the purpose of this pilot study is to determine reliability of the instrument before administration, assess the feasibility of the study before administration, and identify problems or difficulties that respondents may encounter with a view to eliminating them in the final instrument.

### 3.8 Procedure for Data Collection

Both primary and secondary sources of data collection were used for this study. The primary data were collected through the use and administration of questionnaire, while the secondary data were collected through consultation of records kept by BOSADP, journals and textbooks. The instrument (questionnaire) was administered by the researcher to the Three Zonal Extension Managers for onward delivery to their various Local Government Area Supervisory Extension

Officers during their monthly briefings. The Supervisory Extension Officers administered the instrument to their various village extension workers. This procedure was adopted because it will be difficult for the researcher to locate the respondents because of the nature of spread of the extension workers across the state. A date for follow-up and re-collection of the completed questionnaire was arranged between the Zonal Extension Managers and the researcher/ research assistant. A period of two weeks was given to the extension workers to respond to the questionnaire and return them to their various Supervisory Extension Officers for onward delivery to the Zonal Extension Managers. The researcher subsequently collected the completed questionnaire from the Zonal Extension Managers.

**3.9 Procedure for Data Analysis**

A descriptive statistics was used for analyzing and interpreting data gathered from the questionnaire. Frequency distribution and percentages were employed to present the data for easy interpretation. The main purpose of using percentages to interpret the data is to reduce different sets of numbers to a common base. It is also argued that any set of frequencies can be transformed into percentages in order to facilitate statistical manipulation and interpretation. Therefore, since descriptive statistics deals with frequency distribution and percentages which are used to compare and measure group of objects on an equitable basis, the researcher used these processes to analyze the data of this study.

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# CHAPTER FOUR

# DATA PRESENTATION, ANALYSIS AND DISCUSSION

## 4.1 Introduction

This chapter presents the presentation, analysis and discussion of data collected for the study. It also contains the implication of findings in relation to the research questions raised for the study.

## 4.2 Response Rate of Respondents

Table 4.1: Response Rate

| S/N | Selected Local Government Areas | N.Q Administered | N.Q Returned | Percentage (%) |
|---|---|---|---|---|
| 1 | Abadam | 11 | 10 | 90.9 |
| 2 | Askira Uba | 12 | 9 | 75.0 |
| 3 | Bama | 12 | 10 | 83.3 |
| 4 | Bayo | 10 | 10 | 100.0 |
| 5 | Damboa | 13 | 10 | 76.9 |
| 6 | Dikwa | 11 | 9 | 81.8 |
| 7 | Gubio | 10 | 8 | 80.0 |
| 8 | Kala Balge | 11 | 10 | 90.9 |
| 9 | Kwaya Kusar | 11 | 11 | 100.0 |
| 10 | Magumeri | 11 | 11 | 100.0 |
| 11 | Maiduguri | 10 | 9 | 90.0 |
| 12 | Monguno | 13 | 11 | 84.6 |
| 13 | Ngala | 13 | 10 | 76.9 |
| 14 | Nganzai | 11 | 10 | 90.9 |
| 15 | Shani | 11 | 9 | 81.8 |
| 16 | Total | 170 | 147 | 86.5 |

Out of the total number of 170 copies of the questionnaire administered to the respondents in the 15 selected Local Government areas, 147 (86.5%) were duly completed and returned. The response rate could be regarded as high. This could be associated with the educational qualification and experience of the respondents who in most cases were higher officers and know the importance of research. The method adopted for the administration and recollection of the questionnaire also contributed greatly to the high response rate recorded.

### 4.2.1 Socio-Demographic Data of Respondents

Analyzing respondents' socio- demographic characteristics shows that males accounted for 122 (83%) whereas female personnel accounted for only 25 (17%). The low percentage recorded by women could be associated more with their low level of educational attainment compared with their male counterpart in the state. It could also be associated with the nature and functions extension workers perform which requires movement from one community to the other in the state rather than gender imbalance in the employment policy of the Borno State Agricultural Development Programme. In terms of age classifications of the respondents, 76 (51.7%) were between 41 to 50years, 50 (34%) were between 31 to 40 years and 21 (14.3%) were between 20 to 30 years. This means that sooner or later more experience and skilled personnel will reach the retirement age and the implication is that a vacuum of experience and skilled staff with high exposure in extension work will be created.

The educational qualification of the respondents shows that 63 (42.9%) have either the Higher National Diploma or University Degree and 56 (38.1%) possess Ordinary National Diploma (OND)/ National Certificate in Education (NCE). This implies that the respondents have the required skill to source and disseminate agricultural information to farmers effectively. They can also respond to the questionnaire without difficulty since all of them are educated and have reached senior ranking position.

The years of working experience of the respondents was considered to be of great importance in the study because it provides a deep knowledge of agricultural information sourcing, organization and dissemination of such information to the farmers within the umbrella of the Borno State Agricultural Development Programme. Therefore it was interesting to find out that majority 51 (34.7%) of the respondents had between 11-20 years of working experience. 40

(27.2%) had more than 20 years working experience. Collectively, 91 (61.2%) had more than 10 years working experience. These ranges of working experiences of the respondents correspond with their positions since all of them were in senior position within the agency in the state. The implication of this is that, effective extension service delivery to farmers could be easy and if farmers utilized the information passed to them, they will record high yield of agricultural productivity.

### 4.3 Data Analysis and Discussion

This section sought to present analysis and discussions on the findings of the study with respect to the research questions formulated for the study. All items were measured in a five point scale but were re-categorized into two for proper analysis and discussion.

#### 4.3.1 Types of Agricultural Information Sourced by Extension Workers in BOSADP

The first research question sought to find out the different types of agricultural information sourced by the extension workers in BOSADP. Table 4.2 shows the distribution.

Table 4.2: Types of Agricultural Information Sourced

| S/N | Types of agricultural information sourced | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | % | Freq. | %. |
| 1 | Crop production/protection | 132 | 89.8 | 15 | 10.2 |
| 2 | Livestock production | 135 | 91.8 | 12 | 8.2 |
| 3 | Agro-forestry production | 114 | 77.6 | 33 | 22.4 |
| 4 | Application of inputs (fertilizers, pesticides, etc) | 135 | 91.8 | 12 | 8.2 |
| 5 | Agricultural credit facilities | 96 | 65.3 | 51 | 34.7 |
| 6 | Market prices | 94 | 63.9 | 53 | 36.1 |
| 7 | Improved seed varieties | 120 | 81.6 | 27 | 18.4 |
| 8 | Soil fertility and land degradation | 102 | 69.4 | 45 | 30.6 |
| 9 | Desertification | 96 | 65.3 | 51 | 34.7 |
| 10 | Planting period | 132 | 89.8 | 15 | 10.2 |
| 11 | Weeding period | 132 | 89.8 | 15 | 10.2 |
| 12 | Harvesting period | 118 | 80.3 | 29 | 19.7 |
| 13 | Pest and disease control | 120 | 81.6 | 27 | 18.4 |
| 14 | Plant diseases | 120 | 81.6 | 27 | 18.4 |

From table 4.2, it can be seen that information relating to livestock production, agricultural inputs like fertilizers, pesticide, and herbicides were the most sourced information by the agricultural extension workers in BOSADP with each recording 135 (91.8%) response. Other information sourced and rated high by the extension workers were those relating to Crop production/protection, planting period and Weeding period with each recording 132 (89.8%) response rate. It is therefore interesting to note that these findings have corroborated the works of extension workers who mostly visit farms to inform and supervise farmers on crop production/protection, application of fertilizers, pesticides, etc. The findings also agrees with Oduwale and Ikhizma (2003) identified various types of agricultural information sourced by extension workers, as information on pest and diseases control, crop production, application and utilization of fertilizers, marketing farm produce, credit and loan facilities to farmers, etc. Therefore the findings show that all information sourced were among the much needed information by the extension workers in BOSADP since all had a high response rate of more than 60%. For this reason effort should be made by BOSADP to provide all necessary incentives and logistics needed by extension service unit to enable extension workers source for agricultural information effectively and efficiently.

### 4.3.2 Method Adopted in Sourcing Agricultural Information by Extension Workers in BOSADP

The second research question of the study sought to find out the methods adopted by agricultural extension workers in BOSADP in sourcing for agricultural information. To do this, the respondents were presented with different methods and were asked to indicate the ones they use. Table 4.3 shows their responses.

Table 4.3; Methods adopted in sourcing agricultural information by extension workers in BOSADP

| SN | Methods adopted in sourcing agricultural information | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Discussion with farmers association | 130 | 88.4 | 17 | 11.6 |
| 2 | Based on personal observation and experiences | 99 | 67.3 | 48 | 32.7 |
| 3 | Based on identification of farmers information needs | 64 | 43.5 | 83 | 56.5 |
| 4 | Based on findings of research result ( prints and internet) | 68 | 46.3 | 79 | 53.7 |
| 5 | Discussion with community leaders and elders | 90 | 61.2 | 57 | 38.8 |

From table 4.3 it is interesting to find out that agricultural extension workers adopt the methods of discussion with farmers associations in sourcing agricultural information which recorded 130 (88.4%) response rate. Adopting findings from research result through the prints and internet in sourcing agricultural information by extension workers in BOSADP recorded low response rate. This finding agrees with Dulle (2000) which revealed that agricultural extension workers source their information from the use of personal sources and experiences, attendance at meetings with farmers association, seminars, short courses and conferences while contact with researchers and the use of agricultural libraries were very unpopular. This implies that adopting the method of getting first-hand agricultural information from farmers association, and their personal observation and experiences were mostly used in sourcing agricultural information than the prints resources and internet. The implication of adopting this method is that a lot of current agricultural information which are published in the prints resources and internet cannot be obtained by extension workers consequently current agricultural information cannot reach the farmers.

The respondents were further asked to indicate areas they source or obtain agricultural information from. Table 4.4 shows the distribution of their response rate.

Table 4.4; Areas agricultural information are sourced

| Sn | Areas agricultural information are sourced | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Subject matter specialists | 83 | 56.5 | 64 | 43.5 |
| 2 | Departmental library collections (print sources) | 95 | 64.6 | 52 | 35.4 |
| 3 | Internet (using computer, cell phone) | 89 | 60.5 | 58 | 39.5 |
| 4 | Face to face discussions with colleagues | 135 | 91.8 | 12 | 8.2 |
| 5 | Agricultural research institutes | 99 | 67.3 | 48 | 32.7 |
| 6 | Workshop/seminars | 135 | 91.8 | 12 | 8.2 |
| 7 | Radio | 102 | 69.4 | 45 | 30.6 |
| 8 | Television | 87 | 59.2 | 60 | 40.8 |
| 9 | Superior officers in the office | 93 | 63.3 | 54 | 36.7 |

The findings as revealed in table above 4.4 reflect the quest by extension workers to source or obtain agricultural information from different sources. However, sourcing of information through face to face discussions with colleagues and Workshop/seminars with each recording, 135 (91.8%) ranked first. Closely following this is the zeal of agricultural extension workers to source for agricultural information from, radio with 102 (69.4%) and Agricultural Research Institutes with 99 (67.3%). Surprisingly, printed sources from departmental library collections such as books/journals recorded 95 (64.6%) and Superior officers in the office with 93 (63.3%) ranked list. The concern for the position recorded by printed source was earlier voiced out by Mugwisi, Ocholla and Mostert (2012) when they emphasized the use of libraries, internet, discussions with colleagues, personal and departmental collections, and workshops/seminars in sourcing agricultural information.

In relation to the above, the extension workers in BOSADP were asked to indicate the frequency they source agricultural information. This is presented on table 4.5.

Table 4.5: Frequency of sourcing agricultural information

| S/n | Frequency of sourcing agricultural information | Frequency | % |
|---|---|---|---|
| 1 | Always | 36 | 24.5 |
| 2 | Before planting period | 23 | 15.6 |
| 3 | After harvesting period | 25 | 17.0 |
| 4 | Quarterly in a year | 33 | 22.5 |
| 5 | Any convenient time | 30 | 20.4 |

Table 4.5 clearly shows that, agricultural extension workers in BOSADP source for agricultural information always which recorded 36 (24.5%) response. It is also interesting to note that 33 (22.5%) of the respondents source for such information quarterly in a year whereas 30 (20.4%) indicated that they source for agricultural information at the time it is convenient for them. This would imply that the type of information required necessitate the frequency for its sourcing by the extension workers in the state. The findings here are consistent with the report of Mugwisi, Ocholla and Mostert, (2012) where it was stated that extension workers require information where ever and when such information is found to be effective.

### 4.3.3 Organization of Agricultural Information Sourced by Extension Workers in BOSADP

Organization of agricultural information is very important and an essential key to access, retrieval and utilization. Therefore, all generated/acquired information whether as resources or document must be properly stored and systematically organized. It is in the light of this that the third research question sought to determine the organization of information sourced by the agricultural extension workers in BOSADP. Table 4.6 shows the distribution of organization of agricultural information sourced.

4.6 Organization of Agricultural Information Sourced by Extension Workers

| Sn | Organization of Agricultural Information Sourced | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Using library's classification scheme | 87 | 59.2 | 60 | 40.8 |
| 2 | Alphabetically by author | 107 | 72.8 | 40 | 27.2 |
| 3 | Alphabetically by subject | 121 | 82.3 | 26 | 17.7 |
| 4 | Chronological order by date | 119 | 81.0 | 28 | 19.0 |

From 4.6 table it is visible that, agricultural information is organized alphabetically by subject and chronologically by date with a record of 121 (82.3%), 119 (81.0%) respectively. This finding goes to confirm that agricultural information is in a form of document kept in files and in cabinets, This is why the system of organization has to be like those for record and archival materials, although Nwalo (2003) indicates that classification is a very useful tool for the organization and easy location of information sources, BOSADP is not using any classification scheme for the organization of its information resources. The research question also found out how agricultural information sourced is stored.

Table 4.7: Systems Used in Storing Agricultural Information Sourced

| S/N | Systems Used in Storing Agricultural Information Sourced . | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Departmental library | 79 | 53.7 | 68 | 46.3 |
| 2 | Stored in file cabinet | 123 | 83.7 | 24 | 16.3 |
| 3 | Shared among extension workers | 118 | 80.3 | 29 | 19.7 |
| 4 | Organizational central database | 93 | 63.3 | 54 | 36.7 |

The fact that majority 123 (83.7%) of the sourced agricultural information are stored in file cabinet, as indicated in table 4.7 means that the information are in document and kept in files. Even those shared among extension workers, 118 (80.3%) and in organizational central database, 93 (63.3%) are kept in files and stored in file cabinet. This finding showed that BOSADP does not have a library infrastructure or the library is not well set up because it is rated the least used medium of storage for the agricultural information. This implies that having easy and quick

access to agricultural information by farmers becomes difficult and this could lead to low agricultural productivity.

The research question also sought to find out the personnel managing the agricultural information generated. Table 4.8 shows their response rate.

Table 4.8: Personnel Responsible for Managing the Agricultural Information Sourced

| SN | Personnel Responsible for Managing Agricultural Information Sourced | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Professional librarian | 47 | 32.0 | 100 | 68.0 |
| 2 | Para-professional librarian | 49 | 33.3 | 98 | 66.7 |
| 3 | Trained extension personnel | 107 | 72.8 | 40 | 27.2 |
| 4 | Untrained extension/record personnel | 87 | 59.2 | 60 | 40.8 |
| 5 | Do not know | 67 | 45.6 | 80 | 54.4 |

From table 4.8 it is categorical to note that the management of agricultural information sourced by extension workers in BOSADP is being managed by trained extension personnel and supported by an untrained extension personnel going by the response rate recorded at 107 (72%) and 87 (59.2%) respectively. The implication of this finding is that there is no skilled librarian to effectively manage the agricultural information sourced hence having quick access to this information could be difficult. This finding closely reflect that of International Association of Agricultural Information Specialists (IAALD) (2006) which agreed that there is a critical need to have human resource capacity building in information collection, processing, storage and dissemination and the use of modern information and communication technologies, techniques and standards, so that effective agricultural information management could take place and consequently will lead to easier and quicker access to information. Sam, (2012) also agree that there should be repositories, such as, databases of experts, libraries for generated agricultural information resources.

### 4.3.4; Ways Agricultural Extension Workers in BOSADP Disseminate Agricultural Information to Farmers

The fourth research question seeks to find out ways agricultural extension workers in BOSADP disseminate agricultural information to farmers. Table 4.9 shows the distribution of their response rate.

Table 4.9: Ways of Agricultural Information Disseminated to Farmers

| S/N | Ways of Agricultural Information Dissemination to Farmers | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Research pamphlets/newsletters/posters | 85 | 57.8 | 62 | 42.2 |
| 2 | Radio | 84 | 57.1 | 63 | 42.9 |
| 3 | Direct contact with farmers | 126 | 85.7 | 21 | 14.3 |
| 4 | Using film shows | 73 | 49.7 | 74 | 50.3 |
| 5 | Demonstration to farmers on the field | 121 | 82.3 | 26 | 17.7 |
| 6 | Library services (books, journal and magazines) | 51 | 34.7 | 96 | 65.3 |
| 7 | Television | 77 | 52.4 | 70 | 47.6 |

The findings in table 4.9 are indeed in conformity with the findings of Agwu and Uche-mba (2010) who noted that information dissemination in ADPs in Nigeria is based on the Training and Visit (T&V) delivery system which is traditionally supported by mobile cinema, video, radio and telephone. Under this system, they averred that research findings are transmitted to farmers through direct contact via extension personnel after periodic trainings. In this study the findings show that extension workers disseminate agricultural information to farmers through direct contact, and on the field demonstration of technological information to farmers with each recording 126 (85.7%) and 121 (82.3%) responses respectively. The significance of this finding is that extension workers have the opportunity to interact with farmers and to be able to answer questions that may arise. However one of the disadvantages of this method is the lack of ways of documenting these interactions and questions and answer session. Radio 84 (57.1%), and television 77 (52.4%) also play significant role in information dissemination going by the response rate recorded. Radio is specifically noted by Okwu, Kuku and Abba (2007) to be one

broadcast medium which almost all experts have found to be the most appropriate medium of mass communication in the rural population and favoured as a medium of communication in rural communities because of the advantage of demanding less intellectual effort than the print media messages. This implies that messages from radio and television can reach remote areas, even where there are no extension agents, as long as there is a good reception. The use of Library services like books, journal and magazines were not on a very popular usage for information dissemination to farmers. Perhaps this could be associated with the level of illiteracy of the farmers and non availability of library services in BOSADP.

In a related issue the respondents were asked to indicate the language used for the dissemination of agricultural information to the farmers. Table 4.10 shows the distribution.

Table 4.10: language Used for Agricultural Information Dissemination to Farmers

| S/N | Language used for Agricultural Information Dissemination to Famers | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | English language | 49 | 33.3 | 98 | 66.7 |
| 2 | Kanuri | 120 | 81.6 | 27 | 18.4 |
| 3 | Pabir Bura | 84 | 57.1 | 63 | 42.9 |
| 4 | Marghi-Shuwa Arabs & others | 84 | 57.1 | 63 | 42.9 |
| 5 | Hausa | 138 | 93.9 | 9 | 6.1 |

Table 4.10 clearly showed that agricultural extension workers in BOSADP use predominately Hausa and Kanuri languages to disseminate agricultural information to farmers as indicated by 138 (93.9%) and 120 (81.6%) response rate respectively This finding agrees with Oladimeji (2006) who noted that the language of presentation or dissemination of agricultural information should be based on the language of the listeners. This implies that dissemination of agricultural information to farmers in their local languages can easily be comprehended.

The respondents were further asked to indicate the types of agricultural information they disseminate to farmers. Table 4.11 shows the distribution of the types of agricultural information disseminated to farmers by extension workers in BOSADP.

Table 4.11; Types of agricultural information disseminated to farmers

| Sn | Types of agricultural information disseminated to farmers | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Crop production/protection | 139 | 94.6 | 8 | 5.4 |
| 2 | Livestock production | 142 | 96.6 | 5 | 3.4 |
| 3 | Agro-forestry production | 123 | 83.7 | 24 | 16.3 |
| 4 | Application of inputs (fertilizers, pesticides, etc) | 132 | 89.8 | 15 | 10.2 |
| 5 | Banks agricultural credit facilities | 81 | 55.1 | 66 | 44.9 |
| 6 | Market prices | 111 | 75.5 | 36 | 24.5 |
| 7 | Improved seed varieties | 132 | 89.8 | 15 | 10.2 |
| 8 | Soil fertility and land degradation | 123 | 83.7 | 24 | 16.3 |
| 9 | Desertification | 117 | 79.6 | 30 | 20.4 |
| 10 | Planting period | 127 | 86.4 | 20 | 13.6 |
| 11 | Weeding period | 119 | 81.0 | 28 | 19.0 |
| 12 | Harvesting period | 128 | 87.1 | 19 | 12.9 |
| 13 | Pest and disease control | 121 | 82.3 | 26 | 17.7 |
| 14 | Plant diseases | 120 | 81.6 | 27 | 18.4 |

From the analysis shown in table 4.11, it is vividly clear that agricultural extension workers in BOSADP disseminate almost all the agricultural information to farmers going by the response rate indicated in the table and that all the types of agricultural information indicated in the table are needed by farmers since they are all rated above 55.1% by the respondents. However the types of agricultural information that has higher percentage response rate include Livestock production with 142 (96.6%) and Crop production/protection which recorded 139 (94.6%). This finding agrees with Gundu (2009) who observed that majority of extension workers in developing countries including Nigeria disseminate information on farming systems, pest and diseases, cropping, education, management, livestock management, marketing and pricing, harvest management, health and nutrition, farm security, finance and credit. However information on Banks agricultural credit facilities recorded low response rate at 81 (55.1%) and

this could be associated with lack of farmer's awareness on how to get these facilities since most of them are illiterate and reside in the rural areas. The fear of higher interest rates on the facilities could also prevent farmers to seek for such credits; consequently extension workers may not have so much pressure in disseminating such information to farmers.

### 4.3.5; Challenges Affecting Information Sourcing and Dissemination by Agricultural Extension Workers in BOSADP

The fifth research question sought to find out the challenges affecting agricultural information sourcing and dissemination by agricultural extension workers in BOSADP. These were evaluated in two dimensions. The first aspect concerns the constraints to the sourcing of agricultural information by the extension workers in Borno State Agricultural Development Programme while the second deals with the problems encountered in the dissemination of agricultural information to farmers in the state. Table 4.12 shows the response rate of challenges affecting agricultural information sourcing by extension workers

Table 4.12: Challenges Affecting Agricultural Information Sourcing

| S/n | Challenges Affecting Agricultural Information Sourcing | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Limited access to current/relevant information | 123 | 83.7 | 24 | 16.3 |
| 2 | Low level of agric information exchange among stakeholders | 132 | 89.8 | 15 | 10.2 |
| 3 | Poor documentation, storage and retrieval techniques | 121 | 82.3 | 26 | 17.7 |
| 4 | Weak agricultural researchers-extension worker linkage | 99 | 67.3 | 48 | 32.7 |
| 5 | Poor funding to support information sourcing | 126 | 85.7 | 21 | 14.3 |
| 6 | Changes in organizational structure and attitude of superior | 118 | 80.3 | 29 | 19.7 |
| 7 | Lack of efficient extension policy | 120 | 81.6 | 27 | 18.4 |
| 8 | Lack of enough and timely information content | 126 | 85.7 | 21 | 14.3 |

From table 4.12, the analysis shows that the problems affecting agricultural information sourcing by extension workers in BOSADP indicates the low level of agricultural information exchange among stakeholders with 132 (89.8%) response rate. This problem created dearth of agricultural information among the stakeholders. Other challenges of such magnitude were poor

funding to support information sourcing by extension workers in the state, lack of enough and timely information content with each recording 126 (85.7%) response rate. Of equal rating were challenges like limited access to current/relevant agricultural information with 123 (83.7%), poor documentation, storage and retrieval techniques for agricultural information with 121 (82.3%) response among others. The finding implies that all listed problems affect the sourcing of agricultural information by the extension workers in the Borno State Agricultural Development Programme because all recorded above 67.3% response rate. These findings are consistent with Madukwe and Ozor (2004) who pointed that the major constraint to effective agricultural information sourcing in Nigeria include; weak linkages with agricultural research institute, poor staff mobility system, inadequate and unqualified staff, and weak financial support and lack of current/inadequate information content.

Table 4.13 shows the distribution of response rate on the challenges affecting information dissemination to the farmers by extension workers.

Table 4.13: Challenges Affecting Agricultural Information Dissemination to Farmers

| S/n | Challenges Affecting Agricultural Information Dissemination to Farmers | Yes | | No | |
|---|---|---|---|---|---|
| | | Freq. | %. | Freq. | %. |
| 1 | Poor road network to visit farmers | 121 | 82.3 | 26 | 17.7 |
| 2 | Poor staff mobility system | 116 | 78.9 | 31 | 21.1 |
| 3 | Lack of prompt payment of allowances and other logistics | 123 | 83.7 | 24 | 16.3 |
| 4 | Lack of strengthened farmer association | 119 | 81.0 | 28 | 19.0 |
| 5 | Persistent security threats | 123 | 83.7 | 24 | 16.3 |
| 6 | Lack of acceptability of new research findings | 123 | 83.7 | 24 | 16.3 |
| 7 | Disproportionate extension workers to famer family ratio | 129 | 87.8 | 18 | 12.2 |
| 8 | Poor motivation of extension worker for effective functioning | 132 | 89.8 | 15 | 10.2 |
| 9 | Poor funding of extension activities | 135 | 91.8 | 12 | 8.2 |

From table 4.13, it can be observed that the state of funding agricultural extension activities, poor motivation of extension personnel and disproportionate of extension workers to farm-family

ratio with each recording 135 (91.8%), 132 (89.8%) and 129 (87.8%) response rate respectively, are the most outstanding challenges facing the dissemination of agricultural information to farmers in the state. This finding is in consonance with Agwu and Chukwuone (2005) observation that the most difficult and challenging policy issue facing the agricultural information dissemination in agricultural development programmes today is how to secure a stable source of funding. They further observed that the programmes have suffered serious setbacks due to poor funding and funding instability following the expiration of the World Bank's component of the funding arrangement. They maintained that contributions from States and Federal Government always fall grossly, short of budget, hence hindering the proper implementation of extension programmes in the ADPs.

The finding is also closely related to Agbamu (2005) who identified such challenges as ranging from ineffective Agricultural Research-Extension linkages, insufficient and inappropriate agricultural technologies for farmers, disproportionate extension workers to farm family ratio, lack of clientele participation in programme development, failure of input supplier to ensure effective and timely distribution to farmers. The implication of this finding shows that all listed challenges affect agricultural information dissemination by extension workers in BOSADP since all were rated above 78.9%. However Kimaro, Mukandiwa and Mario (2010), attempted to proffer solution by saying a strong link between extension workers and researchers will improve the quality of information being disseminated as well as adoption of new technologies by farmers, which will consequently lead to increase in agricultural production and improved livelihoods of the farmers.

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# CHAPTER FIVE

# SUMMARY, CONCLUSION AND RECOMMENDATION

## 5.1 Introduction

This chapter presents the summaries of the study and major findings. Conclusion was drawn and some recommendations and suggestion for further study were put forward.

## 5.2 Summary of the Study

This study investigated the extent to which the Agricultural Extension Workers in Borno State Agricultural Development Programmes (BOSADP) source, organize and disseminate agricultural information to farmers with a view to increasing their agricultural productivity which will consequently improve their standard of living.

To achieve the above, five research questions were formulated among which are; what types of agricultural information sourced by extension workers? What method do agricultural extension workers adopt in sourcing agricultural information? How is agricultural information sourced by extension workers being organized? How do they disseminate the agricultural information to farmers? And what are the challenges faced by the extension workers in the process of sourcing and disseminating such information to the farmers in the state.

A survey research method was adopted for the study with a total population of three hundred and four (304). A proportionate stratified sampling technique was employed to determine the sample size of the population. Structured questionnaire and documentary sources were used for data collection. A total of 170 copies of the questionnaire were administered in 15 local government areas of Borno State, out of which 147 were completely filled and returned for the study. Descriptive statistics was used for analyzing the data gathered from the questionnaire.

## 5.3 Summary of Major Findings

The major findings arising from the study are summarized thus:

1. Although extension workers in BOSADP sourced different types of agricultural information, they however mostly source information on livestock production, crop production/ protection, application of inputs like fertilizers, pesticides and herbicides.
2. The study found out that discussion with farmers associations, personal observations and experiences, and discussion with community leaders and elders were among the top three methods used by extension workers in BOSADP.
3. Because most of the agricultural information sourced are in document form, they are organized alphabetically by subject and chronologically by date. The study also revealed the absence of qualified and trained staff to manage the agricultural information, as this is left in the hand of extension personnel.
4. Agricultural information sourced were disseminated to the farmers mostly through direct contact and field demonstration, and in Hausa and Kanuri languages.
5. Extension workers have multiple challenges in sourcing agricultural information. These challenges include low level of agric information exchange among stakeholders, lack of enough and timely information content, and having limited access to current/relevant agricultural information with among others. The study also revealed that the state of funding agricultural extension activities and the welfare of extension personnel are the most outstanding challenges facing the dissemination of information to farmers in the state. Others include disproportionate extension workers to farm family ratio, lack of acceptability of new research findings by farmers and persistent security threats among others.

## 5.4 Conclusion

From the data analysis and summary of the major findings, the study concludes that Agricultural Extension Service (AES) was conceived to extend research based findings and information on agriculture to the farmers towards improving their agricultural produce and standard of living. This information gap between researches and advancement in technological process is filled by agricultural extension workers being the information disseminators to farmers. This study observed how Agricultural Extension Workers in Borno State Agricultural Development Programmes (BOSADP) source, organize and disseminate agricultural information to farmers with a view to increasing their agricultural productivity which will consequently improve their standard of living. To achieve this, there is the need to have effective information dissemination systems like libraries and information centers where the information sourced can be stored, organized and disseminated easily and quickly. There is also the need to have qualified and trained personnel who can manage the information sourced properly.

## 5.5 Recommendations

Based on the major findings of the study, the following recommendations are put forward.

1. Stake holders of the Borno State Agricultural Development Programme should provide all necessary and sustainable incentives and logistics, such as prompt payment of staff allowances and improved mobility systems, enough funding, etc for the extension services department so that sourcing of agricultural information by extension workers in the state can efficiently and effectively be carried out.

2. Agricultural extension workers in BOSADP should adopt the method of using information and communication technologies (ICT) such as internet services in sourcing agricultural information.
3. The authority of Borno State Agricultural Development Programme should provide library infrastructure so that agricultural information sourced could be organized, stored and manage properly. A librarian should also be employed to manage and organize the information sourced properly so that having access to such sources can be easier and consequently save the time of the user.
4. Agricultural extension workers should be encouraged to disseminate information to farmers using the dominate language in the state i.e kanuri, Pabir Bura and etc through modern technologies like the Borno Radio/Television Services, so that information can reach the farmers living in the remote areas easier and cheaper and at the appropriate time.
5. The Borno state agricultural development programme should improve agricultural extension services by removing all bottlenecks or challenges faced by extension workers in their effort to source and disseminate appropriate agricultural information to farmers.

## 5.6 **Suggestion for Further Studies**

This study investigated information sourcing, organization and dissemination by agricultural extension workers in Borno State agricultural development programme. The study could be replicated in other States Agricultural Development Programmes in Nigeria.

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## APPENDIX I

Department of Library and Information Science

Faculty of Education

Ahmadu Bello University, Zaria

3rd March 2014

INFORMATION SOURCING, ORGANIZATION AND DISSEMINATION BY AGRICULTURAL EXTENSION WORKERS IN BORNO STATE AGRICULTURAL DEVELOPMENT (BOSADP).

Dear respondent,

The researcher is a Master's Degree Student in the above named University. He is carrying out a study on the above mentioned topic. The study has special focus on how agricultural extension workers source, organized and disseminate information to farmers. The researcher will be grateful if you will take a moment and honestly respond to the question by ticking in the spaces (boxes) provided. Please be assured that all your responses or information provided will be treated with secrecy and will be used solely for the purpose of this research.

Thank you for the cooperation

Yours Faithfully

Saidu Adamu Mbaya

## APPENDIX II

## QUESTIONAIRE FOR AGRICULTURAL EXTENSION WORKERS

### PART "A" DEMORGRAPIC INFORMATION

1 Sex: Male ( ) Female ( )

2 Age: Bellow 20yrs ( ) 21-30yrs ( ) 31-40yrs ( ) 41-50yrs ( ) 51 and above years.

3 Present Station: (by Local Govt. Area or Block pls.) ----------

4 Job Rank---------- GL----------

5 Highest Educational Qualification: SSCE ( ) OND/NCE ( ) B.sc/HND ( )M.sc ( ) PhD ( )

6 Years of extension work experience: 1-10yrs ( ) 11-20yrs ( ) 21-30yrs ( ) above 31years ( )

***Instructions: Please rate the extent to which you agree with the options provided by ticking any of the following abbreviations; SA=Strongly Agree, A=Agree, FA= fairly Agree, FD=Fairly Disagree, SD=Strongly Disagree***

**PART "B" TYPES OF AGRICULTURAL INFORMATION SOURCED**

What types of agricultural information do you source?

| S/NO | Types of Agricultural Information sourced | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Crop production/protection | | | | | |
| 2 | Livestock production | | | | | |
| 3 | Agro-forestry production | | | | | |
| 4 | Application of inputs (fertilizer, pesticides etc) | | | | | |
| 5 | Banks agricultural credit facilities | | | | | |
| 6 | Market prices | | | | | |
| 8 | Improved seed varieties | | | | | |
| 9 | Soil fertility and land degradation | | | | | |
| 10 | Desertification | | | | | |
| 11 | Planting period | | | | | |
| 12 | Weeding period | | | | | |
| 13 | Harvesting period | | | | | |
| 14 | Pest and disease control | | | | | |
| 15 | Plant diseases | | | | | |

**PART "C" METHODS OF SOURCING AGRICULTURAL INFORMATION**

What procedures do you adopt in sourcing agricultural information?

| S/NO. | Procedures adopted in sourcing information | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Discussion with farmers association | | | | | |
| 2 | Based on personal observation and experiences | | | | | |
| 3 | Based on my identification of farmers information needs | | | | | |
| 4 | Based on findings of research result | | | | | |
| 5 | Discussion with community leaders and elders | | | | | |

Where do you source or obtain your agricultural information?

| S/NO. | Areas of sourcing information | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Subject matter specialists | | | | | |
| 2 | Departmental library collections, (printed sources) | | | | | |
| 3 | Internet (using computer, cell phone) | | | | | |
| 4 | Face-to-face discussions with colleagues | | | | | |
| 5 | Agricultural Research Institutes | | | | | |
| 6 | Workshop/seminars | | | | | |
| 7 | Radio | | | | | |
| 8 | Television | | | | | |
| 9 | Superior Officers in the Office | | | | | |

How frequent do you get a chance to source for agricultural information?

| s/no | Frequency | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Always | | | | | |
| 2 | Before planting period | | | | | |
| 3 | After harvesting period | | | | | |
| 4 | Quarterly in a year | | | | | |
| 5 | Yearly | | | | | |
| 6 | Any convenient time | | | | | |

**PART "D" ORGANIZATION OF INFORMATION SOURCED**

How are information sourced being organized?

| s/no | Organization of information | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Using Library's classification scheme | | | | | |
| 2 | Alphabetically by author | | | | | |
| 3 | Alphabetically by subject | | | | | |
| 4 | Chronological order by date | | | | | |
| 5 | Do not know | | | | | |

Information sourced by extension workers should often be preserved safely and made easily accessible, where are such information generated stored or kept?

| S/NO. | Preservation of Information Sourced | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Departmental Library | | | | | |
| 2 | Stored in file cabinet | | | | | |
| 3 | Shared among extension workers | | | | | |
| 4 | organizational central database | | | | | |

Who manages the agricultural information sourced?

| s/no | Management of Agricultural Information | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Professional librarian | | | | | |
| 2 | Para-professional librarian | | | | | |
| 3 | Trained extension personnel | | | | | |
| 4 | Untrained extension personnel | | | | | |
| 5 | Do not know | | | | | |

**PART "E" DISSEMINATION OF AGRICULTURAL INFORMATION**

Through which channel or media do you disseminate agricultural information to farmers?

| S/NO. | Channels or Media | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Research pamphlets/newsletters/posters | | | | | |
| 2 | Radio | | | | | |
| 3 | Direct contact with farmers (face-to-face discussion) | | | | | |
| 4 | Using film shows | | | | | |
| 5 | Demonstration to farmers on the field | | | | | |
| 6 | Library services ( books, journals & magazines) | | | | | |
| 7 | Television | | | | | |

In what language do you disseminate agricultural information to farmers?

| s/no | Language use in dissemination | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | English Language | | | | | |
| 2 | Kanuri | | | | | |
| 3 | Pabir-Bura | | | | | |
| 4 | Marghi/Shuwa Arab etc | | | | | |
| 5 | Hausa | | | | | |

What types of agricultural information do you disseminate to farmers?

| S/NO | Dissemination of Agricultural Information | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Crop production/protection | | | | | |
| 2 | Livestock production | | | | | |
| 3 | Agro-forestry production | | | | | |
| 4 | Application of inputs (fertilizer, herbicides etc) | | | | | |
| 5 | Banks" credit facilities | | | | | |
| 6 | Market prices | | | | | |
| 8 | Improved seed varieties | | | | | |
| 9 | Soil fertility | | | | | |
| 10 | Desertification | | | | | |
| 11 | Planting period | | | | | |
| 12 | Weeds control | | | | | |
| 13 | Harvesting period | | | | | |
| 14 | Pest and disease control | | | | | |
| 15 | Plant disease | | | | | |

**PART "F" CHALLENGES AFFECTING AGRICULTURAL INFORMATION SOURCING AND DISSEMINATION**

What problems do you encounter in an attempt to source appropriate agricultural information?

| s/no | Problems encountered in sourcing agricultural information | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Limited access to current/relevant information | | | | | |
| 2 | Low level of agric information exchange among stakeholders | | | | | |
| 3 | Poor documentation, storage and retrieval techniques | | | | | |
| 4 | Weak agricultural researchers-extension workers linkage | | | | | |
| 5 | Poor funding to support information sourcing | | | | | |
| 6 | Changes in organizational structure & attitude of superiors | | | | | |
| 7 | Lack of efficient extension policy | | | | | |
| 8 | Lack of enough and timely information content | | | | | |

What problems do you encounter in an attempt to disseminate information to farmers?

| S/NO | Problems encountered during dissemination | SA | A | FA | FD | SD |
|---|---|---|---|---|---|---|
| 1 | Poor road network to visit farmers | | | | | |
| 2 | Poor staff mobility system | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3 | Lack of prompt payment of allowances and other logistics | | | | | |
| 4 | Lack of strengthen farmers associations | | | | | |
| 5 | persistent security threat | | | | | |
| 6 | Lack of acceptability to new research findings | | | | | |
| 7 | Disproportionate extension workers to farm family ratio | | | | | |
| 8 | Poor motivation of extension worker for effective functioning | | | | | |
| 9 | Poor funding of extension activities | | | | | |

**THANK YOU FOR YOUR RESPONSE!!!**