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The Role of Extension Workers in the Provision of Information to Small-Scale Crop Farmers in Oji-River Local Government Area, Enugu State, Nigeria.

By

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DEDICATION

This work is dedicated to my wife and children for all their love, patience and encouragement over time.

DECLARATION

I hereby declare that this dissertation; "*The role of extension workers in the provision of information to small-scale farmers in Oji-River Local Government Area, Enugu State, Nigeria"* is my own work and sources used have been acknowledged by means of complete references. It has not been formally submitted for the award of a degree to any other university.

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ABSTRACT

This study explores the role of extension workers in meeting the information needs of small-scale farmers in Oji-River Local Government Area, Enugu State, Nigeria. Besides the review of the most relevant literature, this descriptive study made use of purposive sampling techniques to administer a total of fifty (50) questionnaires to extension workers; and to conduct structured interviews with twenty-five (25) small-scale farmers to obtain the desired results.

The study revealed that farmers required a variety of information for their various agricultural activities that include: application of fertilizers, seed treatment, control of pests and diseases as well as the production of technology. The study established that problems of information dissemination between small-scale farmers and extension workers were the inadequacies that had persisted overtime. These problems include poor definition needs, access to information, inappropriate media and lack of capacity to use modern technology.

It is recommended that the problem of information needs of farmers can be ameliorated by targeting research to those needs. This will help to prioritise their farming needs and provide them with relevant information that would cater for their needs. Also, there should be feedback from farmers to extension workers who would transit their needs to the scientists in research institutes on the problems they experience in the field. It is further suggested that methods used for disseminating agricultural information to farmers be re-examined. This would facilitate the mode of communicating information to them so that they will be better equipped to receive the knowledge and training that would be useful to their farming.

Key words: Information, information needs, agricultural information, extension workers, small-scale farmers, Oji-River, Enugu State, Nigeria.

LIST OF ABBREVIATIONS USED

AKIS	Agricultural Knowledge and Information Systems
ARDP	Agricultural and Rural Development Programme
EADP	Enugu Agricultural Development Programme
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
ICTs	Information and Communication Technologies
IITA	International Institute for Tropical Agriculture
IMF	International Monetary Fund
LGA	Local Government Area
T & VP	Training and Visiting Programme

DEFINITION OF TERMS

Agricultural Extension: A system which focuses on the delivery of information inputs to farmers (Byerlee, 1998).

Agricultural Information: Published and unpublished works in all aspects of agriculture (Aina, 1991).

Agricultural Information Systems: A system in which agricultural information is generated, transformed, transferred, consolidated, received and feedback given in such a manner that these processes function synergistically to underpin knowledge utilization by agricultural producers (Roling, 1998).

Agricultural Show: Exhibitions displayed to encourage farmers in agricultural production (Ozowa, 1995).

Diffusion: Act of spreading ideas, information to the generality of people in the community (Everett, 1998).

Extension Officers: Extension personnel in charge of extension services (Ozowa, 1995).

Extension Agents/Workers: The intermediaries between agricultural knowledge and farmers (Rabindra, 2012) (Extension agents / workers can be used interchangeably).

Extension Method: Refers to the various means through which innovations are communicated to the farmers (Roling, 1988).

Information: Data which has been processed and represented in a form suitable for human interpretation, often with the purpose of revealing trends or patterns (Adedipe, 1994).

Newsletters and Leaflets: Message carriers about technologies for effective agricultural communication (Ozowa, 1995).

Training and Visiting Programme: Induction given to farmers to acquire technological knowledge in farming (Munya, 2000).

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CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Role of Agriculture in Development in Nigeria

Agriculture generally plays a significant role in human development. Its importance to communities, countries and the world at large cannot be over-emphasised. It is strategic and critical to both the developed and developing countries in terms of the development of the national economy. The livelihood of the citizenry in the world, especially the rural inhabitants, essentially depends upon the development of agriculture. According to Rabindra (2012), agriculture is a prime sector which largely sustains the national economy, contributing significantly to the Gross Domestic Product (GDP) especially in third world countries. The World Bank (2007) concurs that when well-managed; agriculture provides food security and generates income and national wealth in developing countries.

In Nigeria, agriculture is the primary occupation of the citizenry. It employs about 66% of the labour force, provides over 80% of food consumed in the country, and supplies at least 50% of industrial raw materials needed in the country for industrial development (Rabindra, 2012). In fact, the role of agriculture in transforming Nigeria economically is particularly significant in that it contributes well over 40% of the country's Gross Domestic Product (GDP) and provides the greatest employment opportunities for the citizenry, supplies abundant food stuff for the teeming population to alleviate hunger and poverty (Rabindra, 2012).

However, most Nigerian national budgets have not demonstrated any positive evidence as to the development of agriculture despite its contribution to the Gross Domestic Product (GDP) (Rabindra, 2012). For example, in the 2013 national budget (which was $30.3bn), agriculture and rural development together received a paltry sum of $493m or (0.016%) of the total budget allocation while the security sector was allocated $637m or (0.021%). This confirms Oyedele's (2013) observation that the agricultural sector has always been disadvantaged in terms of budgetary allocations despite its huge contributions to GDP and employment generation.

Similarly, the Food and Agricultural Organisation (FAO, 2008) rated Nigeria as one of the low income food deficit countries in the world which has placed the country in a ceaseless food importation. In its report, the World Bank (2007) listed under investment, a steady drift from the rural area to urban centres, out-dated farming techniques, and non-application of new technologies as the key factors that had negatively impacted on agricultural development in Nigeria. Similarly, Margaret (2013) has submitted that the neglect of agriculture has opened the way for increased rural poverty, rural-urban migration, hunger and crimes in the country. This has apparently indicated that the situation has not improved in terms of agricultural development.

Despite the factors enumerated by the World Bank (2007) as directly responsible for low level of agricultural development in Nigeria, the negative attitude of government to the sector is a serious concern. Turakia (2014) observed that security operations/services in Nigeria have continued to receive the lion's share of the national budget to the disadvantage of other key sectors including agriculture as indicated above.

1.2 Role of Information in Agricultural Development in Nigeria

Ozowa (1995) asserts that failure in agricultural development in Nigeria can be attributed to, among other reasons, the ineffective method of information systems by most Nigeria governments. According to the author, information is not integrated into the national budget with other development programmes that would address the numerous problems that are facing agriculture, especially the farmers. The author opined that for measures to develop the agricultural sector to work, the Nigerian government needs to take a new approach to information policy, dissemination and management of information systems that would provide a better understanding of what farmers' information needs are. According to Ozowa (1995), no adequate attention has been given to the information problems of farmers and reasons for such information in facilitating their productivity.

Oladele (2006) also identified the absence of agricultural information as the key challenge facing farmers and stressed that it is very important in enhancing agricultural productivity. He submitted that agricultural information is vital for increasing the farmers' production and providing them with marketing and distribution strategies. Okwu & Ejembi (2001) are of the opinion that information and research are essential tools for economic development and service

delivery. Information promotes the growth of agriculture and is vital for human civilization. Aina (1995) posits that those who possess appropriate and timely information would make a more rational decision. The author further submitted that agricultural information will influence agricultural development in Nigeria.

1.3 Information Needs of Small-Scale Farmers in Nigeria

Economically, the use of information to develop agriculture cannot be over-emphasised. As a matter of fact, all farmers including small-scale, cooperative, commercial and others need to know the procedures of increasing their outputs, the use of fertilizers and marketing strategies in order to bring about an increase in their level of production (Rabindra, 2012). The author mentioned research agricultural institutes as strategic agents in effecting positive changes that would facilitate agricultural productivity. They do this by conducting needs assessment about farmers to know how they can be effectively served differently. The main objective of needs assessment is to gather information for setting priorities on the needs of farmers so that they can be provided with appropriate information that would improve their agriculture.

Realizing the critical role of information in agricultural development, Nigeria established many research institutes with associated libraries and extension systems for adequate generation and diffusion of new agricultural innovations to farmers. Examples of these institutes are: Agricultural Extension and Research Liaison Services (AERLS) at Oyo, International Institute for Tropical Agriculture (IITA) Ibadan, Extension Services of Agricultural Development Programme (EADP) Enugu, and Media Forum for Agriculture Kaduna and Cooperative Extension Center of the Nigerian Universities. According to Garforth (1993), these institutes generate and disseminate information which helps farmers receive advice and orientation on how to grow their crops. The advice and orientation are given by extension workers who transfer knowledge from researchers to farmers by advising them on their decision-making and educating them on the use of modern technologies which will enhance their agricultural development (Okwu & Ejembi, 2001). However, to assess and understand the information needs of farmers is to understand how they can be efficiently served.

Generally, farmers need adequate information to know the appropriate procedures that will be effective for increasing their products. The information they need is supplied to them by

agricultural extension workers who are engaged in the agricultural sector as intermediaries between agricultural knowledge and farmers. According to Rabindra (2012) extension workers occupy a strategic position in the agricultural production cycle in that they are directly related to the field and meet farmers to solve their information problems. In Agricultural Knowledge and Information Systems (AKIS) which describes the role of extension workers in the dissemination of information, Roling (1990) observed that their major function was to disseminate information from the researchers to farmers and assist them understand the use of new technologies and have a positive attitude towards accepting them so as to improve their crop farming. The author further noted that the usefulness of AKIS is seen from its aim at supporting decision-making, problem solving and innovations in a given country's agriculture. In Nigeria, the extension system practised is the training and visiting (T&V) model which was introduced and promoted by the World Bank in third world countries to help commercial, cooperative and small-scale farmers in the rural areas (Anderson, 2007). The World Bank (2007) report concluded that the training and visiting (T&V) model was not only attractive to farmers, but also offered them robust opportunities to know how to apply and use new innovations that will increasingly bring about their agricultural productivity (Ekpere, 1991).

1.4 Theoretical Framework of the Study

There are two major theoretical models that guided this research project.

i. **Information Needs Analysis Model,** which focuses on the assessment needs of farmers. According to (Roling, 1990) and (Garford, 1993), the main objective of this model is to prioritize the information needs of farmers so that farmers can be provided with the basic information services they require in order to improve their agriculture.

ii. **Agricultural Knowledge and Information Systems Model (AKIS),** Many authors had used this theoretical framework to explain the effectiveness and efficiency of the dissemination of information. This model focuses mainly on the techniques or methods of information dissemination to farmers. According to Roling (1990), AKIS is concerned with the flow of information from research institutes to the farmers through extension workers.

Garforth (1993) explained that AKIS is a communication network for exchange of information which does not take place randomly but within networks in which agricultural activities are connected. Figure 1 gives an illustration of sources of agricultural information by extension workers to farmers.

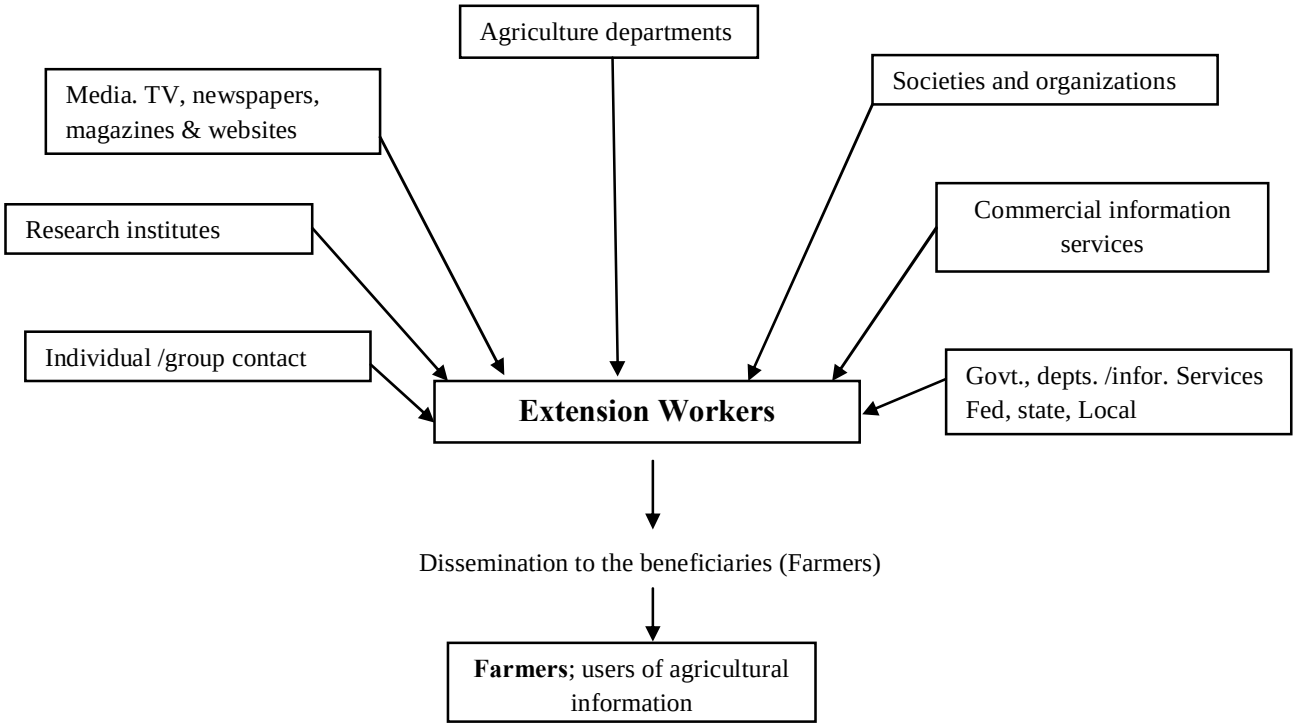


Figure 1: Link between the extension workers and sources of information to farmers
Source: McCue et al, 2005

1.5 Role of Agricultural Extension Agents in Information Dissemination to Small-Scale Farmers in Nigeria

The job of extension workers is to disseminate agricultural information to farmers. According to Aina (2006), there is a greater need for providing training and awareness programmes for extension agents about agricultural information systems and services so that they will increase their knowledge base and work in furtherance of information dissemination for the benefit of farmers. The author submitted that the purpose of training these extension workers is to strengthen research and extension linkages thereby making research more relevant to the needs

of farmers by providing useful information that will satisfy their information needs which relate to the problems they experience in the field. According to Benor (1987), extension workers receive frequent and regular training to improve their professional skills and competencies in their services to farmers. The extension workers are the connection between the farmers and research. Their job is to communicate research findings and encourage farmers to use them through their training and visiting (T&V) programme (Abonyi, 2005). The philosophy behind the training and visiting (T&V) programme is to help farmers help themselves (Bardsley, 1982). However, agricultural extension services in most of the developing countries, including Nigeria, have left much to be desired. Thus, much of the extension information methods applied have been found to be outdated, irrelevant and not applicable to the farmers' needs, leaving such farmers with little or no resources as to increase their productivity (Ekpere, 1991). Apart from this situation, most farmers in Nigeria are also illiterate, many of whom live in rural areas where general social awareness is lacking and people are completely ignorant of information requirements for their lives (Abonyi, 2005). Although extension workers are supposed to close this gap so that there will be a positive change about farmers' information needs being met, the situation has remained without any significant development (Ozowa, 1995).

1.6 Historical Background of Nigeria and Oji-River Local Government Area (LGA)

1.5.1 Nigeria

The Federal Republic of Nigeria is a country which has an estimated area of 923,768 square kilometres on the shore of the Gulf of Guinea. It has Benin Republic on its western side, Niger Republic on the North, Chad to the North-East and Cameroon to the South-East. The population of the country according to the 2006 national census was estimated to be 140 million people making it the most populated African country. Its population is extremely diverse with well over 250 ethnic groups, some numbering no fewer than 10,000 people (Nigeria: Demographical and Social Statistics Department, Abuja, Gazette, 2006). Nigeria has a federal structure made up of 36 states. It has 774 Local Government Areas of which Oji-River under the Enugu state administration is one.

The town Oji-River is made up of many autonomous communities and has an area of 403 square kilometers with an estimated population of 123,587 inhabitants (Nigeria: National Bureau of Statistics (N.B.S), Department, Abuja, Gazette, 2006).

The main economic activity of the people of Oji River Local Government Area is agriculture. Farmers in this community have arable farmlands upon which crops are grown. They are generally organized according to the farm products they produce. Some of their agricultural crops include cassava, yams, beans, maize, melon, ground- nuts, cashew-nuts and pineapples. However, evidence suggests that information needs are scarcely met (Adeshina, 2013). This implies that, if farmers' basic information needs can be satisfied by disseminating appropriate agricultural information to them, there is the possibility that their crop productivity will be improved. This study was conceived against this background.

1.7 Statement of the Problem

In Nigeria, agriculture has been recognised as a sustainable panacea for poverty and hunger. However, despite its strategic and critical role in national economic development, the sector has been neglected, particularly the small-scale farmers (Adeshina 2013; Anderson, 2007; Ozowa 1995).

Many factors are responsible for this state of affairs, but several studies point to the absence of an appropriate information support system to small-scale farmers as an evident cause of agricultural failure in most of the rural areas (Adeshina 2012; Aina 1995; Mostak 2012; Ozowa 1995). In particular, in Oji-River Local Government farming community, the poor state of agriculture especially among small-scale farmers is very evident. Small-scale farmers have continued to experience many constraints without information support cited as one of such hindrances to improvement in agriculture (Adeshin, 2013, Anderson, 2007).

Specifically, there are no studies that have been conducted to find out the role of agricultural information support for small-scale farmers in the Oji-River Local Government farming community. Since agricultural extension workers are responsible for disseminating agricultural information to small-scale farmers in the Oji- River Local Government area, the researcher found it imperative to investigate their role in the provision of information to these farmers in order to ascertain the extent to which such information support has been beneficial to improving agricultural productivity.

1.8 Objective of the Study

The main objective of this study was to find out the role of extension workers in the provision of information to small-scale farmers in Oji-River Local Government Area, Enugu State, Nigeria.

The specific objectives were to:

i. Find out the information needs of small- scale farmers in Oji-River Local Government Area.
ii. Establish the methods used for the dissemination of agricultural information by extension workers.
iii. Examine the extent of the farmers' satisfaction with the disseminated information by extension workers.
iv. Determine the obstacles to effective agricultural information delivery services to small-scale farmers in Oji-River Local Government Area.
v. To suggest possible solutions to the identified obstacles of information dissemination to farmers.

1.9 Research Questions

The following research questions will guide this study:

i. What are the information needs of small- scale farmers in Oji-River Local Government Area?
ii. What are the methods used for the dissemination of agricultural information by extension workers?
iii. To what extent are the farmers satisfied with the information disseminated by extension workers?
iv. What are the obstacles to effective agricultural information delivery services in Oji-River Local Government Area?
v. What are the possible solutions to the identified obstacles of information dissemination to farmers?

1.10 Significance of the Study

The study is significant in many respects. It hopes to discover the problem of information dissemination by extension workers to farmers and how effective information delivery systems can be improved especially for farmers in the rural areas.

Secondly, this study will assist in the development of agriculture by government, having identified the appropriate information delivery services that are required for small-scale farmers to increase their productivity. Both policy-makers, researchers, farmers, extension workers and all stakeholders in agricultural extension organisations are going to benefit from this study. For policy makers, the results of this study will help them in fashioning appropriate policies relating to agriculture especially in the area of critical information services which will increase crop productivity. Also, researchers in agriculture will find the outcome of this study a reliable working document in researching on other important areas of information needs of farmers such as farm inputs, control of pests and diseases and seed varieties which will increase agricultural productivity. Farmers will equally benefit greatly from this study by making use of new researches from scientists to boost agriculture. Extension workers and stakeholders in agricultural extension activities will also find the results of this study useful by making use of the recommendations offered to promote agriculture at the grassroots level.

1.11 The Scope and Limitation of the Study

In terms of the scope, the study covers generally information needs of small-scale farmers in Oji-River Local Government Area, their obstacles in obtaining information and methods in which information was disseminated to them. It also covers extension workers as strategic agents in the information communication channel and the extent to which such information reaches the targeted beneficiaries. Solutions to various information needs of farmers are also examined.

As for the limitation of the study, only small-scale farmers within the geographical area are covered. Extension workers outside this Local Government Area are not captured in this study. Therefore, this research project cannot be generalised among Local Government Areas in Enugu State.

Due to some demographic, socio-cultural and economic factors, some Communities that made up the area under study could not be reached as a result of poor accessibility. However, it is hoped that these limitations notwithstanding, the results of the study will be of general benefits to all farmers in Oji-River Local Government Area in particular and Nigeria in general.

1.12 Outline of the Dissertation

This dissertation is divided into six chapters outlined as follows:

Chapter 1: Introduction and Background to the Study

This chapter presents the background of the study with the introduction of the study's main subject of agriculture in Nigeria. It provides the significance of agriculture and farming in Nigeria and their strategic importance in socio-economic development. It mentions some constraints in agricultural development in Nigeria and pinpoint lack of information delivery to the sector including government's negative attitude as a major barrier to its subsequent development. This chapter also highlights the importance of information to farmers especially farmers in Oji-River farming community and concludes that it is critical to influencing their agricultural productivity.

Chapter 2: Literature Review

This chapter essentially reviews the most relevant literature on the dissemination of information to farmers by extension workers. It looks at studies that had been conducted and identified gaps which this study attempted to fill. The chapter examines the information needs of farmers in agriculture and the methods of disseminating agricultural information especially to those farmers in the study area and how their basic information needs are met by extension workers.

This chapter also highlights some pertinent problems faced by farmers and proffers solutions that would improve productivity.

Chapter 3: Research Methodology

This chapter discusses the methodology of the study which is largely a descriptive dissertation, highlighting all the essential instruments which led to the success of the research. It discusses the design, area of study and population of the study, nature of sampling, data collection instruments, procedures of data collection, methods of data analysis and ethical considerations.

Chapter 4: Presentation and Analysis of Results

This chapter presents the analyzed and interpreted data on the problem of information needs of small-scale farmers in Oji-River Local Government Area. The section focuses on the problem of information needs of farmers in agriculture and how these needs are met.

Chapter 5: Interpretation and Discussion of Results

This chapter focuses on the discussion and interpretation of results which are based on the main objectives of the study as regards to farmers in Oji-River farming community.

Chapter 6: Summary of Findings, Recommendations and Conclusion

This chapter presents the summary of findings, conclusion and recommendations of the study. It is now obvious as to what the focus area is. Generally, the discussions are based on the research questions, data presented, analysed and interpreted in the previous chapters, specifically chapters 4 and 5. Also of importance in this Chapter is the inclusion of suggestions for further study on the information needs of farmers in agriculture.

1.13 Summary

In summary, this chapter provides an introduction to the study which also gives the context of the study. It discussed the background of the study, the problem statement, purpose, objectives and research questions of the study as well as its significance. The chapter also gives an outline of the chapters and describes the contents of each chapter.

On the whole, this chapter identified information as an inevitable resource in agricultural development. It highlighted the importance of information to farmers in agriculture and concluded that it was very critical to increasing their agricultural output. It also emphasised the view that agricultural development depends essentially on the provision of adequate and useful information without which crops productivity cannot be attained. It highlighted the strategic position of extension workers in disseminating information to farmers and concluded that they were very indispensable to promoting agricultural development especially at the grassroots level.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The purpose of literature review is to enable a researcher to develop a clear understanding of the chosen research topic; establish what has already been researched on the topic and identify gaps which the researcher's own study intends to fill. This section reviews the most relevant literature on the dissemination of information to farmers by agricultural agents. It looks at the studies that had already been conducted and the missing gaps which this study attempts to fill. Essentially, this literature review will discuss the following areas:

i. The concept of information and type of agricultural information to small-scale farmers.
ii. The role of information in agricultural development in Nigeria.
iii. Extension workers' role in information dissemination to small-scale farmers.
iv. Information needs analysis of small- scale farmers.
v. Methods of disseminating agricultural information to small-scale farmers.
vi. Obstacles to effective information delivery services to small-scale farmers.
vii. Related empirical studies on the information provision to small-scale farmers by extension workers.
viii. Summary of the literature review.

2.2 The Concept of Information and Type of Agricultural Information to Small-Scale Farmers

Information is an important resource in every facet of life. It is strategic and critical to the socio-economic, cultural and political development of any nation. Information on its own means nothing but becomes meaningful when used to achieve a purpose in life. There are various definitions of the concept of information, most of which have little or no basic differences from one another. In the *Chambers 21st Century Dictionary*, information has been defined as "data, facts or knowledge gained or communicated," while the *Advanced Learner's Dictionary* defines information as "news concerning a particular thing or knowledge communicated or received". Adedipe (1994) described information as data which has been processed and represented in a

form suitable for human interpretation, often with the purpose of revealing trends and patterns. The author further explains that the basic purpose of information is that it helps in solving problems and must be relevant to the user's needs at any given time.

In this study, the concept of information is viewed in the context of how it assists in solving the basic problems of farmers so that they can increase their productivity. Aina (1991) submits that agricultural information is all about published or unpublished works in all aspects of agriculture. The author further explains that agriculture is inter-disciplinary in nature and generally has universal application. (Aina, 1991) further maintains that agricultural information that would assist farmers in their production can be categorised as follows:

i. Technical/scientific information
ii. Commercial information
iii. Social/cultural information
iv. Legal information

Aina (1990) explains that scientific information will help farmers increase their agricultural productivity by providing high yielding seedlings, control of pests and diseases as well as encouraging researchers, better extension services and farming. When farmers receive appropriate technological information which relates to their basic needs in farming, undoubtedly, this will bring an appreciable increase in their rate of production. As for the commercial type of information, it is meant to assist farmers to export their crops in order to maximize their profits. This type of commercial information gives the farmers the opportunity to study market trends and know the optimum periods in which their products can be profitably marketed. Social/cultural information is useful for policy-makers and planners, extension agents and farmers, while legal information is for all legislations that would affect agriculture such as land tenure, production distribution and sale of agricultural products.

2.3 The Role of Information in Agricultural Development in Nigeria

Every practice in agriculture depends on the appropriate information resources to develop the sector. Agricultural information is an important factor that interacts with other production factors. Productivity of those other factors, such as land, labour, capital and managerial ability can essentially be improved by relevant, reliable and useful information. Information supplied by

extension agents, research institutes, education and agricultural organisations helps farmers make better and rational decisions. According to Maningas (2000), information within the hands of farmers in agriculture means empowerment through control over their resources and decision-making processes. The author notes that effective and efficient information and technology services accelerate agricultural processing, trading and marketing. Maninga's (2000) view is an ideal for the improvement of farmers in Oji-River community. If the farmers can have access to appropriate information as well as new technologies that relate to the practice of agriculture, undoubtedly, their productivity would be improved. The Food and Agriculture Organisation (FAO, 1997) points out that information is very important for both agricultural and rural development because improving the income of farming communities means raising their agricultural productivity.

Aina (1990) observed that agricultural information will bring about agricultural development in Nigeria. The author explains that information is a critical tool in the hands of farmers to accelerate their growth of crops. Thus, agriculture is a prime sector for development in an agrarian economy as the urban and rural livelihood primarily depends on it (Raman, 2006). Abonyi (1995) in his article on improved agricultural production in Enugu State described the methods used by Enugu State government as effective. These methods include provision of seeds and seedlings, agricultural credit facilities to farmers and new technologies to crop farming. All this has practically led to improved harvests in agriculture. According to Raman, the objective of the programme was to develop agriculture/rural economy as a means of boosting food production and improving the living standards of the people at the grassroots level.

2.4 Extension Workers' Role in Information Dissemination to Small-Scale Farmers

The role of extension workers in disseminating appropriate agricultural information to farmers is very indispensable. Extension workers are the intermediaries between the research institutes and farmers. Their task is to disseminate both agricultural and scientific information to farmers in order to help them improve on their crop productivity as well as educate farmers on how to make better decisions to bring about desirable agricultural development.

According to Rabindra (2012), extension workers occupy a strategic position in agricultural production because they are directly related to the field and meet the farmers to solve their

problems. The author explains that the major function of extension workers is to assist farmers to understand the use of new technologies and have a positive attitude accepting them so as to improve their crop farming.

Generally, there are three significant roles extension workers play in assisting farmers to develop in their agricultural work. Ejike (1989) listed extension workers' roles to farmers to include:

i. Education role: this entails helping farmers to have wisdom and know how best to use their resources. In that regard, extension education is an important process in assisting farmers to develop their skills and competencies in farming.
ii. Channel of communication: extension workers provide effective and efficient linkage between farmers and researchers to ensure that research findings are culturally compatible, technologically feasible and economically profitable.
iii. Training and visit programme: extension workers train farmers on decision making and on how to gain knowledge to make use of new innovations which help them increase their productivity.

However, induction programmes for farmers on modern equipment for farming is another critical role of extension workers. This helps farmers to move away from traditional perceptions of farming to modern agricultural practices which facilitate a high level of crop productivity.

Abonyi (2005) observed that the core programmes used for dissemination of information to farmers in Enugu State are the extension workers from the Enugu State Agricultural Development Programme (EADP). Apart from this role of extension workers, another important role according to Abonyi (2005) includes disseminating useful agricultural technologies, production recommendations on crops, livestock, agro-forestry, fisheries and agro-processing/utilization to enable rural farmers to benefit from farming.

However, in order to make farmers perform well in the agricultural sector, it is imperative to equip them with reliable information and adequate knowledge that relates to their farming activities. Bardsley (1982) affirms that extension workers' role in disseminating agricultural information to farmers includes information which will assist them acquire knowledge of methods and techniques that will in the final analysis increase their farming, improve the level of their living in terms of income generation and standard of rural life. In the same vein,

Daramolaet al, (1999) submits that extension workers' role in disseminating agricultural information to farmers is very encompassing and includes the provision of adequate information that relates to application of fertilizers, insecticides and equipment/machineries which facilitate agricultural practice.

Evenson & Germano (2001) in their conclusion of the role of extension workers in Kenya rural communities posit that most farmers do not benefit from the services due to their traditional attitude to accept most innovations of farming disseminated to them. However, in the study about the use of ICTs in the provision of agricultural information to small-scale farmers in Harare, Christine (2010) explored many roles of extension workers by emphasising that they play a strategic role in disseminating agricultural information to farmers, communities, commercial organisations and other agricultural departments/agencies connected with activities in which agriculture is the main objective.

Ladebo (2006) also adds that the role of extension workers includes the dissemination of information for the promotion of local markets which are predominantly engaged in the production of cash crops.

2.5 Information Needs Analysis of Small-Scale Farmers

Farmers in all countries require information for a number of purposes. However, Ozowa (1995) opined that no one can categorically claim to know all the information needs of farmers especially in an information dependent sector like agriculture where there exist new and complex problems facing farmers every day. Therefore, farmers' information needs vary from one place to another due to a number of factors which may be economic, socio-cultural or environmental. They all have their peculiar problems which affect their productivity. Ozowa (1995) mentioned specifically pest hazards, weed control, land and soil fertility, farmers' credits, weather forecasts and production processes as major common problems that are facing farmers in Nigeria. In Oji-River farming community, farmers may therefore need adequate agricultural information in order to ameliorate several of the problems Ozowa (1995) had enumerated. This goes to explain the fact that without the provision of quality information to farmers in Oji-River farming community, it would be difficult for them to improve on their productivity.

Economically, information is very critical in the development of agriculture. Carter & Battle (1993) remarked that information is one of the valuable resources in agriculture for farmers to increase their rate of turnover. The authors stated that if farmers were provided with the right information as regards their farming, they would be capable of transforming traditional agriculture. According to the authors, farmers' important information needs relating to their crops include pests and disease management, pesticides and fertilizer application, seed variety and seed treatment, soil fertility and weed control.

Ozowa (1995) expanded these information needs to farmers as indicated by Carter & Battle (1993) to include;

i. Agricultural inputs
ii. Extension education
iii. Agricultural technology
iv. Agricultural credit facilities
v. Marketing
vi. Storage and preservation

Modern agricultural inputs are needed to raise production level by farmers. These inputs may be fertilizers, improved seeds and seedlings, feeds and plant protection chemicals. An examination of the factors influencing the adoption and the continued use of these inputs will show that information dissemination is a very critical and strategic factor in the farmers' capabilities to transform their crop production. One of the farmers' information needs, as stated by Ozowa (1995) is extension education which is the service provided for farmers by extension workers to enable them gain adequate knowledge on how they would improve their production. For example, extension workers are the connection between agricultural knowledge and the information dissemination to farmers. Their role in influencing farmers to adopt new innovations that would affect their production positively is very significant, especially in rural agriculture where farmers need information to know how to grow certain crops. In Nigeria, the general lack of awareness among farmers can be due to their high level of illiteracy (Ozowa, 1995). The author remarked that this situation has contributed to the low level of adoption of agricultural technology. Extension education is functional rather than formal. It is provided by extension workers whose main objective is to convey information in a meaningful form to farmers. One of

the ways they do this is by training groups of model farmers with the hope that such farmers will come into contact with other farmers within the same farming rural community.

Apart from extension education, farmers need agricultural credit facilities to improve their farming. Agricultural facilities or credits to farmers encompass all loans and advances granted to borrowers to finance and service their production. To benefit maximally from agricultural facilities, farmers need information relating to sources of loans such as names of lenders, location and type of existing credit sources. They need information on the terms of loans such as the interest rates, loanable amount and mode of payment. According to Ozowa (1995), without adequate knowledge of information relating to farmers' agricultural facilities, their subsequent income in production capabilities will continue to dwindle economically. Obviously, the author's view on agricultural facilities for farmers to enhance their production cannot be under-estimated. Where farmers lack proper knowledge of credit facilities to improve their agriculture as is the situation with Oji-River farmers, (Daily Sun, 2013) there will be no meaningful improvement on their efforts to increase productivity. The same is in the marketing of farm products.

As indicated by Ozowa (1995), farmers need information on crop planning, current prices and sales as well as information on weather forecasts and market trends to enable them improve on their production. The author submits that the good knowledge farmers have about their farming activities will help them invest their best resources in agriculture that will guarantee bountiful harvests. This was in line with the World Bank (2007) assertion that information needs of farmers when understood and applied in farming would make a significant progression in the level of their production. Nweli (1992) mentioned some facilities which encourage farmers to invest more in agriculture. These facilities include crop storage and preservation. The author opined that the success of large-scale production of food crops has a direct connection with information dissemination relating to crop storage and preservation which kept the crops in favourable condition ready to be grown in the subsequent planting season. This will bring about a notable turnover in relation to farmers' crop harvests.

2.6 Methods of Disseminating Agricultural Information to Small-Scale Farmers by Extension Workers.

The adoption of new technologies and systems of farming and the need for farmers to understand modern innovations have necessitated new methods by which agricultural information could be disseminated to them. To this effect, a number of methods have been applied by extension workers for information dissemination in order to ensure effectiveness and sustainability of information utilization. According to the Food and Agricultural Organisation (FAO, 1997), agricultural extension workers use the following methods to disseminate information to farmers.

i. The training and visiting (T&V) method
ii. The agricultural show method, i.e. (crop and other farm product exhibitions)
iii. Broadcasting method
iv. Print media method (newsletters, posters etc.)
v. TV method (Visual and audio-visual)
vi. Agricultural libraries

Significantly, extension workers engaged in the agricultural sector are the intermediaries between the agricultural knowledge and farmers. According to Rabindra (2012), these extension workers occupy a strategic position in the agricultural production in that they directly meet farmers to solve their problems. Extension workers are directly involved in the training and visiting (T&V) method which entails reaching out to farmers in their farms and training them on how to apply and understand new technologies as regards their farming practice. The philosophy behind the training and visiting programme is to help farmers help themselves. According to Munya (2000), the training and visiting (T&V) programme helps farmers to gain technical knowledge of how things are done practically and the application of fertilizers for their crops to yield bountifully. During this training and visiting period, technical reports are presented orally by extension workers and all queries relating to farm demonstrations are explained practically.

The agricultural show method entails crops and other farm product exhibitions that are normally displayed to encourage farmers to invest more in agricultural production. According to Ozowa (1995), the essence of crop exhibitions, apart from the encouragement for abundant food production, is to recognise the imperative of new technologies in the development of agriculture. The author remarked that agricultural exhibitions which are very attractive to farmers also help them acquire practical experience. The method entails promotion and advertisement of various

technologies and other innovations which will assist farmers in their production. These new farming technologies are demonstrated during exhibitions to impart the needed knowledge and ability on how they are used. Obviously, more induction of farmers to agricultural shows will reliably bring about growth in their production.

Then comes the traditional method which carries messages in print, e.g. newsletters, posters which help the farmers have knowledge of how certain crops are grown. TV method include all audio-visual, video, films, slides and pictures which are shown to farmers to enable them have a whole life experience. According to Munya (2000), these media methods are very effective and they speed up the flow of information at the grassroots. And especially for TV and radio methods, Munya (2000) buttressed the fact that the agricultural information disseminated is sometimes discussed as special programmes on both TV and over the radio in the vernacular to enable the illiterate farmers to benefit.

Another method of disseminating agricultural information to farmers is through agricultural libraries. According to Aina (1991), these libraries do this by creating awareness of agricultural information and carrying out community exhibitions to enable farmers in the rural areas to benefit. The effort of these libraries is of utmost importance to farmers by providing the agricultural information they need for their farms. Munya (2000) notes that the greatest way of transmitting information lies in the way of what the people can see, feel, hear and understand.

2.7 Obstacles to Effective Information Delivery Services to Small- Scale Farmers

Researchers in agriculture in Nigeria have continued to note the constraints of agricultural information dissemination. According to Ozowa (1995), the major problem is that the formulation and implementation of policies as regards agriculture are lacking. For instance, the author observed that extension workers whose job is to reach out to farmers in their fields with new technologies are obviously inadequate and without any practical impact on the programme to benefit the farmers. The author further explained that in a situation where extension workers are insufficient with one extension officer to three thousand farmers, it would definitely not augur well with farmers improving on their production. The outcome of the Ozowa (1995) study is very pertinent to farmers in Oji-River community. Thus, if farmers cannot have adequate

access to agricultural information as a result of insufficient extension workers, obviously, their efforts to improve on crop productivity will be greatly hampered.

Claire (2010) corroborates the findings of Ozowa (1995) and notes that the basic problem lies with the inadequate number of extension workers to meet the information needs of farmers who are very eager to have more inputs to increase their earnings. Aina (1991) observes that in Africa, the ratio of agricultural extension officers to farmers is far too small. However, Matovelo (2005) submits that while information on agricultural innovations that is capable of developing agriculture abounds, the negative extension approach as a result of insufficient extension workers does not necessarily cultivate the habit of active information acquisition among farmers. Matovelo (2005) concludes that the dissemination approach due to inadequate access to appropriate information has created an information gap and is far from meeting the information requirements of farmers.

There are other obstacles encountered in the dissemination of agricultural information to farmers especially in the developing countries. According to Munya (2000), one of those obstacles is the broadcasting media. The author remarked that the major constraints in this case are the poor reception quality and the area covered. He explain that messages carried in the media are not targeted to the information needs of the rural population and that even when the information is relevant; it is seldom aired at the proper time and so does not reach the targeted beneficiaries. Another major obstacle to information delivery to farmers is the use of print media, e.g., leaflets and newsletters as message carriers to illiterate farmers. According to Ozowa (1995), the technical language used in both leaflets and newsletters is incomprehensible to the farmers. The author notes that unless there is a way to bring in the local language or the vernacular with which rural people are familiar, it becomes a major problem for the farmers to follow the programme meant for them. Ozowa's (1995) view is applicable to Oji-River farming community. If local languages are avoided in the packaging of information which will enable the farmers understand new innovations, certainly, the aim of the print media as one of the methods of encouraging them in the agricultural practices is defeated.

2.8 Related Empirical Studies on the Information Provision to Small-Scale Farmers by Extension Workers

Many studies have been done on the related topic of information dissemination to farmers and their information needs. Ozowa (1995) in Murkurdi in Benue State, carried out a study of the information needs of small-scale farmers in Africa, using Nigeria as an example. In his research, the major focus was on the information dissemination to farmers by agricultural agents. His research findings revealed that agricultural information was not being adequately disseminated to farmers by these intermediaries. He observed that the information delivery system to agricultural farmers was not really working because of the limited availability of extension workers.

Similarly, Claire (2010) sought to discover the role of extension workers in meeting the information needs of farmers. The author's primary objective was on the information dissemination to farmers and the extent to which that information had helped them to improve productivity. The author's findings exposed the problems of information gap between farmers and extension workers and noted that that situation was responsible for the farmers' low agricultural productivity. The article suggested the need to increase extension workers in information dissemination to specifically meet the farmers' information requirements that would be favourable to agricultural productivity.

Claire's study (2010) particularly notes again the problem of extension workers in the channel of information dissemination to farmers as had earlier been indicated by Ozowa (1995). Claire's (2010) findings were very relevant to all farmers because of the significant factors her study revealed. If farmers anywhere cannot have adequate access to information which would help them, definitely, their productivity would be economically hindered. Another study that also touched on the information relating to the needs of farmers was by Aina (1991). In that study, the author's main focus was to highlight the importance of agricultural information to farmers. The author believed that agricultural information is directly connected with agricultural productivity. Aina (1991) mentioned research scientists, extension workers and agricultural libraries as efficient channels through which farmers' information needs could be transmitted.

However, Aina's (1991) findings may not be true for all farmers in Africa, because of socio-cultural and environmental factors that influence their production. Although, agricultural

information may be connected with agricultural productivity according to Aina (1991), essentially, weather variations in different places and the capability of extension workers to make the information reach the perceived beneficiaries all play a critical part in enhancing the farmers' agricultural productivity. Another closely related study which has to do with the information needs of farmers was the research that was conducted in India by Shaik (2004). The main objective of his research was the information delivery services to enhance their production. Information communication technology was the instrument that was used in the research conducted in three separate regions of the country to discover the effects of information delivery systems to farmers. Information communication technology was used to provide information on new technologies related to farming. It was discovered that ICT as a tool for delivering technological information to farmers was most effective in enabling farmers to have access to market information, land record and information on agricultural development. ICT as an instrument in research was considered the appropriate media and quickest technology in reaching the distances of farming fields of farmers in order to explore their information needs.

Another important study related to farmers' needs was the one by Rabindra (2012). The main focus of the researcher was on information dissemination to farmers to increase their yam yields. The author's findings revealed agricultural information as a *sine qua* non to agricultural productivity. Rabindra (2012) believed that the establishment of research institutes and agricultural libraries will no doubt influence farmers' agricultural productivity. Another interesting research which also touched on the information needs of farmers was done in Bangladesh by Mostak (2012) on the role of information for rural development. Mostak sought in his research the best methods of disseminating information to rural farmers in order to improve their crops. Best methods according to the author included packaging information in the language farmers could understand. The result of the study proved his findings that extension workers' role in the dissemination of agricultural information to farmers cannot be over-estimated.

2.9 Summary of the Literature Review on Small-Scale Farmers

In summary, information has been identified as an inevitable resource in agricultural development. Those who have appropriate and timely information will expand their knowledge base in making rational decisions. Various methods of disseminating agricultural information to

farmers have been identified and so are the many obstacles that farmers faced in making use of information cited.

Also, agricultural development has been shown to be lagging behind not only in Nigeria but in other third world countries that had placed no priority on agriculture (World Bank, 1998). Several reasons were attributed to this including poor investment in agriculture, out-dated farming techniques and the very negative approach to information policy and delivery systems by the powers that be in developing countries. Equally, the small-scale farmers' difficulties in adapting to new technologies and inadequate training for extension workers were all noted as critical factors that hamper agricultural development.

In Oji-River farming community, literature study has shown that farmers receive assistance for their farming practices in the form of incentives from the World Bank for the improvement of agriculture, yet low productivity persists. Furthermore, it was noted in the review of literature that information was not reaching the targeted group in spite of its value to crop productivity. Based on these perceptions, the researcher deems it necessary to undertake an empirical study of the role of extension workers in the provision of information to small- scale farmers in Oji-River Local Government Area and to investigate the information gap amongst the beneficiaries and how they could be satisfactorily served.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is the cornerstone of any good research because it provides the researcher with basic methods to be used in data collection, including procedures and tools for data collection, sampling techniques as well as the reliability of the data analysis (Aina, 2002). The methodology includes the research design, area and population of the study and method of data analysis. Finally, instruments of collecting the data and ethical considerations conclude this chapter.

3.2 Research Design

A research design provides a comprehensive plan of carrying out a study and analysing the research findings. According to Kothari (1995), research design facilitates a research study to be efficient and factually yields maximum information. Ranjit (2005) submits that research design is the arrangement of conditions for the collection and analysis of data in a manner that aims at combining relevance to the research purpose with economy in procedures.

Basically, research design is a plan that guides the researcher in the process of collecting, analysing and interpreting data. It involves the collection of relevant evidence and explains how the research study is going to be completed. McKemmish & Burstein (2012) add that a research design provides guidelines for understanding a research with theoretical explanation of its values and uses. Essentially, research design depends on the data to be collected and methods employed for collecting it (Aina, 2002). In this study, the descriptive survey method was used. According to De Vos (1998), the survey method was widely used where questionnaires and interviews were applicable for the collection of data directly from the respondents. Survey method was empirical and provided inevitable facts why a particular study was being investigated.

3.3 Area of Study

This study was carried out at the Agricultural and Rural Development Programme (ARDP) Oji-River Local Government Headquarters, Enugu State. ARDP is Enugu State's agricultural agency created to assist and encourage small- scale farmers in the rural areas. Its headquarters situated within Oji-River community from where the officials of the Agricultural and Rural Development Programme (ARDP) visit farmers to communicate to them new innovations about crop farming.

3.4 The Study Population

The population of this study comprised of small-scale farmers of Oji-River farming community and all the extension workers who were the staff of the ARDP, Oji-River, Local Government Area. At the time of the study, the number of small-scale farmers in the community was estimated to be two hundred and sixty-two (262). However, those registered with ARDP and were active in their involvement with extension workers were around 50. These therefore formed the study population. Extension workers were fifty (50). Table 1 presents this.

Table 1: Study Population of Oji-River Small-Scale Farmers and Extension Workers.

No. of small-scale farmers	No. of Extension workers	Total study population
50	50	100

Source: Agricultural and Rural Development Programme Manual (ARDP), 2013, pp. 1- 9.

3.5 Sampling Method

Sampling is normally used in empirical researches and it involves the process of making inference to the whole by examining a part. It is usually employed in a large population where the researcher seeks to obtain a sample which will be a representative of the entire population. Another form of sampling technique which is also used in a research study is purposive sampling which is a judgmental form of sampling. According to Jupp (2006), purposive sampling is a type of research design in which the researcher's selection of the sample is based on the knowledge of the population of which the subjects have some common characteristics. Babbie (2001) also stated that purposive sampling involves a method in which the researcher can decide to make use of a specific group of people or objects within a population based on the knowledge of their commonalities. Its advantages include accurate assessment of a sample which adequately

represents an entire population, though some researchers believe that this method is however never guaranteed as it is often biased.

Although, there are some disadvantages cited in literature such as being judgmental and subjective, many still prefer to use the purposive sampling. In this study, purposive sampling was used because of its preferred advantage of the sample being based on the knowledge of the group that was being selected. The reason for this was based on their ability of providing useful information for study. The focus was on those farmers who were active with extension workers in the register with ARDP. Preliminary perusal of the register showed that about 50 small-scale farmers were active in dealing with extension programme. Following from this, five farmers were each selected from the group of farm crops which were produced within the area of study. These farm crops were: cassava, yams, maize, cocoa-yams, beans, groundnuts, cashew-nuts, melon, palm oil and pineapples. Of these, only twenty- five (25) small-scale farmers could be located and were purposively sampled, based on their level of education and their ability to answer questions and provide satisfactory information. All the fifty (50) extension workers were targeted.

3.6 Data Collection Instruments

Questionnaires and interviews were the key instruments used for gathering data. The choices of these instruments were to enable the researcher deal directly with the respondents to obtain the desired information.

3.6.1 Questionnaire

The questionnaire was the major instrument of data collection. Its advantages over other instruments were very obvious in a survey context. It was simple to frame questions in a questionnaire. According to Aina (2002), a questionnaire seeks to obtain the opinions of respondents on a series of issues pertinent to the research problem. A questionnaire saves time and can be distributed to a wide population within a short time. Although, the researcher was aware of some lapses associated with the questionnaire, it was obvious that the questionnaire was preferred. In this study, the questionnaire was used for extension workers to collect data on how information was disseminated to small-scale farmers as well to determine information needs as presented in appendix 1

3.6.2 Structured Interviews

In addition to the questionnaire, the structured interview was used for data collection. The researcher considered using the interview because it gave the researcher the opportunity to obtain more information apart from the one which was gathered from the questionnaire. The structured interview was used for the small-scale farmers to obtain data regarding their information needs relating to their farming and how they dealt with the extension programme. The instrument is presented in Appendix 2.

3.7 Data Collection Procedure

As stated above, data collection in this study involved questionnaires and structured interviews. While the questionnaire was used for agricultural agents/workers, the structured interview was used for small- scale farmers. As critical tools for gathering the desired information, the researcher delivered the questionnaires directly to the respective offices of agricultural workers. Thus, where copies of the questionnaire were lost, misplaced or damaged, they were replaced as some copies were still being retained by the researcher even after many of them had been given out to the respondents. The questionnaires were collected back from the extension workers three days after they had been given out to them.

As for the interviews with farmers, the researcher also did follow-up interviews with farmers from each of the different agricultural crops producing groups within Oji-River Local Government Area. These crops included cassava, yams, maize, cocoa-yams, beans, melon, palm oil, ground-nuts, cashew-nuts and pineapples. These interviews were carried out in Achi, Akpugoeze, Awgu, Inyi and Ugwuoba. Farmers in these communities were interviewed on separate days. This arrangement helped the researcher to coordinate and collate different views from the farmers concerning their information needs.

3.8 Reliability and Validity of the Study

According to De Vos (2000), reliability is an important criterion that determines suitability of a test or measures instruments for proper justification or trustworthiness while validity tells the test user about the appropriateness or authenticity of a test. Validity refers to the degree to which the instrument measures what it supposed to measure (Rubin & Babbie, 2008).

Before the field work was carried out, instruments for collection of data for small-scale farmers and extension workers were given to the researcher's supervisors for assessment and relevance to the objectives of the study. The interview guides for both small-scale farmers and extension workers were presented for approval for research investigation.

As for the reliability of the study, a pilot test was conducted in the five geographical communities with ordinary farmers practicing agriculture. In the pilot-testing, the potential participants were randomly selected.

3.9 Data Analysis

Data analysis is a very important exercise in research in order to bring out findings. Thus, the data gathered were analysed by computing the frequencies and then calculating the resulting percentages using simple descriptive tables. This analysis used Microsoft Excel for descriptive analysis and percentages. As for the interview with the farmers, the researcher employed content analysis. This entailed recording the interview conversations and then extracting the relevant data for analysis.

3.10 Ethical Considerations

The main purpose of ethical consideration was to identify or clarify issues relating to the subject of study and soliciting for cooperation from the potential participants. A letter of introduction and research form were made available to the participants. This letter acted as a bilateral agreement between the researcher and the people granting the researcher the concessions to proceed with the research project. Participants were made aware that they had right to refuse to participate in the research or withdraw anytime from it they so wished without compromising their daily life or activities.

3.11 Summary

This chapter discussed the research design being a case study with purposive sampling as a data collection technique. The chapter also discussed the sample population of the study. A combination of qualitative and quantitative data collection instruments was used to give the study a balance. For data analysis, data was categorized according to research themes.

CHAPTER 4

PRESENTATION AND ANALYSIS OF RESULTS

4.0 Introduction

The purpose of this study was to investigate the role of extension workers in meeting the information needs of farmers in Oji-River Local Government Area, Enugu State, Nigeria. The methods which the extension workers employed in the dissemination of information to the farmers and how their basic needs were satisfied form the main subject for discussion in this chapter.

Essentially, this section brings into focus the analysis and interpretation of data collected. Parker (1994) stated that the data generated during field work must be presented in an unambiguous manner for the purpose of clarity. Two sets of instruments were used for collecting the data, namely questionnaires and interviews. Data collected through questionnaires sought to establish the problems of farmers in obtaining information and the extent of their satisfaction. The analysis and presentation of results are based on the objectives and research questions of the study as listed below.

i. What are the information needs of small- scale farmers in Oji-River Local Government Area?
ii. What are the methods used for the dissemination of agricultural information by extension workers?
iii. To what extent are the farmers satisfied with the information disseminated by extension workers?
iv. What are the obstacles to effective agricultural information delivery in Oji-River Local Government Area?
v. What are the possible solutions to the identified obstacles of information dissemination to farmers?

4.1 Response Rate

The study population was made up of 50 extension workers and 50 registered active small-scale farmers with ARDP, Oji-River Local Government Area. Questionnaires distributed to all 50 extension workers were all returned, representing a 100% response rate. As for the small-scale farmers, of the 50, only 25 could be located and reached, representing about 50% response rate. What follows is the analysis and discussion of data collected as per the themes arising from the objectives of the study. However, before this discussion is the presentation of the background information and demographic characteristics of the respondents.

4.2 Demographic Characteristics of Respondents

This section explains the demographic characteristics of the respondents – the small- scale farmers and extension workers.

4.2.1. Demographic Characteristics of Small-Scale Farmers

Below, the study presents the background, geographical spread, gender, age, and level of education, experience of farmers, location and number of farms.

4.2.1.1 Background Information of Small-Scale Farmers

The number of registered and active small-scale farmers with ARDP, Oji-River community and involved with extension programme was about 50. Most of these were crop farmers that produced yams, cassava, beans, maize, cocoa-yams, melon, ground-nuts, cashew-nuts, pineapples and palm-oil for subsistence.

4.2.1.2 Geographical Communities of Farmers and Crops Cultivated

Five communities were involved in the study. They include Achi, Akpugoeze, Awgu, Inyi and Ugwuoba. The researcher was interested in knowing which community produced a particular type of agricultural crops. For example, farmers from Achi community were known to produce farm crops like cashew-nuts, ground-nuts and pineapples while those from Inyi community were recognised for cassava and yam. Akpugoeze and Ugwuoba were noted for cocoa yams, palm oil and plantain while Awgu was identified with maize and melon.

4.2.1.3 Gender of the Farmers

For the gender of farmers, the researcher wanted to know how many of the respondents were men and how many were women. From Figure 2 below, it may be seen that the men were in the majority 15 (60.0%) while the women were in the minority 10 (40.0%). This result shows that in keeping with the African traditional society, male farmers are more than female farmers.

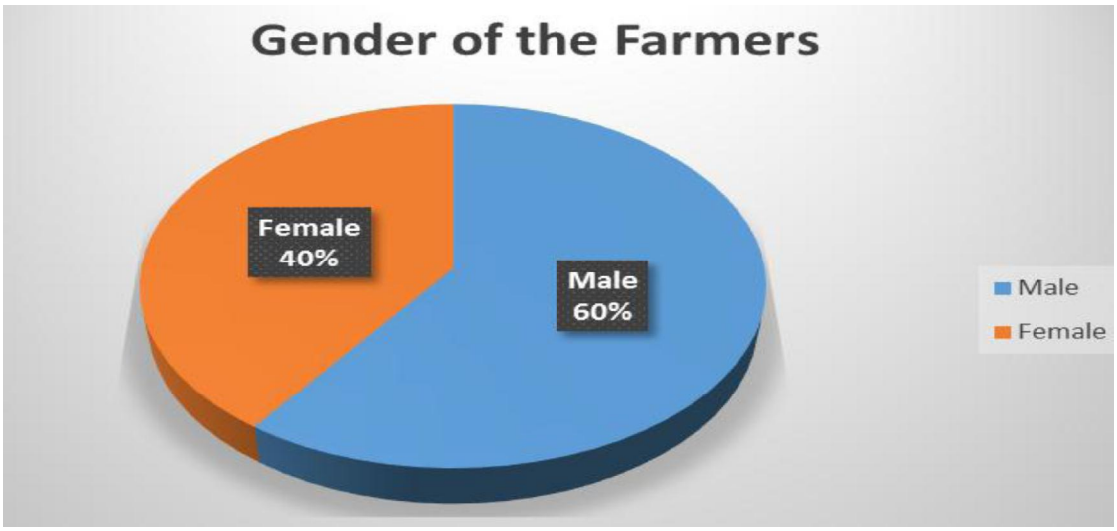


Figure 2: Gender of the farmers

4.2.1.4 Age of the Farmers

The researcher asked the farmers their ages in order to determine how productive they were. In Table 3 below, the age range of farmers are indicated. 7 (28.0%) revealed their ages to be 41 -50 years, 4 (16.0%) identified their ages to be between 25-30 years while 3 (12.0%) of the farmers were in the age brackets of 15-20 years. 8 (32.0%) indicated that they were 50 years and above. The essence of this result was to know the productive ages of farmers which would also reflect in their level of production.

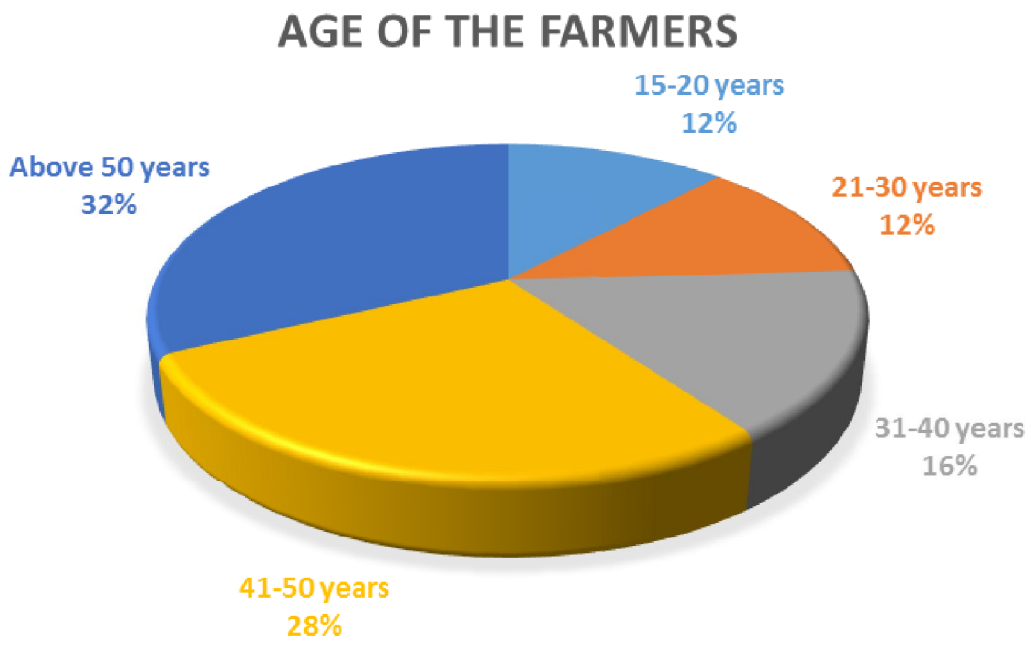


Figure 3: Age of the farmers

4.2.1.5 Educational Level of the Farmers

The aim of this question was to assess the educational level of farmers since this could assist them to improve in their crop farming. Table 4 below shows the educational levels of the farmers. 8 (32.0%) indicated that they had never attended school, 8 (32.0%) said they stopped school between class 1 and class 4, 2 (8.0%) stopped school between class 5 and class 6, while 3 (12.0%) attended secondary school and 3 (12.0%) attended adult education classes. Only 1 (4.0%) had above secondary education. From the analysis of this interview, it could be noted that the majority of farmers were illiterates who may not have a full understanding of their farming information needs.

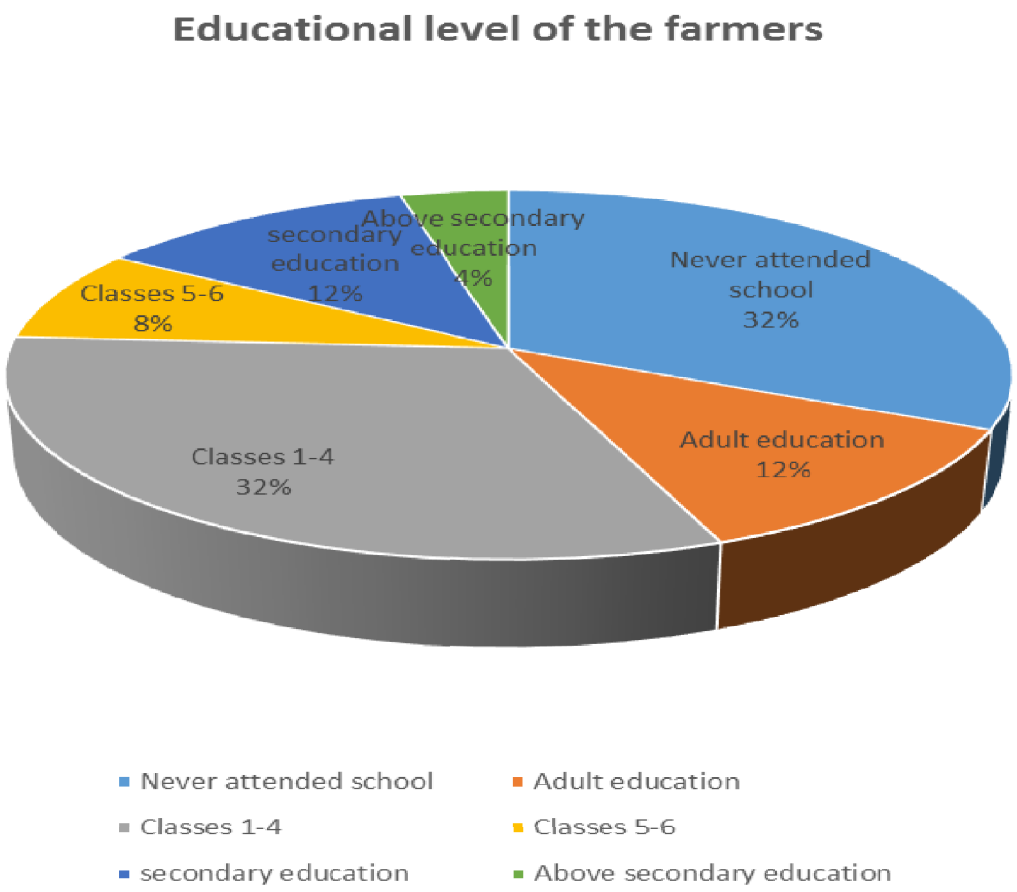


Figure 4: Educational level of the farmers

4.2.1.6 Farming Experience of the Farmers

In this question, the researcher wanted to know the length of period a particular farmer had been engaged in farming. This would enable the researcher assess them according to their agricultural production. In Table 5 below, the length of period farmers had been engaged in the farming was indicated. 8 (32.0%) reported having been in farming for 4-7 years, 7 (28.0%) for 1-3 years, 5 (20.0%) for 8-11 years while 5 (20.0%) indicated their period to be 12 years and above. From the result and other information which farmers provided, it has been noted that the length of period farmers had been in farming has not demonstrated any positive differences in the level of their crop production. Ozowa's (1995) study pinpointed inadequate information dissemination to the farmers as the major problem and submitted that the result has led to farmers' low agricultural productivity.

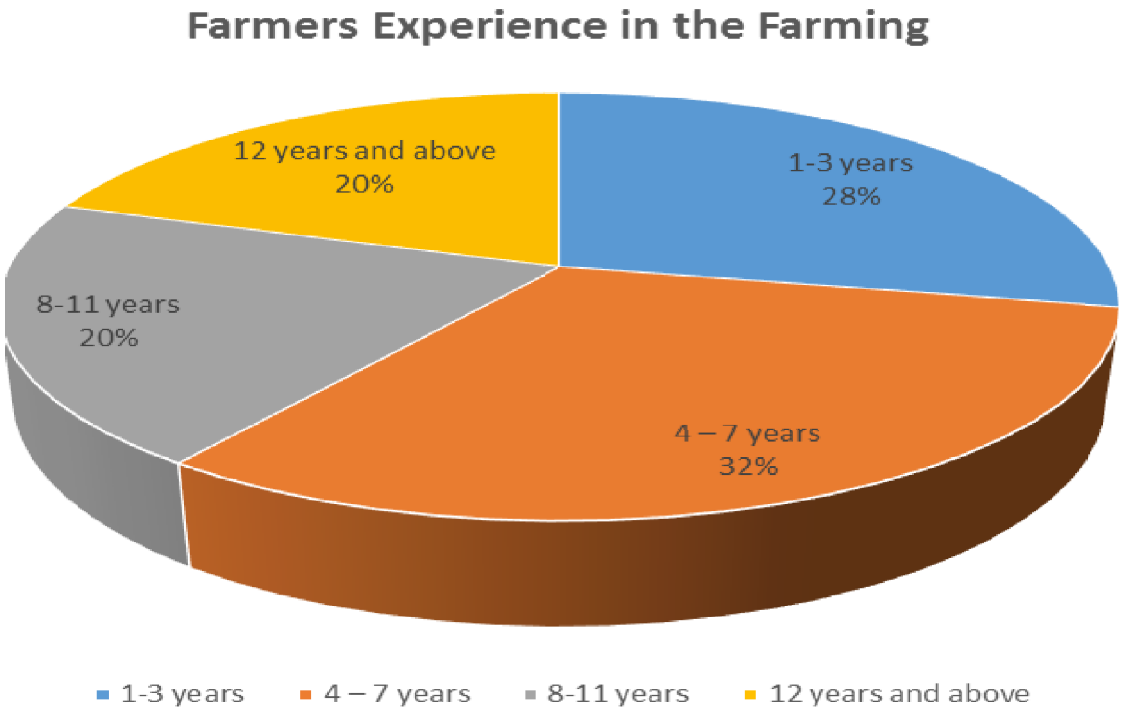


Figure 5: Farmers Experience in the Farming

4.2.1.7 Farm Location Area of the Farmers

The researcher asked the farmers their geographical location to assess the distances they cover to reach their farm land. From the interview result, it was discovered that the farmers 20 (80.0%) had their farm locations within their communities, 5 (20.0%) indicated locations outside their communities. However, from the interviews, the researcher observed that many farmers trekked long distances to their farms on bad roads. These poor roads were one of the obstacles identified by extension workers as affecting information dissemination especially at the grassroots level.

4.2.1.8 Number of Farm of the Farmers

The purpose of asking farmers about the number of their farms was to determine the size of their agricultural production. From the table 6 below, 9 (36.0%) indicated that they had 1-3 farms, 8 (32.0%) said, they had 4-6 farms, while 8 (32.0%) reported having 6-7 farms. This result means that the more farms farmers have; the more production hence increased markets for their agricultural crops.

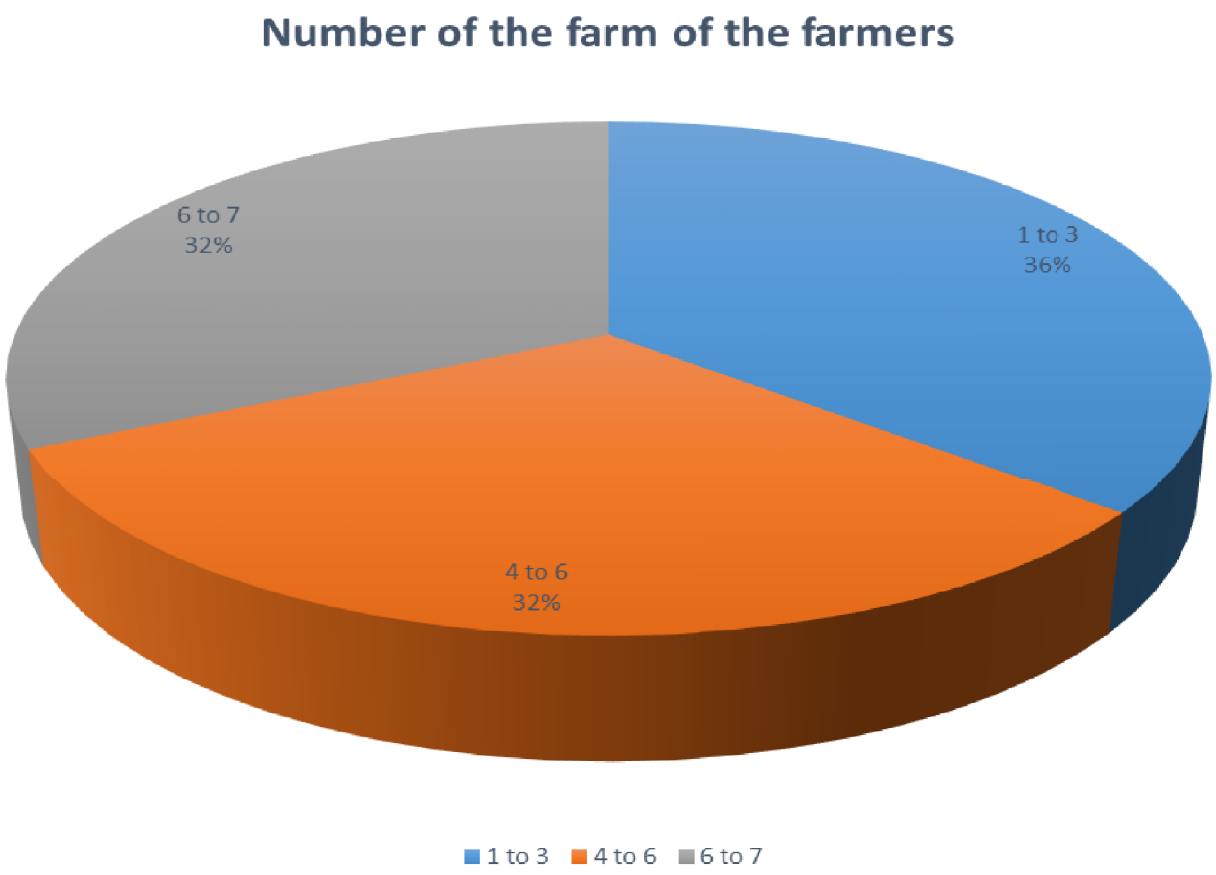


Figure 6: Number of farm of the farmers

4.2.1.9 Farm Group of Farmers

Farmers' group which were interviewed included groups that came for cassava crops, yams, cocoa-yams, maize, beans, ground- nuts, and pineapples. In the Table 7 below, different group of farmers which were interviewed were represented. 5 (20.0%) came for yams, 4 (16.0%) represented cassava, 2 (8.0%) was for beans, 1 (4.0%) for melons, 3 (12.0%) reported for cocoa-yams, 5 (20.0%) came for maize, 2 (8.0%) identified themselves with ground – nuts, 2 (8.0%) was noted for cashew- nuts while 1 (4.0%) reported for pineapples. The result means that all the farm crops produced were fairly represented as indicated in the Table 7.

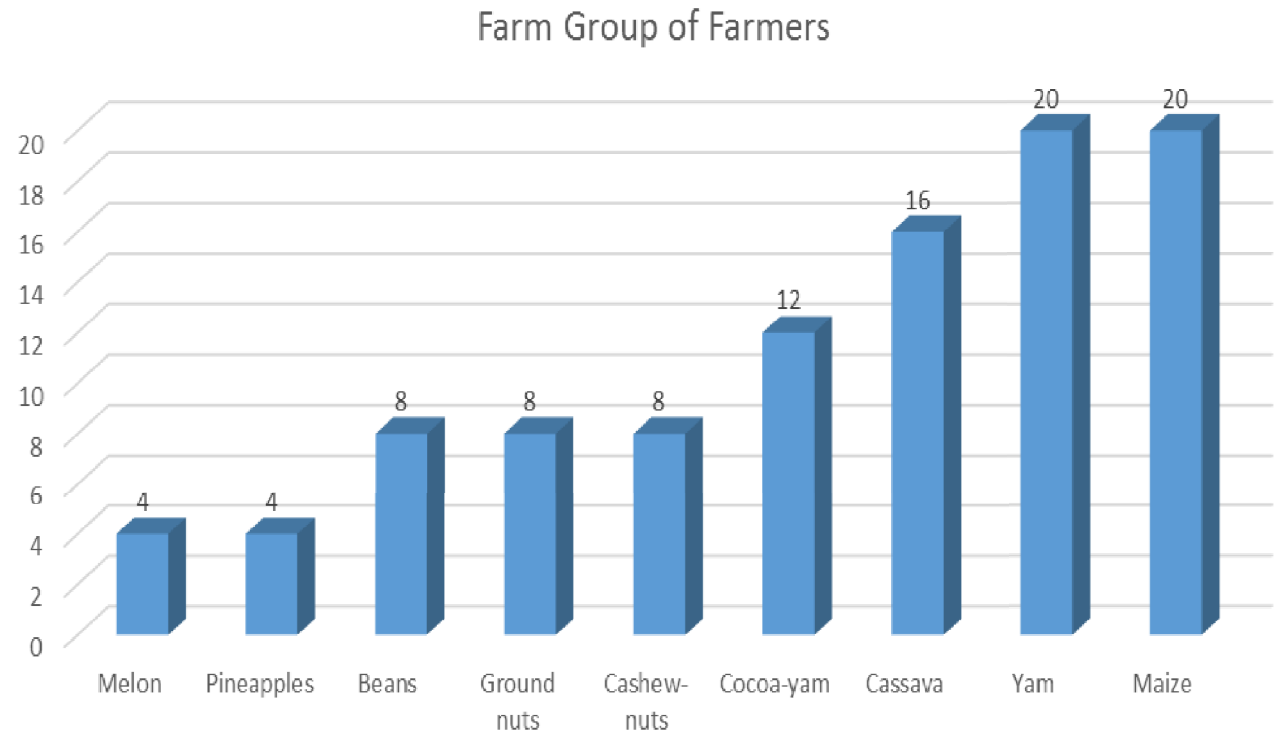


Figure 7: Farm Group of Farmers

4.2.2. Demographic Characteristics of Extension Workers

With regard to extension workers, the demographic characteristics include; job description, academic qualification and work experience.

4.2.2.1 Job Designation of Extension Workers

In ARDP Oji-River, there were cadres of staff that made up the number of extension workers serving at that agricultural agency. Table 8 shows the job designations of the agricultural agents. As may be seen from Table 8, there were 7 (14.0%) Chief Extension Officers, one Deputy Assistant Officer, 8 (16.0%) Assistant Extension Officers and 34 (68.0%) were Extension Assistants. Clearly, Extension Assistants formed the largest proportion of respondents. An important observation with respect to job designations is that ARDP, Oji-River was made up of many low cadres and inexperienced extension workers which may not augur well for the agency to perform efficiently. It was also observed that progress to higher cadres was not as regular as it

should be and this maybe the cause of poor services to farmers by the agency due to the low morale of staff.

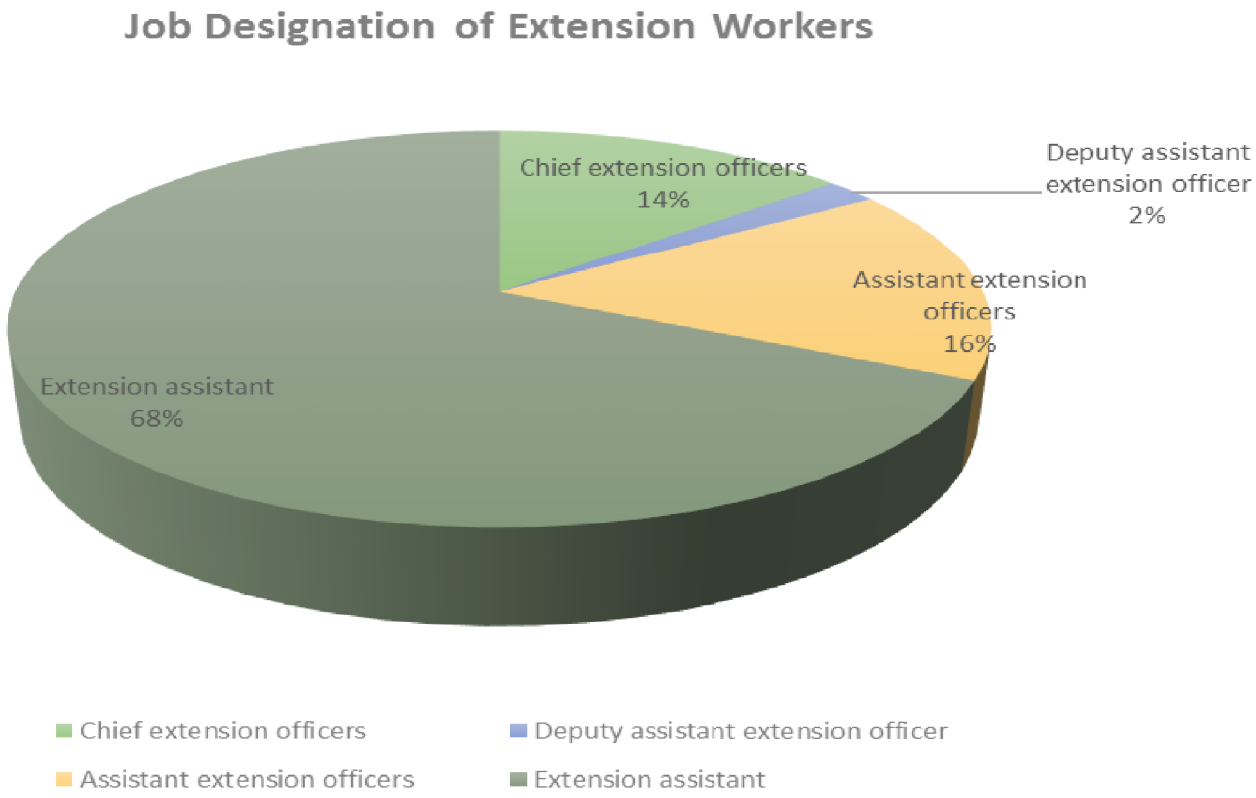


Figure 8: Job Designation for Extension

4.2.2.2 Qualification of Extension Workers

Table 9 below shows extension workers according to their academic qualifications while Table 5 reports respondents by their work experiences. From Table 9, it was noted that 32 (64.0%) of the respondents had diplomas (Extension education), 14 (28.0%) had first degrees (Agriculture) while 1 (2.0%) had a post graduate degree in (fisheries). An important observation from these results is that para-professionals were the predominant group, though the dominance of Para-professionals in extension work was highlighted by Sturges & Neill (1990) as one of the drawbacks of extension services in the third world countries.

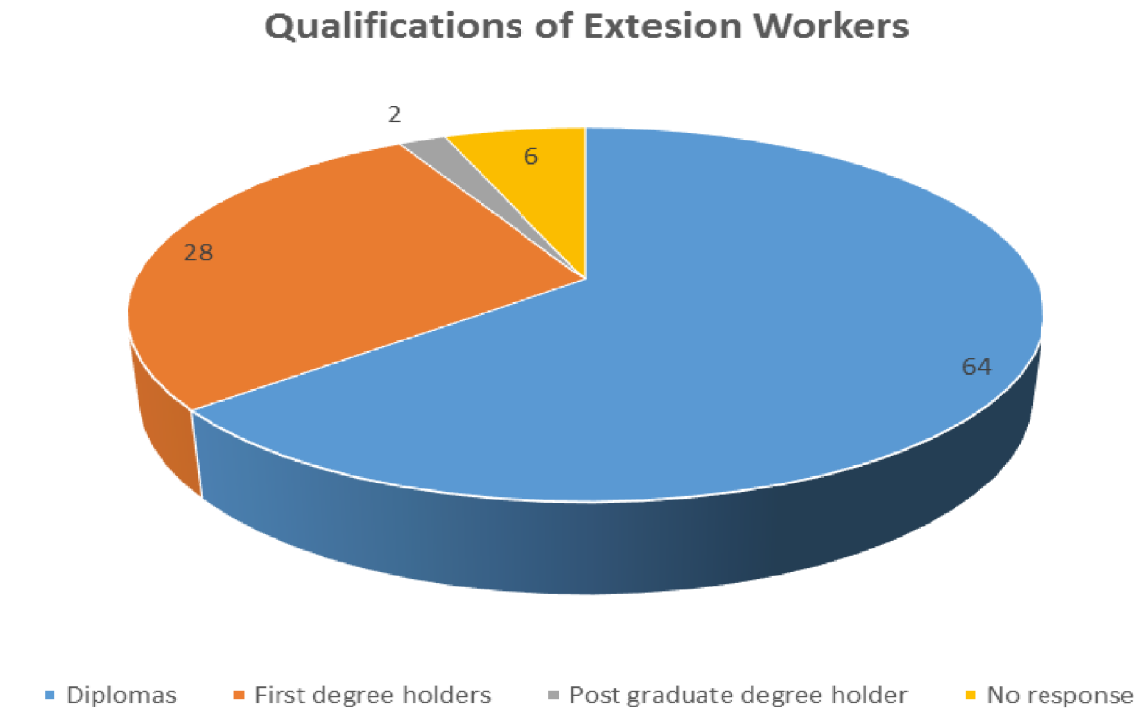


Figure 9: Qualifications of Extension Workers

4.2.2.3 Work Experience of Extension Workers

From Table 10, it was also noted that the majority of the respondents 36 (72.0%) had work experience of 16 years and above while the minority of the respondents 1 (2.0%) had work experience of between 1-5 years. What this result revealed was the fact that in ARDP Oji-River, there was a high level of skilled manpower, though this analysis may not be justified because of the pre-dominance of lower cadres of staff in ARDP as was reported in the previous tables.

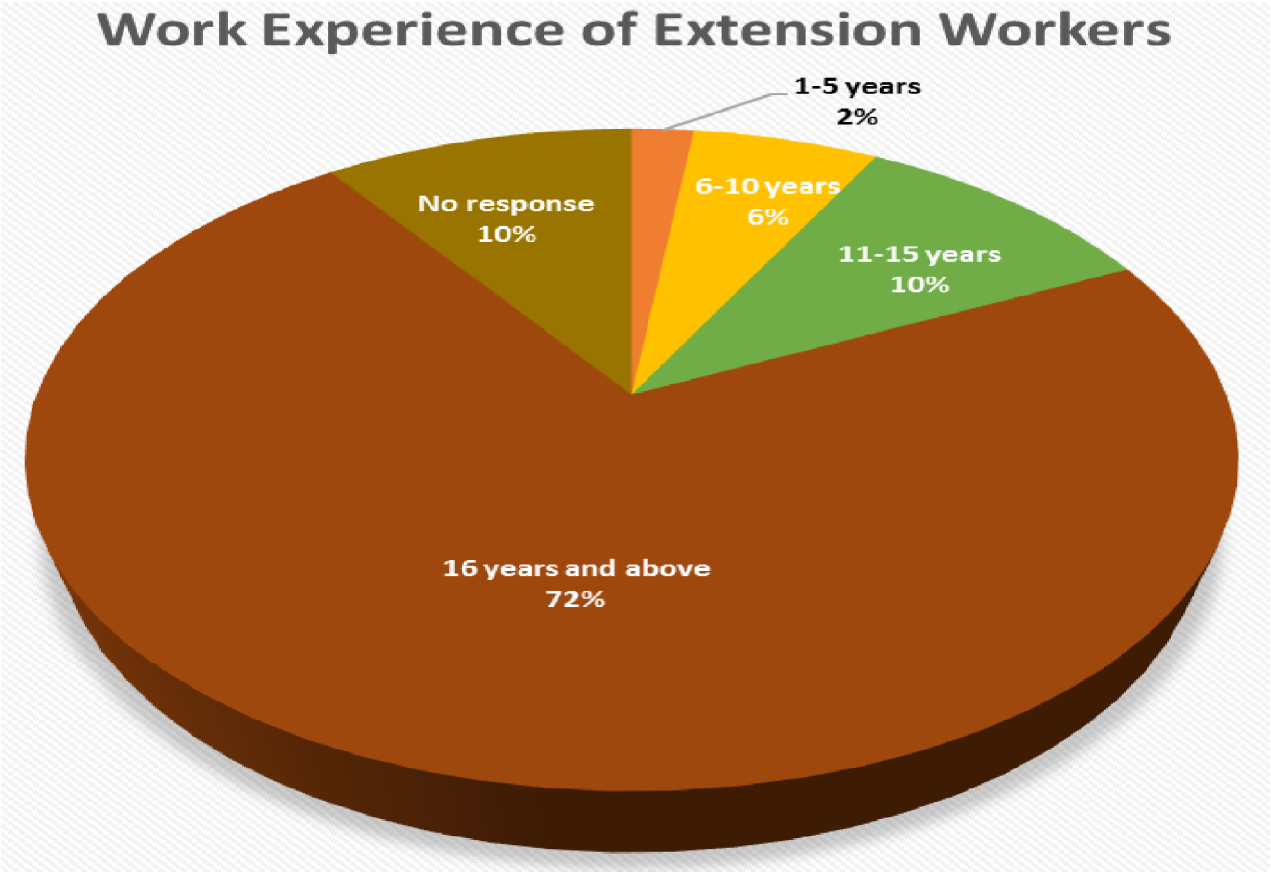


Figure 10: Work Experience of Extension Workers

4.4 Information Needs of Small Scale Farmers in Oji-River Local Government Area

The main objective of this study was to find out how the information needs of small-scale farmers in Oji-River Local Government Area could be met so that their productivity would be improved. The first objective of this study was to find out the information needs of the small-scale farmers in Oji-River Local Government Area. In this context, the study sought to find out the following:

i. Types of information required.
ii. How farmers solve their information needs.
iii. Whom farmers consulted to solve their farm problems.
iv. How often farmers obtained assistance from extension workers.
v. Areas in which farmers have failed to get assistance from extension workers.
vi. Period extension workers were useful to farmers.
vii. Farmers owing radio/TV.

viii. Farmers' interest in local newspapers as source agricultural information.

ix. Suggestion by farmers on how to improve agricultural information dissemination.

4.4.1 Types of Information Require

The study revealed that 8 (32.0%) of farmers indicated credit facilities and loans, 3 (12.0%) identified pests and disease control, 2 (8.0%) input management, 2 (8.0%) pests and hazard control. As for the preservation of chemicals, 2 (8.0%) of farmers indicated their information needs in that area, 2 (8.0%) identified weather forecasts, 1 (4.0%) noted storage and preservation while 1 (4.0%) identified the information needs as weeds control and soil fertility. On marketing information, 2 (8.0%) of farmers reported that area as their information needs. Figure 2 illustrates the information needs for the small-scale farmers.

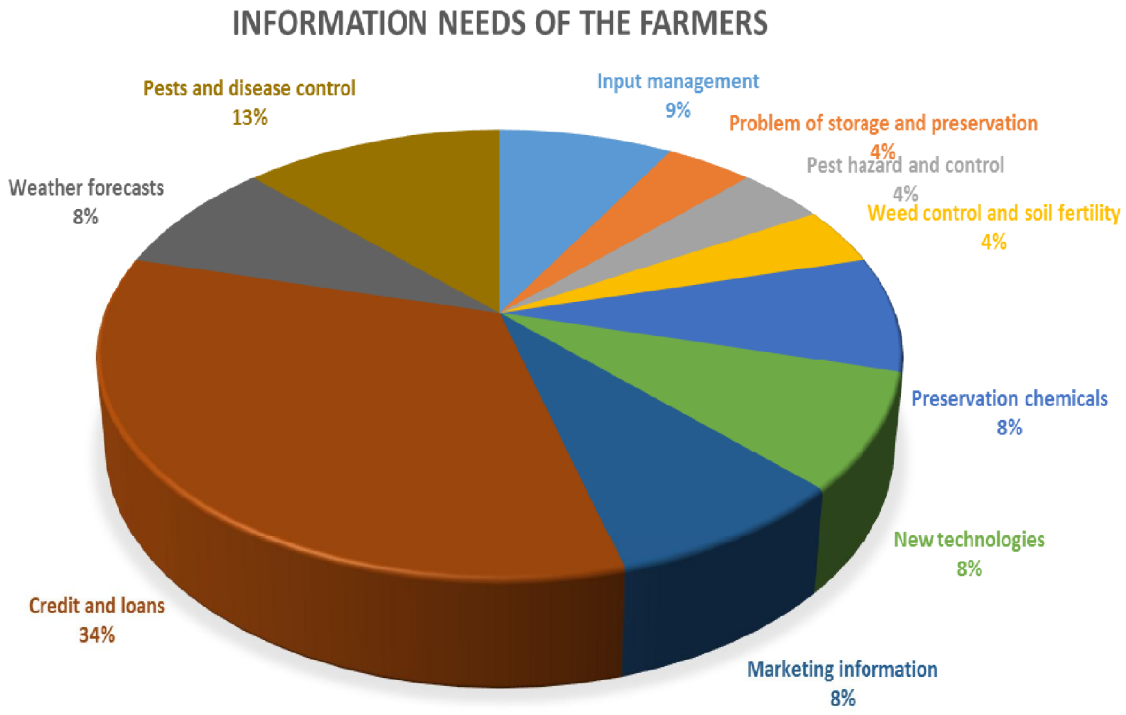


Figure 11: Information Needs of the Farmers

4.4.2 How Farmers Solve their Information Needs

Problem of productivity begin when farmers lack appropriate information which would help them in farming. Therefore, the researcher was interested in knowing the farmers' sources of information and how their basic information needs were solved. Table 11 presents farmers' sources of information and how such sources have helped them in solving their information needs.

Table 11: Where Farmers Obtain Information for their Needs

Kind of information	Nature of response	Number of responses	Percent
Attending an extension meeting	Never	25	100.0
Participating an extension meeting	Always	25	100.0
Listening to a radio programme	Never	25	100.0
Being visited by extension worker	Sometimes	15	60.0
Reading extension pamphlets	Never	25	100.0
Visiting a fellow farmer/ friends	Sometimes	15	60.0
Visiting an agricultural library	Never	25	100.0
Depending on personal experience	Always	25	100.0

Source: (Field Data, 2014)

From the responses in Table 12, it is evident that farmers mostly depended on participating in a field day meetings and personal experience always for their information needs which was indicated by 100% while 15 (60.0%) sometimes relied on participating in a field day and visiting fellow farmers/friends for their sources of information. It was also noted that attending an extension meeting, listening to radio programmes and visiting an agricultural library had never been their sources of getting information. From this analysis therefore, it could be gathered that farmers had a limited knowledge of sources of their information which would have helped them to meet their information needs. World Bank (2007) made this problem very pertinent by reporting that without adequate access of farmers to reliable and necessary information, their efforts to improve economically would be hampered.

4.4.3 Sources Farmers Consulted to Solve their Farm Problems

The purpose of asking farmers whom they consulted about their farm work was to find out how their problems were handled and solved. From Table 12 below, 15 (60.0%) of farmers said they depended on the extension workers while 5 (20.0%) identified fellow farmers/friends to solve their problems. Only 5 (20.0%) consulted government officials. What can be deduced from this result is that farmers sought solutions for their farm problems but whether they made use of the

advice given them was another matter. For example, it has been reported by Munya (2000) that farmers' traditional attitude to new innovations to farming has remained a hindrance to their growth and development.

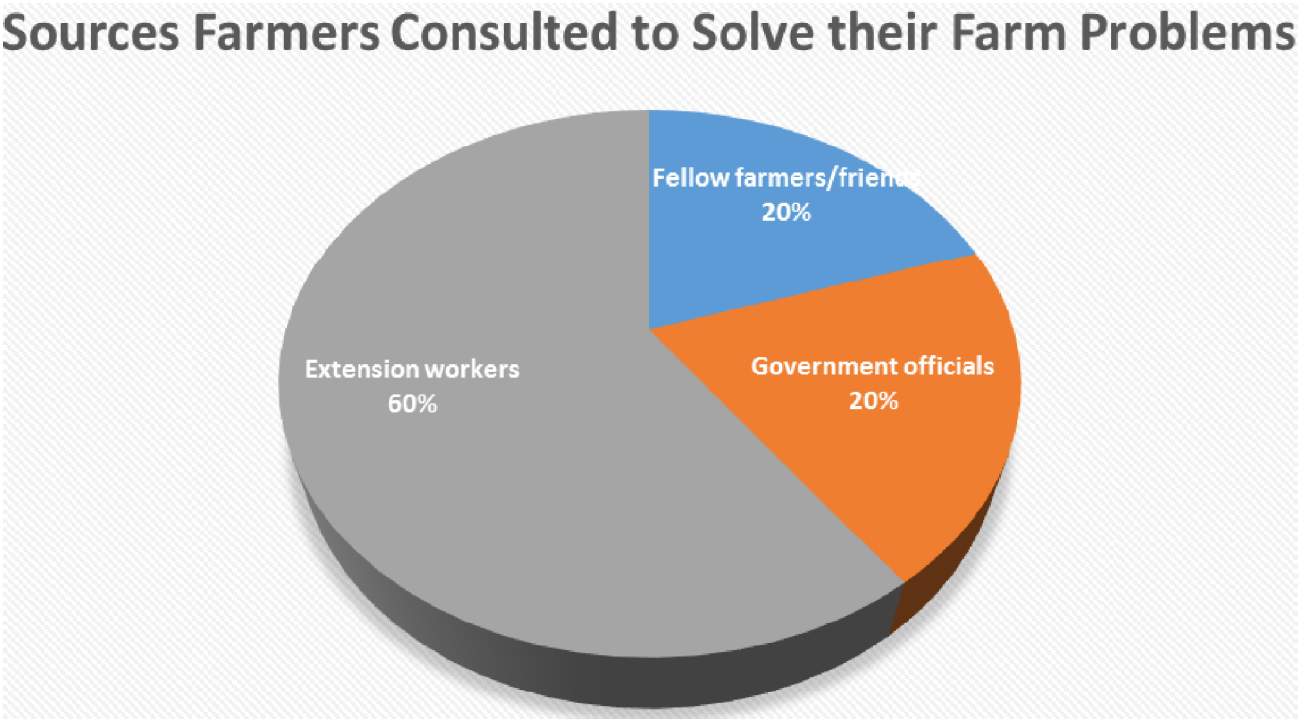


Figure 12: Sources Farmers Consulted to Solve their Farm Problems

4.4.4 How Often Farmers Obtained Assistance from Extension Workers

The aim of asking farmers how often they obtained assistance from extension workers was to find out the regularity with which they received farming help. From Table 13 below, farmers 10 (40.0%) indicated that they received assistance from extension workers sometimes, 2 (8.0%)

indicated that they rarely obtained assistance, 5 (20.0%) said very often did, while 4 (16.0%) said they had never obtained assistance from extension workers. This means that farmers' assistance from their extension workers was irregular. The negative effect of this situation was reported by Olown and Yahaya (1998) who submitted that the problem of inadequate information services to farmers could undermine their potential and if not arrested would lead to their poor harvests and low standard of living.

Table 13: How Often Farmers Obtained Assistance from the Extension Workers (N=25)

Period farmer obtained assistance	Frequency	Percent
Very often	5	20.0
Often	4	16.0
Sometimes	10	40.0
Rarely	2	8.0
Never	4	16.0
Total	**25**	**100.0**

Source: (Field Data, 2014)

4.4.5 Areas in which Farmers have Failed to Get Assistance from Extension Workers

The researcher explained to the farmers areas in which they could be assisted by extension workers e.g. application of fertilizers, farm spacing and use of new technologies From Table 14 below, areas in which farmers had failed to receive assistance from extension workers were clearly indicated. 10 (40.0%) indicated new technologies as the area they had not received assistance, 5 (20.0%) identified the preservation chemicals, 3 (12.0%) reported storage and preservation while 5 (20.0%) mentioned land/farm spacing. Only 2 (8.0%) of the interviewed farmers admitted the use of fertilizer application. Table 15 below summaries the result of the interview.

Table 14: Areas Farmers Failed to Get Assistance from the Extension Workers (N=25)

Areas farmers failed to get assistance	Frequency	Percent
Fertilizer application	2	8.0
Storage and preservation	3	12.0
Use of preservation chemicals	5	20.0
Land/farm spacing	5	20.0
How to use new technologies	10	40.0
Total	**25**	**100.0**

Source: (Field Data, 2014)

4.4.6 Period in which Extension Workers were Useful to Farmers

The essence of asking farmers the seasons they needed extension workers was to know the most optimum period in which they required their services. Thus, the group of farmers who produced different farm crops indicated their different periods during which extension workers were useful to them. Those in the yams, maize, melon and groundnuts group 15 (60%) indicated their period as planting season while those farmers in the group of cashew- nuts 5 (20.0%) indicated their period as the dry season. Only the palm oil and pineapples farmers 5 (20.0%) indicated their period as the rainy season. What would be noted from this interview was that farmers expected extension workers to come to them for help especially during the planting season as was indicated by 15 (60.0%) of the farmers.

4.4.7 Farmers Owing Radio/TV

The groups of farmers were asked whether they owned radio/TV or not. They admitted they had but remarked that they had no time to listen to or watch any programmes due to their farm work. In the rural areas, most farmers normally leave early for their farms and return in the evening. Munya's (2000) study mentioned disseminating media e.g. TV, as one of the problems which has not helped in meeting the information needs of farmers. The author reiterated that radio or TV transmissions which disseminated farm programmes were not broadcasting at suitable times to enable farmers listen to them. Again, the researcher discovered that tiredness, drudgery and irksomeness of farm work as Ozowa (1995) has reported, may likely be the reason for farmers' indifferent attitude to TV programmes.

4.4.8 Farmers' Interest in Local Newspapers as Sources of Agricultural Information

From the assessment of the farmers with respect to accessing local newspapers for their agricultural information, it was discovered that they were ignorant of these sources. In other words, farmers do not make use of local newspapers to obtain their agricultural information which related to their farming.

4.4.9 Suggestions by Farmers on how to Improve the Dissemination of Agricultural Information

To end the interview sessions with the farmers, the researcher asked the group of farmers to suggest the best ways in which dissemination of agricultural information could be improved

especially at the grassroots level. Table 15 below shows their suggestions. 11 (44.0%) suggested credit facilities from the government to assist in crop farming, 5 (20.0%) identified creating markets for farmers' agricultural crops, 4 (16.0%) mentioned building good roads to farm locations, 2 (8.0%) pinpointed increasing extension workers for farmers in rural areas, while 1 (4.0%) indicated transmitting farm programmes to farmers in their vernacular.

From the interview, the researcher discovered that farmers in most of the groups were willing to engage in large scale crop production if only sufficient credit facilities could be adequately provided.

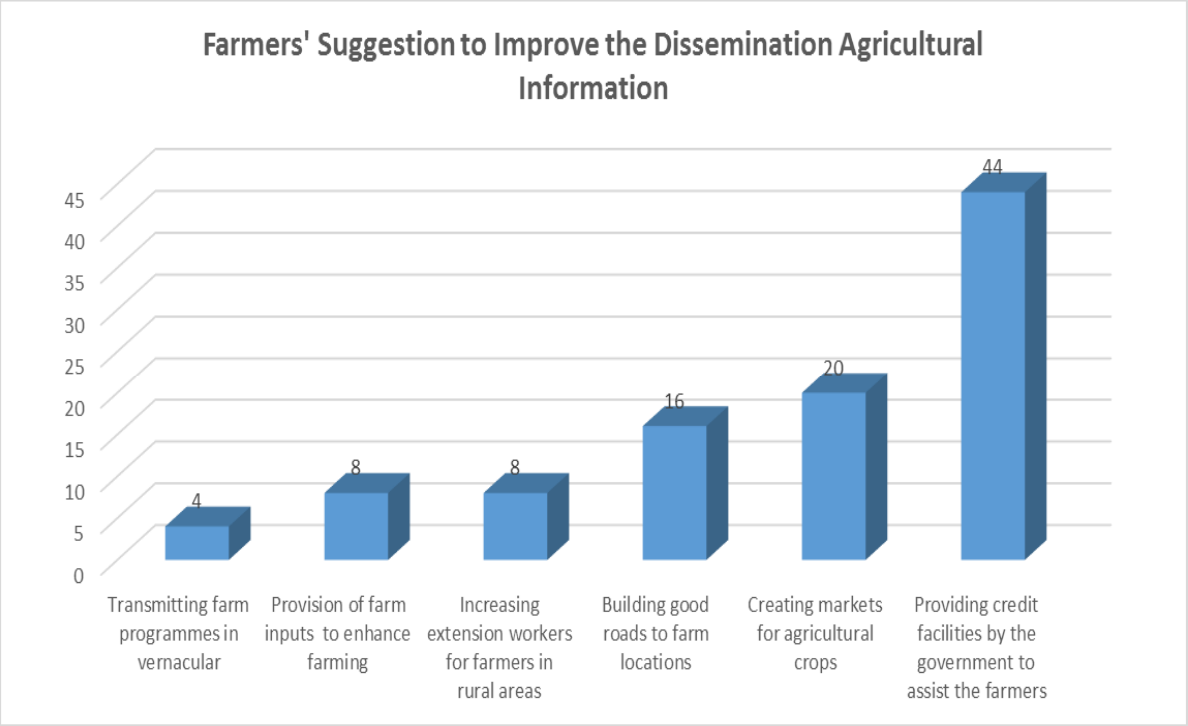


Figure 13: Farmer's Suggestion to Improve the Dissemination of Agricultural Information

4.5 Methods used for Dissemination of Agricultural Information to Small Scale Farmers in Oji-River Local Government Area

The second objective of the study sought to establish the methods used for dissemination of agricultural information to small scale farmers. In this context, the study examined:

i. Methods used in dissemination of information to small- scale farmers.
ii. Frequency of farmers consulting extension workers for assistance.

iii. Main issues on which farmers seek assistance from extension workers.

iv. Difficulties encountered by extension workers in assisting farmers.

4.5.1 Methods used to Disseminate Information to Farmers

From Table 16 below, results indicated that the majority 45 (90.0%) of the respondents obtained their information by attending field days while a minority 2 (4.0%) used meetings, seminars, conferences and correspondences with agricultural departments for their own information sources. Only 1 (2.0%) of the respondents obtained their information from research people. Generally, the report of this result showed that the extension workers' chief sources of gathering information were on the field days. This method of obtaining information by extension workers had been reported by the Food and Agriculture organisation (FAO, 1997) which submitted that through the field days, extension workers gathered valuable sources of information which was critical to meeting the information needs of farmers.

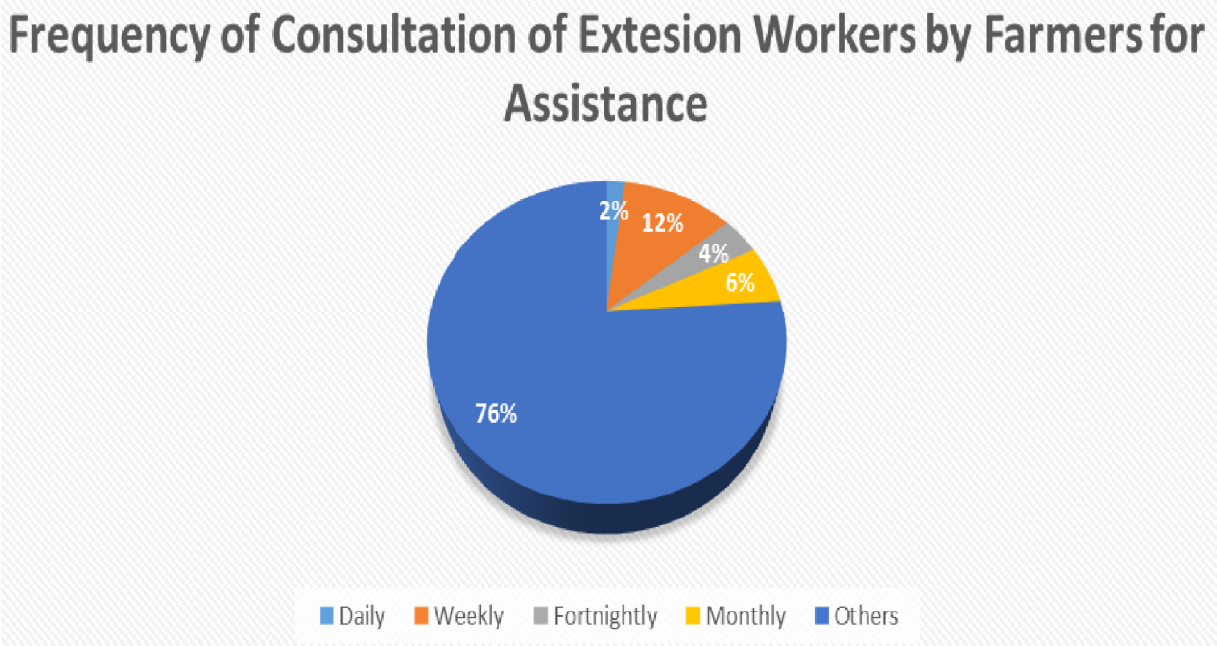
Table 16: Methods used for Dissemination of Information

Methods	Frequency	Percent
Personal contact with research people	1	2.0
Attending meetings, seminars and conferences	2	4.0
Correspondence with agricultural departments	2	4.0
Attending field days	45	90.0
Total	**50**	**100.0**

Source: (Field Data, 2014)

4.5.2 Frequency of Farmers Consulting Extension Workers for Assistance

The purpose of farmers consulting extension workers is for them to receive instructions or advice on how to improve their farming. This will also enable extension workers to understand the farmers' problems and how adequately they could be served. From Table 17 below, 6 (12.0%) respondents reported that farmers came to them on a weekly basis while 2 (4.0%) indicated that they were consulted by farmers fortnightly. 3 (6.0%) said they were consulted for assistance monthly. However, majority of them 38 (76.0%) gave other consultation times which indicated that farmers' consultation could be unpredictable. From this result, the investigation also meant that farmers consulted extension workers when they thought that that was necessary.



Source 14: Frequency of Consultation of Extension Workers by Farmers for Assistance

4.5.3 Main issues on which Farmers Seek Assistance from Extension Workers

The researcher was particularly interested in knowing the common problems brought to extension workers by farmers for assistance. It was believed that since problems were brought to extension workers, this could also help to reveal some of the information needs of farmers. Table 19 below summarizes the results from such investigation. Farmers sought assistance from extension workers in connection with demonstrations, technical and practical assistance. These are ways in which farmers can be assisted. For example, demonstration assistance implies taking out a piece of land to show a farmer how to grow certain crops. As for his/her technical assistance, this involves an induction to inculcate in the farmer the right knowledge on how certain machineries are used while practical assistance entails showing him/her how certain innovations are applied e.g. application of fertilizers, seed treatments and land spacing to help the farmers improve his/her farming.

As presented in Table 18, demonstration assistance ranked high as 23 (46.0%) respondents reported to have received such requests from the farmers, while 11 (22.0%) had sometimes requested for practical assistance. On technical assistance, 16 (32.0%) of the respondents indicated to have attended to such problems brought to them by farmers.

Table 18: Main Problems Brought to Extension Workers by Farmers (N=50)

Problem	Frequency	Percent
Practical assistance	11	22.0
Technical assistance	16	32.0
Demonstration assistance	23	46.0
Total	**50**	**100.0**

Source: (Field Data, 2014)

4.5.4 Difficulties Encountered by Extension Workers in Assisting Farmers

Extension workers were asked about the difficulties they encountered in assisting farmers. This would help to determine the solutions proffered to help farmers improve their farming. As shown in Table 19, thirty-two 32 (64.0%) of the respondents indicated the traditional attitude of farmers as constituting an impediment. 14 (28.0%) reported lack of reliable transport as the main problem while the many programmes the extension workers were engaged in at ARDP were cited by 2 (2.0%), 2 (2.0%) stated serving too many farmers and that was the difficulty they encountered. However, what would be gleaned from this investigation is the fact that, although transport problems presented difficulties to extension workers, the farmers' traditional attitude to receiving instruction on new farming innovations were glaringly noted. Farmers' traditional attitude means farmers sticking to their old mode of farming even after they had received induction on new technologies. They would for instance, still stick to their traditional hoes for ploughing or cultivation instead of using tractors.

Table 19: Difficulties of Extension Workers as Perceived by the Respondents (N=50)

Difficulties	Frequency	Percent
Too many programmes which made- implementation difficult	2	2.0
Too many farmers to be served	2	2.0
No reliable transport	14	28.0
Traditional attitude of farmers	32	64.0
Total	**50**	**100.0**

Source: (Field Data, 2014)

4.6 Extent of the Farmers' Satisfaction with the Disseminated Information

In this context, the study sought to examine the:

i. Extent of farmers' satisfaction with the information disseminated.
ii. Number of farmers served outside ARDP by extension workers

4.6.1 Extent of Farmers' Satisfaction with the Information Disseminated

Table 20 below indicates the responses on the extent of farmers' satisfaction with the information disseminated. 42 (84.0%) of the respondents were of the opinion that farmers were satisfied to a great extent while the 1 (2.0%) respondents indicated otherwise.

Table 20: Extent of Farmers' Satisfaction with the Information Disseminated.

Extent of satisfaction	Frequency	Percent
Very great extent	4	8
Great extent	42	84
Moderately great extend	3	6
Low extent	1	2
Total	**50**	**100.0**

Source: (Field Data, 2014)

4 .6.2 Number of Farmers served Outside ARDP by Extension Workers

49 (98.0%) of the respondents indicated that their services were not beyond ARDP. Only 1 (2.0%) respondent stated that he served farmers outside ARDP, Oji-River. This result may not be generalized since it was only one respondent who gave this information. What was generally observed from the responses was the fact that extension workers at ARDP were employed to serve farmers only within Oji-River Local Government Area and that was what they were doing to meet the information needs of farmers.

4.7 Major Obstacles to Effective Agricultural Information Delivery Services to Small-Scale Farmers

The fourth objective sought to identify obstacles faced by extension workers in disseminating information to small scale farmers. In order to find out the major obstacles encountered by extension workers, respondents were asked what obstacles were encountered by extension workers, lack of regular training for extension workers was mentioned by 8 (16.0%) respondents as major obstacles hindering their effective services to the farmers. 6 (12.0%) revealed poor remuneration, 4 (8.0%) indicated lack of funding for technical support by the government, 2 (4.0%) reported few extension workers and 2 (4.0%) indicated poor disseminating media as the impediment. Lack of transport as an obstacle was indicated by 28 (56.0%) respondents. In all these responses, what could be noted is that extension workers faced various obstacles which constituted hindrances to information dissemination as shown in Table 21.

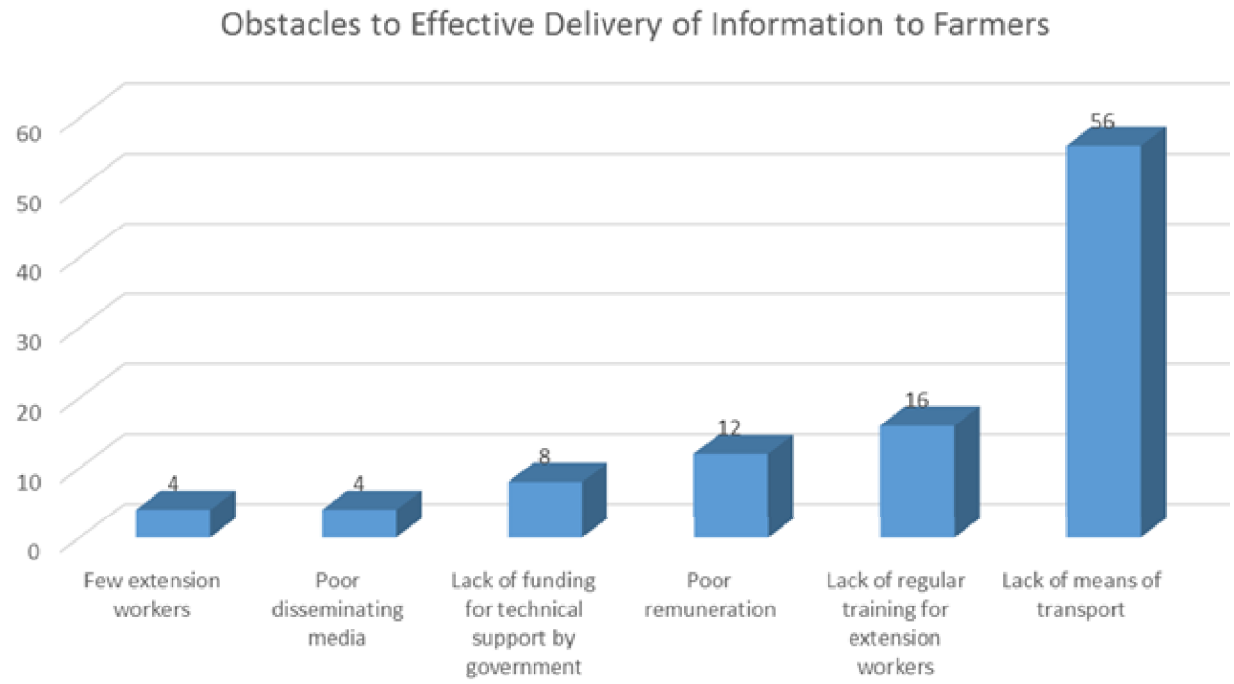


Figure 15: Obstacles to Effective Delivery of Information to Farmers

4.8 Solution to the Identified Obstacles to Information Dissemination

To proffer solutions to the many problems affecting information dissemination to farmers, extension workers were requested to identify them. Twenty-nine (29) or 58.0% indicated improving means of transportation for extension workers, 7 (14.0%) cited proper remuneration, 6 (12.0%) identified regular extension education, 4 (8.0%) funding for technical support by the government, while 2 (4.0%) suggested building access roads in rural areas. Only 1 (2.0%) suggested targeting research to the needs of farmers as shown in Table 22.

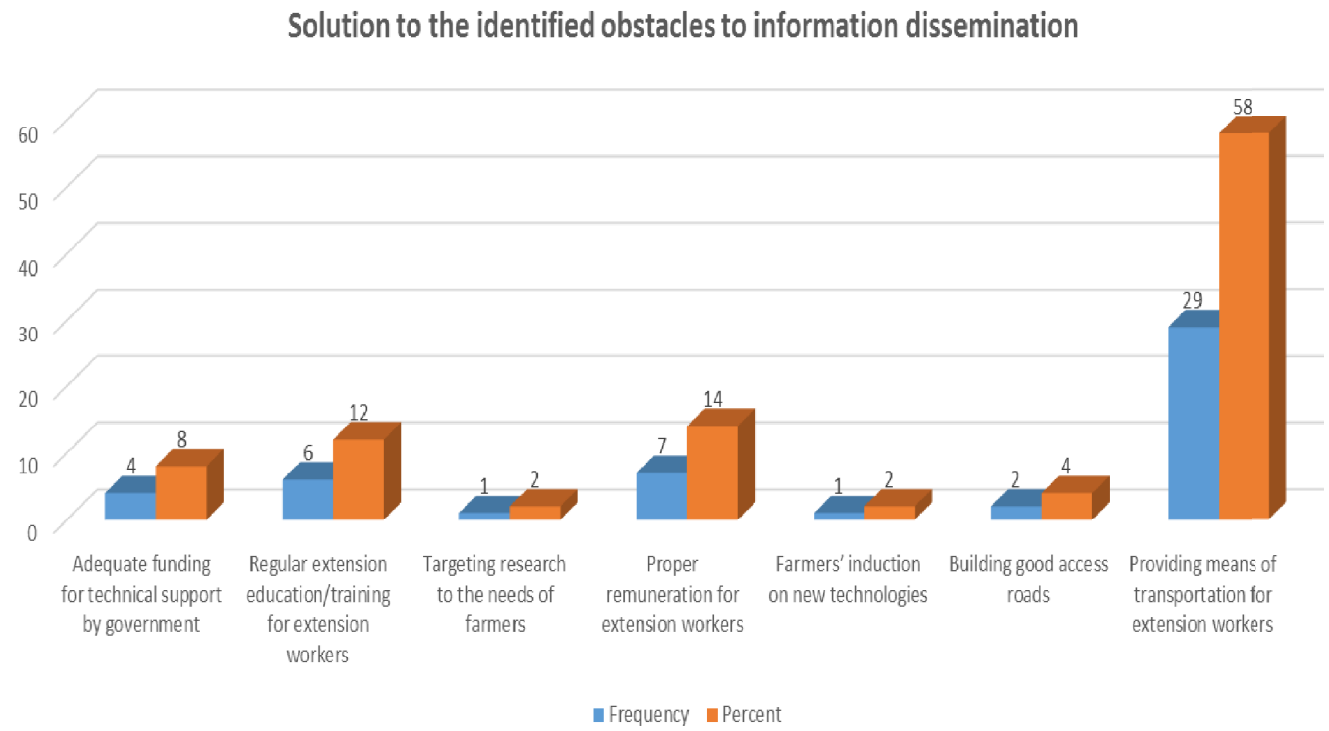


Figure 16: Solution to the Identified Obstacles to Information Dissemination

4.9 Summary

This chapter presented the analysed and interpreted data related to the problem of information needs of small-scale farmers in Oji-River Local Government Area. The was done by administering questionnaires to extension workers and also interviewing selected farmers. The focus of the study was on the problem of information needs of farmers and how these needs were met. The findings showed that Oji-River farming community farmers were generally handicapped by basic information needs which would have promoted their agricultural advancement. It was also discovered in the results that extension workers whose information dissemination was inevitable to farmers' improved agricultural productivity were plagued by many problems ranging from lack of funding by government to lack of regular training for extension workers, lack of transport and poor remuneration. It was further discovered that the aforementioned problems could be ameliorated, hence the suggested solutions in the study.

CHAPTER 5

DISCUSSION AND INTERPRETATION OF RESULTS

5.1 Introduction

The discussion and interpretation of results in this chapter are based on the objectives of the study which was to find out the role of extension workers in the provision of information to small scale farmers in Oji-River Local Government Area.

5.2 Discussion of Findings

The presentation of data interpretation and discussion was based on the order in which data was presented in Chapter 4, that is, according to the research objectives, namely:-

i) Information needs of small-scale farmers in Oji-River Local Government Area.
ii) Methods used for the dissemination of agricultural information by extension workers
iii) Farmers' satisfaction with the information disseminated by extension workers.
iv) Obstacles to effective agricultural information delivery services in Oji-River Local Government Area.
v) Solutions to the identified obstacles of information dissemination to farmers.

5.3 Information Needs of Small-Scale Farmers in Oji-River Local Government Area.

The first objective was to find out the information needs of small-scale farmers in Oji-River farming community.

As was revealed in the study, farmers' information needs entail:

i) The type of information.
ii) How they solve their information needs.
iii) Whom they consulted to solve their farm problems.
iv) How often they obtained assistance from extension workers.
v) Areas in which they have failed to get assistance from extension workers.
vi) Farmers owing Radio/TV.
vii) Farmers interest in local newspapers as source of agricultural information.

viii) Suggestions by farmers on their information needs.

5.3.1 Type of Information Required by Small-Scale Farmers

Small-scale farmers required information in order to improve their agricultural practice. According to the World Bank report (2007), agricultural high yields depend to a large extent on how successfully information was communicated, understood and applied by farmers. The Food and Agricultural Organisation (FAO, 1997) observed that information was very important for both agricultural and rural development and that providing basic information to farmers meant raising their level of agricultural productivity.

On the information needs for small-scale farmers in Oji-River Local Government Area, the investigation revealed areas in which these farmers needed information. Table 11 in Chapter 4 showed the areas of information needs by farmers and the type of information they required in order to enhance their crop productivity. The results show that 8 (32.0%) respondents indicated credit facilities and loans, 3 (12.0%) identified pests and diseases control, 2 (8.0%) input management and 2 (80%) pests and hazard control. Other areas in which small-scale farmers required information include preservation of chemicals which was indicated by 2 (8.0%). Also, 2 (8.0%) identified weather forecasts, 1(4.0%) storage and preservation while another 1 (4.0%) indicated weeds control and soil fertility. This study also revealed that small-scale farmers required market information which was indicated by 2 (8.0%) respondents.

This result obviously reveals that small-scale farmers in Oji-River farming community had need for information. This revelation has made Munya's (2000) study very relevant as it noted that adequate knowledge of information needs of farmers by extension workers could help them to provide efficient information services to farmers. This study, also showed in Chapter 4 that other information needs which were critical to farmers' improvement in agriculture included information on general practical farming which was indicated by 26 (52.0%) respondents while 2 (4.0%) identified new technologies, 2 (4.0%) diseases and pest control while 17 (34.0%) respondents identified fertilizer application.

What this study revealed was the fact that information was inevitable to farmers' agricultural development. In other word, small-scale farmers in Oji-River farming community required this

essential information in order to improve their crop farming. This result has supported the World Bank's (2007) assertion that agricultural high yields by farmers depended on how successfully information was communicated, understood and applied by them. The usefulness of information to farmers' agricultural productivity cannot be underestimated.

5.3.2 How they Solve their Information Needs

When basic information sources are not accessible to farmers, the result will lead to low productivity as well as poor standard of living (Olown & Yahaya, 1998). Therefore, how small-scale farmers solve their information needs for their agricultural practices is very important.

As was revealed from the investigation, small-scale farmers in Oji-River farming community depended chiefly on participating in field day activities and individual or personal experiences as a means of solving their information needs while others relied on visiting fellow farmers/friends. From the findings of this study, it was also clearly revealed that attending extension meetings, listening to radio programmes and visiting an agricultural library had never been the sources by which farmers solve their information needs. However, from the interpretation of this result, it could be gathered that farmers had insufficient knowledge of sources of information which would have helped them meet their information needs. The World Bank (2007) reported that without adequate knowledge of farmers on their relevant and reliable information which was critical to farming; their effort to improve economically would be hampered. Ozowa (1995) also submitted that inadequate access to information by farmers would affect their agricultural activities, leading to a direct or indirect impact on their low level of agricultural productivity. Where farmers lacked proper access to their basic information needs as was revealed to be the situation with Oji-River small-scale farmers, any meaningful efforts on their part to increase productivity would be hampered. Carter & Battle (1993) remarked that information when poorly provided or entirely inaccessible by farmers would lead to their incapability to demonstrate high productivity.

5.3.3 Whom they Consulted to Solve their Farm Problems

To progress in agriculture, farmers need guidance and direction especially on the application of new innovations relating to their agriculture. Findings revealed that 15 (60.0%) of farmers solved their farm problems by consulting extension workers while minority 5 (20%) chose consulting

government officials for their farming problems. However, the very purpose of farmers consulting extension workers/government agricultural officers was for them to receive instructions or advice on how to improve their farming. This opportunity will also enable extension workers to understand their problems and know how adequately their information needs could be served.

5.3.4 How often they Obtained Assistance from Extension Workers

It is obvious that the figures are a result of this study. 6 (12.0%) extension workers reported that farmers came for consultation on weekly basis while 2 (4.0%) indicated being consulted by farmers fortnightly. Also the findings showed that 3 (6.0%) of the respondents indicated being consulted by farmers monthly. However, the majority of respondents, 38 (76.0%) gave other consultation periods which had indicated that farmers' consultation were not predictable. What this study found out was that farmers consulted extension workers for their farm problems when they thought the consultation was necessary. Other findings revealed that although farmers consulted extension workers, they scarcely utilized their advice or instructions because of their traditional attitude which Munya (2000) cited to be their problem as far as agricultural growth and developments were concerned.

5.3.5 Areas in which Farmers Failed to get Assistance from Extension Workers

Small-scale farmers need to be assisted in their agriculture by extension workers in order to improve production. It was believed that since farmers' problems were brought to extension workers, this could also reveal some of the information needs of farmers and areas in which they had not received assistance from extension workers.

From the result of the study, 10 (40.0%) of the respondents indicated new technology as areas they had not received assistance in, 5 (20.0%) identified the preservation of chemicals, 3 (12.0%) indicated storage and preservation while 5 (20.0%) respondents mentioned land/farm spacing. Only 2 (8.0%) respondents indicated fertilizer application as areas in which they had not received assistance from the extension workers.

However, other findings in this study had revealed that there were other ways in which farmers were assisted by extension workers. Such areas of assistance are technical, practical and demonstration assistance.

Findings showed that demonstration assistance to farmers ranked high at 23 (46.0%) as indicated in Table 19 of Chapter 4. It was also revealed that farmers received practical assistance at11 (22.0%) and technical assistance at 16 (32.0%) from extension workers.

The study has revealed that farmers sought assistance in order to progress in their agricultural work but lacked interest in the area of technology due to their low educational level. Ejike (1995) explored the importance of education to farmers in agriculture and submitted that their inability to acquire it would lead them to poor income as well as low level of agricultural production.

5.3.6 Farmers Interest in Local Newspapers as source of Agricultural Information

It was discovered that farmers were ignorant of this source of information which would have benefitted them. The study indicated that small scale farmers in Oji-River farming community do not make use of local newspapers as sources of information. Munya (2000) mentioned mass media as one of the sources of information to farmers which had not helped them to maximise their information needs.

5.4 Methods used to Disseminate Agricultural information to Small-Scale Farmers

The second objective sought to find out the methods in which agricultural information was disseminated to small-scale farmers. The findings revealed two methods in which information was disseminated to farmers:

i) Traditional dissemination method
ii) Media method

5.4.1 Traditional Dissemination Method

According to FAO (1997), methods used to disseminate agricultural information to farmers by extension workers would influence directly or indirectly the level of their crop production. From

this study, traditional agricultural methods of disseminating information to farmers include personal contacts with people, attending meetings, seminars, correspondences with agricultural departments and field-days programmes.

The study of the results indicated that majority of respondents 45(90.0%) obtained their sources of information by attending field days while the minority 2(4.0%) used meetings, seminars, conferences and correspondences with agricultural departments. The study also discovered that only 1 (2.0%) respondent obtained their information from research people.

Generally, these findings have clearly indicated that extension workers' chief sources of disseminating information to farmers were on field days. This method of delivering information to small- scale farmers had been reported by the Food and Agricultural Organisation (FAO) which observed that through field days, extension workers passed valuable information to their farmers.

5.4.2 Media Method

The findings in this study also revealed that media methods which include radio and TV programmes were used to disseminate information. It was discovered that farmers were ignorant of this sources of their information needs. Munya (2000) mentioned disseminating media e.g. TV/Radio as one of the problems which has not helped in meeting the information needs of the farmers. The author submitted that Radio/TV transmissions which disseminated farm programmes were not broadcast when farmers would benefit from them. Again, Ozowa (1995) reported that tiredness, drudgery and irksomeness of farm work were the farmers' problem for not benefiting from this sources of information.

5.5 Extent of farmers' Satisfaction with Information Disseminated

The third objective focused on farmers' satisfaction with the information disseminated by extension workers. From the collected and analysed results, it was noted that 42 (84.0%) respondents indicated that farmers were satisfied to a great extent. This revelation was in accordance with Abonyi's (2005) report of the Enugu State Agricultural Development Programme (EADP). He observed that agricultural farmers were happy with the agency which

had helped them improve their farming practices. Especially at the rural areas, farmers need a lot of sensitization to accept modern technology for farming.

5.6 Major Obstacles faced by Extension Workers in Disseminating Information to Farmers.

Researchers in agriculture in Nigeria have continued to note the constraints of agricultural information dissemination to farmers. According to Ozowa (1995), the major problem involved was lack of formulation and implementation of policies as regards agriculture.

Looking at the results of the current investigation on major obstacles encountered by extension workers in disseminating information to farmers, 8 (16.0%) respondents indicated lack of regular training for extension workers. It was also found out that 6 (12.0%) respondents indicated poor remuneration as an obstacle. This discovery was noted by Neill & Sturges (1994) as the most serious drawback in extension services especially in the third world countries. It was also established in this study that lack of funding by the government constituted a problem as indicated by 4 (8.0%) respondents, 2 (4.0%) reported few extension workers while 2 (4.0%) indicated poor disseminating media. Lack of transport as an obstacle was indicated by 28 (56.0%) respondents.

This study has revealed the fact that various obstacles were faced by extension workers. Olowu & Yahaya (1998) noted that inadequate agricultural information to farmers undermined their potential largely and if not checked, farmers would continue to experience poor yearly harvests leading to poor income and low standard of living.

5.7 Solution to the Identified Obstacles of Information Dissemination

On the solution to the obstacles of information dissemination to farmers, this study sought to find out remedies to various problems identified as responsible to ineffective information delivery to farmers. The results showed that many suggestions had been proffered by the respondents. 29 (58.0%) suggested improving the means of transportation for extension workers, 7 (14.0%)

proper remuneration, 6 (12.0%) identified regular extension education, 4 (8.0%) suggested funding support by the government while 2 (4.0%) indicated building excess roads in rural areas. Only 1 (2.0%) noted targeting research to the needs of farmers.

From the findings of this research study, it was obviously revealed that the suggested solutions by the respondents were the favourable conditions which would improve information dissemination to farmers.

5.8 Summary

This Chapter presents the discussion and interpretation of results. It highlights the role of extension workers in the provision of information to small-scale farmers and identifies information as inevitable resources in the development of agriculture in Oji-River farming community. The Chapter also notes the obstacles which small-scale farmers faces in their farming such as: lack of funding by the government, lack of regular training for extension workers, few extension workers, lack of transport and poor disseminating media. The chapter underscores several conditions which would improve information dissemination to small scale farmers that include: adequate funding by the government, regular training for extension workers, targeting research to the needs of farmers, farmers' induction on new technologies and building good access roads.

The next Chapter contains the summary of findings, conclusion and recommendations of the study.

CHAPTER 6

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the summary of findings, conclusion and recommendations of the study on the information needs of small-scale farmers in Oji-River Local Government Area. Generally, the summary, conclusion and recommendations are based on the research questions; data presented, analysed and interpreted in chapters 4 and 5.

Recommendations in this section are offered to address the problems of information dissemination to small-scale farmers in Oji-River Local Area so as to enable implementation by the relevant government authorities, agencies and stakeholders in extension organisations be done. This chapter also offers suggestions for further research study.

6.2 Summary of Findings

The summary of findings in this Chapter is based on the results of the previous chapters, specifically in Chapters 4 and 5.

6.3 Information Needs of Farmers

The first objective of this study was to find out the information needs of farmers which would help them improve in their agriculture. From the analysis in Chapter 4, it was noted that farmers' information needs on general practical farming was very significant as it ranked high at (52%). This positive result supported Munya's (2000) contention that adequate knowledge of information needs by extension workers helps them serve farmers efficiently. Also, investigations on the information needs of farmers in Chapter 5 revealed their information needs to include information on diseases/ pests control, application of fertilizers, general practical farming and on soil fertility. What this study has shown is the fact that farmers required information to improve their farming. This revelation supported the World Bank's (2007)

assertion that agricultural high yields depended on how successfully information was communicated, understood and applied by the farmers. The usefulness of information to farmers' agricultural productivity cannot be underestimated.

6.4 Methods used to Disseminate Information to Farmers

As to the second objective of the study which investigated methods of information dissemination to farmers by extension workers, the findings revealed that their chief method of disseminating information were meetings, seminars, conferences and correspondences with agricultural departments. It was found out in Chapter 5 that methods used to disseminate information were accepted by farmers which had helped them understood better ways of farming, thereby enhancing their level of crop productivity. For example, attending seminars, meetings and conferences exposed farmers to acquisition of relevant and useful knowledge on how to tackle problems militating against their farm work.

6.5 Extent of Farmers' Satisfaction with Information Disseminated

The results revealed that farmers were satisfied to a great extent with the information disseminated as indicated by many respondents while the least respondents indicated otherwise. Further investigation on this revealed farmers' satisfaction to be great extent at 42 (84%). This revelation was in accordance with Abonyi's (2005) observation on the report of activities of the Enugu State Agricultural Development Programme (EADP) which disseminated information to peasant farmers especially those at the grassroots level meant to encourage them improve their farming.

6.6 Determine the Obstacles to Effective Agricultural Information Delivery Services to Small-Scale Farmers

Chapter 4 revealed that various obstacles existed as impediments to effective information delivery services to farmers. Such obstacles as revealed in Chapter 5 included lack of funding by the government, lack of regular training for extension workers, lack of transport and poor disseminating media. Olowu & Yahaya (1998) posit that inadequate agricultural information to farmers undermines their potential largely and if not checked, farmers would continue to experience poor yearly harvests leading to poor income and low standard of living. The same

problem was reported by Mostak (2012) that inefficient information delivery to farmers would hamper their agricultural practices resulting in low agricultural productivity.

6.7 Solutions to the Identified Obstacles of Information Dissemination to Farmers

Chapters 4 & 5 noted that the solutions to the identified obstacles were the suggestions the respondents had proffered which would enhance information delivery to farmers. These include: government adequate funding, regular extension education for extension workers, building good access roads and providing better means of transport for extension workers.

6.8 Conclusion

From this study, the researcher can draw the following conclusions that:

- Information needs of farmers in Oji-River Local Government Area ranges from information on diseases/pest control, soil fertility, application of fertilizers, seed varieties and production technology.
- The methods of information dissemination were largely through personal contacts, attending field day meetings, seminars and conferences.
- That farmers' satisfaction with the information disseminated can be improved by transmitting their farm needs to scientists in the research institutes through extension workers.
- Extension workers faced various obstacles which constituted hindrances to effective information dissemination to the farmers. These include: lack of funding by government, lack of regular training of extension workers, lack of transport, lack of access roads, and poor remuneration.
- The key solutions to these problems stated above include: adequate funding by the government, regular training of extension workers, building good roads and improving means of transport and adequate remuneration for extension workers.

6.9 Recommendations for Improvement

Information is critical to human development and sustenance. In agriculture, its role and impact cannot be over-stressed. Any factor which is important for effective delivery of information to

farmers should be given priority to enhance their economic productivity. Based on the primary findings in the study, the researcher thus recommends the following:

6.9.1 Information Needs of Small-Scale Farmers

On the information needs of farmers, the researcher recommends targeting research to the needs of farmers. This will help to prioritize their needs and provide them with pertinent information that would adequately cater for their farming requirements.

Again, there should be adequate feedback from farmers to extension workers who will transmit their needs to the scientists in the research institutes. Research should be directed towards solving those problems.

6.9.2 Methods of Disseminating Agricultural Information to Small-Scale Farmers

There is the need to improve the mode of disseminating information to farmers so that they will be better equipped to receive knowledge which is useful to their farming. For example, attending meetings and field day programmes by farmers should be encouraged. The Enugu State Agricultural and Development Programme (EADP) is currently doing that for rural farmers and this should be encouraged and sustained to improve agriculture at grassroots level. Also, contact farmers' methods of disseminating information to farmers especially during the planting seasons should be encouraged and made more effective by employing more extension workers for wider coverage.

6.9.3 Extent of Farmers' Satisfaction with the Information Disseminated

On the farmers' satisfaction with the information disseminated, there should be an evaluation or assessment of the farmers' information needs from time to time to discover which area they are lacking attention so that their farming needs can be appropriately met. Also, regular extension education/training should be provided for extension workers to keep them abreast of the current farm practices and input management which are critical to improving farming yields.

6.9.4 Obstacles to Effective Information Dissemination to Small-Scale Farmers

On the obstacles which constituted great hindrances to effective information dissemination to the farmers, the need for efficient and effective information delivery systems cannot be over-stated.

There should be adequate provision of funds for extension services in Enugu State for extension workers to be able to provide the necessary services needed for effective information delivery to farmers. For example, means of transportation such as motor cycles, bicycles and other incentives should be provided to the extension workers to help them reach farmers easily. Good access roads should be built to enable farmers transport their products to the markets.

To encourage extension workers to remain in their jobs, there is the need to improve their remuneration. This was revealed as the most critical area of extension services which needs urgent attention. Neill & Sturges (1994) noted in their study that one of the most serious drawbacks in extension services especially in the third world countries was the low morale and insignificant remuneration for extension workers.

This view should be taken into consideration and extension workers should be reasonably remunerated to encourage them to give their best service to farmers. If these extension workers are well trained and remunerated, they will be in position to meet the information needs of research scientists, policy- makers, researchers, students as well as farmers by packaging appropriate information for them for various uses especially in agriculture.

6.10 Suggestions for Further Study

Information is basic in the scheme of things and in the area of agriculture, it is essentially inevitable. This study examined the role of extension workers in the provision of information to small-scale farmers in Oji-River Local Government Area of Enugu State, Nigeria. Therefore, the researcher is suggesting that further empirical studies could be undertaken in the following researchable areas.

i. Agricultural information dissemination to commercial or cooperative farmers in Enugu State, Nigeria.
ii. Extension workers' and farmers' relationship: a panacea for agricultural productivity in Enugu State, Nigeria.
iii. Extension communication methods for disseminating information to small-scale farmers in Uzo-Uwani Local Government Area, Enugu State.
iv. Public library extension services to farmers in rural areas: A case study of Enugu State farmers.

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR EXTENSION AGENTS IN OJI-RIVER LOCAL GOVERNMENT AREA (L.G.A)

Dear Sir/Madam,

Obingene M. C. is undertaking a research study titled "The role of extension workers in the provision of information to small- scale farmers in Oji-River L.G.A" as part of the requirements for a Masters Degree in Library and Information Studies from the University of Botswana. Your input for the success of this project is highly needed. You are kindly requested to answer this questionnaire as carefully as possible.
All the information given for the study will be treated with utmost secrecy and confidentiality.

I. BACKGROUND INFORMATION

(Where there are multiple answers, kindly tick the right answer)

1. What is your job title? (e.g. Chief extension officer, Assistant field officer, etc.)

2. What is the highest level of your professional qualification?
    a. Certificate holder
    b. Diploma holder
    c. Undergraduate degree holder
    d. Postgraduate qualification
    e. Others (kindly indicate)

3. For how long have you been involved in agricultural extension work?
    a) Up to 5 years
    b) 6-10 years
    c) 11-15 years
    d) 16 years and over

II. WORK SCHEDULE

4. What is the approximate number of farmers you are to serve?
    a. Up to 50
    b. 50-100
    c. 100 and over

5. Do you also serve farmers outside the Agricultural and Rural Development Programme?
    a. Yes
    b. No

    If yes kindly indicate the nature of service

6. What kind of assistance do you normally give to farmers?

    _____
    _____
    _____
    _____
    _____

7. What difficulties do you encounter in trying to assist farmers with their problems?
    a. No reliable transport
    b. Poor communication (as a result of poor roads, poor telephone services etc.).
    c. Traditional attitudes of farmers which act as an impediment to development
    d. Too many programmes which make implementation difficult
    e. Lack of teaching aids and shortage of implements
    f. Too many farmers to be served
    g. Other problems (kindly indicate)

8. How often are you consulted by farmers for assistance?
    a. Daily
    b. Weekly

c. Forth nightly
d. Monthly
e. Others (kindly indicate)

III. INFORMATION NEEDS

9. What are the common problems farmers bring to you for assistance?
    a. Call on how to use new technologies
    b. Advice on disease and pest control
    c. Advice on general practical farming
    d. Advice on fertilizer application
    e. Other (Please indicate)

IV. INFORMATION SOURCES

10. Suggest some of the sources as a guide:

a) Contact with research people
b) Conversation with colleagues
c) Consulting agricultural libraries
d) Attending meetings, seminars, conferences
e) Correspondence with agricultural /livestock department
f) Attending field days/agricultural shows
g) Reading newspapers/magazines
h) Others please indicate

11. How frequently do you use such information sources? (Indicate 1 for never use; 2 for rarely use; 3 for sometimes use; and 4 for often use against each of the following information sources).

a) Contact with research people
b) Conversation with colleagues
c) Consulting agricultural libraries
d) Attending meetings, seminars, conferences
e) Correspondence with agricultural /livestock department
f) Attending field days/agricultural shows

g) Reading newspapers/magazines
h) Others please indicate

(V) OBSTACLES TO EFFECTIVE DELIVERY OF INFORMATION SERVICES

12. What in your opinion are the major obstacles to information dissemination to farmers? (Please tick as many as are relevant)
    a. Lack of funding and technical support by government
    b. Lack of regular training for extension workers
    c. Few extension agents
    d. Lack of transport
    e. Poor remuneration
    f. Others please (indicate)

13. What do you think should be done in order to ameliorate this situation?
    a. Adequate funding and technical support by the government
    b. Regular extension education/training for the agents
    c. Targeting research to the needs of farmers
    d. Proper remuneration for extension workers
    e. Farmers induction on new technologies
    f. Others (Please indicate)

14. If you have any further information or suggestions, kindly feel free to do so in the spaces provided below.

    _____

    _____

    _____

Thank you for devoting your precious time in answering this questionnaire.

APPENDIX 2: STRUCTURED INTERVIEW FOR FARMERS

I. BACKGROUND INFORMATION

1. Farmer's village name:

2. Gender.....
    a. Male
    b. female
3. How old are you?
    a. 15-20
    b. 21-30
    c. 31-40
    d. 41-50
    e. Above 50

4. What is your educational level?
    a. Never attended school
    b. Adult education
    c. Class 1-4
    d. Class 5-8
    e. Secondary education
    f. Above secondary education

5. For how long have you been farming?
    a. 1-3 years
    b. 4-7 years
    c. 8-11 years
    d. 12 and above

6. Where did you get your farm location area?

7. How many farm lands do you own?
    a. 1-3
    b. 4-6
    c. 6-7
8. What are your major difficulties in farming?
    a. Financial handicap
    b. Inputs for farming
    c. Storage and preservation
    d. Others (Please indicate)

9. Do you receive any assistance in any of these areas?
    a. Yes
    b. No

    If yes kindly indicate the type and the source of assistance

II. INFORMATION NEEDS

10. In which of the following areas do you need information?
    a. Input management
    b. Problems of storage and preservation
    c. Pest hazards and control
    d. Weed control and soil fertility
    e. Agricultural technology and production
    f. None /no response
    g. Preservation chemicals
    h. New technologies
    i. Marketing information
    j. Credits and loans
    k. Weather forecasts

l. Pests and disease control

m. Others (Please indicate)----------

III. INFORMATION SOURCES

11. How often do you consult the following information providers in order to resolve your information needs? (Rate of involvement ranked as: 4 = always: 3 = Sometimes; 2 = rarely and 1 = never.

    a. Attending an extension meeting
    b. Participating in a field day
    c. Listening to a radio programme
    d. Being visited by an extension worker
    e. Reading an extension pamphlet and bulletin
    f. Visiting a fellow farmer/friends/relative/neighbours
    g. Visiting an agricultural library
    h. Depending on personal experience
    i. Others (Please indicate)

12. Whom do you normally consult for solving your farming problems?

    a. Extension workers
    b. Fellow farmer/friend
    c. Government officials
    d. Others (kindly indicate)

13. How often do you get assistance from the extension workers?

    a. Very often
    b. Often
    c. Sometimes
    d. Rarely
    e. Never

14. In which of the following areas have you failed to get assistance from the extension workers when you needed them?
    a. How to use new technologies
    b. Fertilizer application
    c. Storage preservation
    d. Use of preservation chemicals
    e. Farm spacing
    f. Others (Please indicate)

15. Which of the farmers' group do you belong to?
    a. Yam
    b. Cassava
    c. Beans
    d. Melon
    e. Cocoa-yam
    f. Corn/maize
    g. Groundnut
    h. Cashew
    i. Others (please indicate)

16. When do you find an extension worker most useful to you?
    a. Planting season
    b. Dry season
    c. Farm demonstration period
    d. Other (Please indicate)

17. Do you own a radio/TV? If yes, which programmes do you listen to most?
    a. News bulletins
    b. Music and entertainment
    c. Extension /advisory programmes
    d. Other (please indicate)

18. In view of 17 above have you ever listened to special programmes for farmers on TV?
    a. Yes
    b. No

    If yes kindly indicate how useful

19. Which of the local newspapers do you find useful as a source of agricultural information?
    a. Daily News
    b. Guardian
    c. Punch
    d. Others (please indicate)

20. What do you think could be done to improve the dissemination of agricultural information to farmers?

Thank you for your cooperation

APPENDIX 3: MAP OF NIGERIA

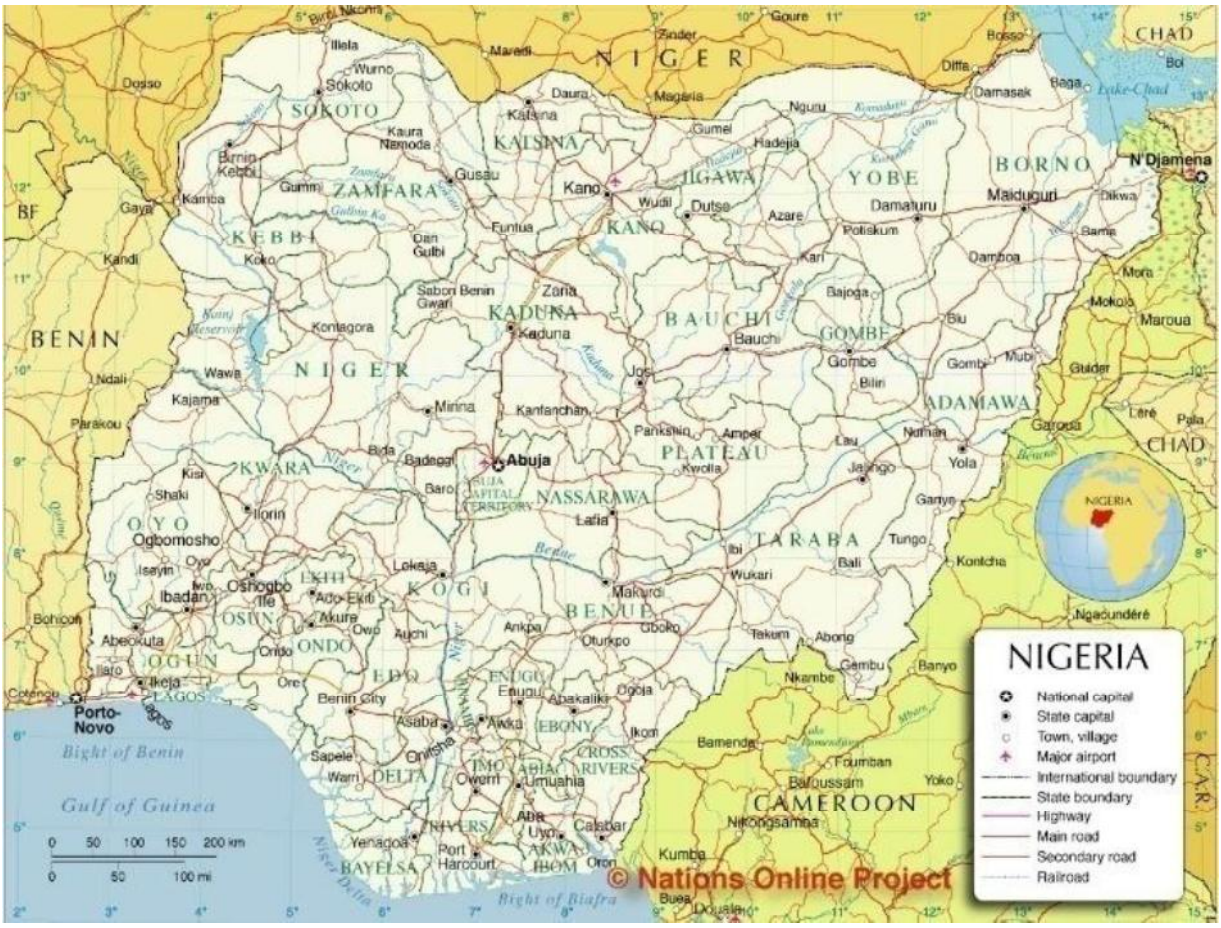

Fig. 24: Map of Nigeria showing the geographical States of the Federation and Local Government Areas in Nigeria

Source: Ministry of Lands and Survey Secretariat, Abuja.