

**RIVERS STATE UNIVERSITY,
PORT HARCOURT**



**CHALLENGES OF EFFECTIVE
AGRICULTURAL EXTENSION SERVICE
DELIVERY SYSTEM IN NIGERIA**

AN INAUGURAL LECTURE

By

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Professor of Agricultural Extension

SERIES NO. 58

Wednesday 26th September, 2018.



ISBN 978-978-50620-5-2

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An
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Membership of Relevant Professional Bodies

1. Agricultural Extension Society of Nigeria
2. Horticultural Society of Nigeria
3. Agricultural Economic Society of Nigeria

Academic Projects Supervised

- | | | |
|---|---|---|
| A | - | Higher National Diploma (HND)
(Under College of Science and Technology)
26 Projects |
| B | - | B.Sc. Projects Supervised
38 Projects |
| C | - | Postgraduate Diploma Projects Supervised
15 Projects |
| D | - | M.Sc. Thesis Supervised
26 Projects |
| E | - | Ph.D Thesis Supervised
4 Theses |

- c. University of Nigeria, Usukka (2000).
- d. University of Uyo (2001).
- e. University of Uyo (2003-2004)
- f. University of Nigeria (2005-2006).
- g. University of Uyo (2007).

Journal of Publications

1. Have published over 40 research papers in local and international journals.
2. Attended 10 conferences and read papers and published 4
3. Took part in a Farm Survey Team Of the Agricultural Sector of Nigeria Agip Oil Company (NAOC) Ltd. in collaboration with a Consultant Firm (Enichem Agricoltura) of Italy that established the Green River Project designed to improve the rural farmers. (1986).
4. Took part in a Farm Survey of the Agricultural Sector under the Operational Areas of Elf Nigeria in Ogba-Egbema Local Government Area of Rivers State (1987).
5. As UNDP Grassroots Credit Consultant to Abia State - covering Bende, Ohafia, Arochukwu, Ohaozara and Ukwu East Local Government Area (1996).
6. As Grassroot Survey Assistant to the United Nations Development Programme (UNDP) State Vision Plans for Ogoni People in Rivers State (1997).
7. Member of a Socio-economic Survey of UNDP on Oil and Gas Exploration; Agriculture and Environment in the Niger Delta Region - sponsored by the Centre for Advance Social Science, Rivers State (2005).

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PERSONAL PROFILE

1. Employed on September 29, 1977 by the Former College of Science and Technology.
2. Became the First Ag. Head of Department (HOD) of Agriculture Economics & Extension (1978-1982).
3. Member of the Joint Senate Negotiating Committee with Rivers State Government on the take-over of the Research Division of the Ministry of Agriculture to Rivers State University of Science and Technology now RIART, Onne (1982).
4. Member Catering Board of Senate (1982-1986).
5. Departmental SIWES Coordinator (1978-1962).
6. Departmental Examinations Officer (1991-1993).
7. Faculty Coordinator of Evening Programme (1991-1993).
8. Visiting Scholar on Sabbatical leave to the University of Uyo, Akwa Ibom State (1998-1999).
9. Acting head of Department of Agriculture Economics and Extension (1999-2001).
10. Member of Postgraduate Committee of Faculty of Agriculture (2005-2006).
11. Acting Director, Rivers State Institute of Agricultural Research & Training (RIART) Onne (2006-2008).
12. Member, Appointments and Promotion Committee (A & PC) Part I (2006-2008).
13. Member, Appointment and Promotion Committee (A & PC) Part II (2014-2016).
14. Served as External Examiner to the following Institutions
 - a. Rivers State College of Arts and Science, Port Harcourt (1996).
 - b. University of Uyo (1998).

Otu, O. E & Emah G. N. (2001). "Adoption of Recommended Farm Practices between Contract and Non-Contract Farmers in Uyo zone of Akwa Ibom State. *Agricultural Journal For Educational Development*, 3(1); 202-205.

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The Vice Chancellor

Deputy Vice Chancellor

Registrar and other Principal Officers

Deans of Faculties

Directors of Institutes

Distinguished Professors and Eminent Scholars

Heads of Department

Distinguished Guests

Staff and Students of Rivers State University

Ladies and Gentlemen

INTRODUCTION

I am most grateful to God Almighty for His grace and mercy that made it possible for me to give this inaugural lecture of this University today. I am also very delighted to inform you that I am the first Professor of Agricultural Extension to give an inaugural lecture in this university and again the first Professor in my home community of Kono. This is the reason why my promotion to the rank of professor was delayed for about six years because no professor of Extension existed before me in this university to advise the Assessment and Promotion Committee (A & PC) Part II on what

to do with my papers until when eventually the university decided to send them out for external assessment. The results came successfully in my favour from the three external assessors.

Today's lecture will focus on some major problems challenging effective extension delivery system that prevent farmers from improving the quantity and quality of food production for self-sufficiency in Nigeria. Other challenges of Agricultural Extension from inception to date as exemplified by some notable intervention Programmes of Government, Research Institutes, Extension Agents and Farmers will also be highlighted.

CONCEPT OF EXTENSION EDUCATION

In agricultural extension programmes, the farm is the classroom/ laboratory, the farmers are the students, the work materials (e.g. seeds, chemicals, farm equipment etc) are the inputs while extension agents are the teachers and the researchers are the innovation developers. Therefore, the business of extension is an interactive educational process which uses Research Extension-Farmer Input Linkage system as a model for effective dissemination of research information to farmers through extension agents working in synergy.

The term extension education was first coined in the nineteen century, precisely in 1873 by Cambridge University to describe a particular educational innovation, the aim of extension then was to take the educational advantages of the university to the ordinary people where they lived and worked. It was directed to teaching activities away from the main University Campuses for audiences other than the students admitted for university education (Akinbode, 1985).

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In the concept of "extension" one thing is very common – reaching out to less privilege farmers/rural people with valuable information from research findings that would enable them change their ways of thinking, operating their economic resources and live well where they find themselves. Van Den Ban and Hawking (1996, in Nwachukwu, 2013) considered extension as a conscious use of communication to help people form sound opinions and make good decisions, while Obibuaku, (1983) sees extension as an informal, out-of school system of education designed to help rural people satisfy their needs. He also considers it as a sanctioned and legitimate activity which seeks to enlarge and improve the abilities of farm people to adopt more appropriate and new practices to adjust to changing conditions and social needs.

Our present methods of agricultural production testify the gap between actual understanding of the latest technologies and production practices of majority of our farmers. Agricultural extension is one of the ways of closing this gap by attempting to persuade farmers to adopt latest technologies developed by researchers based on problems and experiences of farmers. In many instances, these attempts have become ineffective and inadequate due to fewness of extension field staff needed to educate the farmers.

Consequently, the Following Challenges Exist:

1. Farmers become indifferent to accepting new technologies because of their conservativeness and lack of understanding of what extension teaching is all about.
2. Research findings suitable for increased food production do not reach the farmers at the grassroots because of shortage of extension staff to deliver the goods.

3. Research itself is restricted to the confines of the research stations which tend to reward staff running on the basis of the number of publications rather than on the number of innovations they can make available to farmers. "Research workers" decide for themselves what they want to do without due regard to farmers' problems.
4. McNamara (1985) argued that researchers are underemployed and are too isolated from farmers and extension workers, as a result, research findings are inadequately disseminated.
5. Extension services are poorly organized and often times are subjected to political and administrative abuse. As a result, field agents lack essential logistics to carry out the jobs successfully.
6. Apparent lack of technical direction, regular supervision and monitoring of performances of field staff and the absence of continuous training and visit system by extension staff.
7. The extension staff is unaware of the exact number of farmers he/she is supposed to contact in an area of operation due to lack of reliable, workable statistics of extension staff-farmers ratio.

TYPES OF EXTENSION SERVICES

Ministry-Based Extension

The general agricultural extension is typically located in the Ministry of Agriculture with variety of division (NAERLS, 1997). In a country where government has states and local governments, the extension division is replicated at each level. The assumption with this approach is that technology is available and if these could be communicated to farmers, they would improve their production

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capacity (Nwachukwu, 2013). To solve some of the identified problems of the ministry-based extension, Benor and Baxter (1984) originally developed the Training and Visit (T & V) extension system. The objective was to build a professional extension service that is capable of assisting farmers to raise production, increase incomes and provide appropriate support for agricultural development. The objective was to create a dynamic link between farmers, professional extension workers and researchers (FAO, 2013).

University-Based Extension

The Cooperation Extension Service (CES) of the United State of America is still the only system in which the main extension function remains within the University. Each state of the union was granted land by the federal government on which to develop agricultural experimental station and to build associated educational institutions or colleges. Today, the land grant colleges are mostly the major universities and the headquarters of the country based-extension or advisory services.

Commercial-Based Extension

In this system, a particular commodity, usually cash crops and tobacco with export potential are identified and extension packages are developed for them. This system was executed and supervised by foreign extension experts only.

ADP Based Extension

To solve some of the identified problems of the ministry-based extension, Benor and Baxter (1984) originally developed the Training and Visit (T & V) extension system. The objective was to build a professional extension service that is capable of assisting farmers to raise production, increase incomes and provide

appropriate support for agricultural development. The objective was to create a dynamic link between farmers, professional extension workers and researchers.

NGO-Based Extension

Increasingly, Non-Governmental Organizations are getting involved in extension services. This type of extension is also called Client-Based and Client-Controlled Extension (Uwe, 2002) where farmers also pay for the services they received

ROLES OF AGRICULTURAL EXTENSION IN THE DELIVERY SYSTEM

The roles include the following:

i. Technology Dissemination in the Delivery System

Extension plays a primary role in dissemination of new technologies and fresh packages to farmers for adoption and improved food production.

ii. Participates in technology package development through "On-Farm Adaptive Research".

It is an important component of the Training and Visit (T&V) system currently in use by the ADPs, the principal agent providing extension services of the country.

iii. Identification of Farmers Constraints in the Delivery System

Specialized training organized for particular cadres of staff are further reinforced during the Monthly Technology Review Meetings (MTRMs) and the Fortnightly Training (FNTs). Technology packages are put into the Small Plot

To my in-laws- Mr. Samuel Leyira Wiwuga, Mr. Godwin Barisua Wiwuga, Chief Eebu John Yowika, Mr. Kennet Yowika and the entire Gbeneteegure group of families, I thank you all and may God bless you.

To my parents – Mr. Ebenezer Egbonna Egbo- Nwikina Emah and Mrs. Nwimua Lewa Emah. I remember the way both of you advised me to study hard in order to pass my entrance examination into secondary school; which I did, but unfortunate both of you did not live to see the end of the secondary school. I appreciate you, how I wished you were here today. My other appreciations go to the entire Sarofiri group of families for their support and cooperation.

My special thanks to my late guardian, Alhaji Notta Yowika and family who fostered me after the death of my parents. Without them, I could not have been able to complete my secondary school education. Thank you, I appreciate your efforts.

To my immediate family, I appreciate my darling Wife- Mrs. Victoria Keaniabaridoo Emah who was always by my side to support and encourage me throughout my academic journey. I say thank to you, Antie.

To my children and their families – Helen Baridakara and her husband Serekara Adoo; Nonubari Peace and her husband – Chief Dale Nsagane; Engr. Raymond Ewonubari Emah and his Wife – Domale. Barr. Dumka and her husband – Barr. Idowu David. I thank you all for your efforts and support. Lastly, appreciate my seven grand – children, those in America and those in Nigeria for their understanding and love for me. May God bless, guide, protect and favour you to achieve better than I in life, in Jesus Name Amen.

Thank you all.

Amachree, Dr. B. A. Ekeke, Dr A. F. Chukunda, Dr. N. David-Sarogaro, Dr. P. Nnadi, Dr. S. A. Abere, Dr. D. Nwuisuator, Mrs. Simbi-Wellington, Mr. E. A. Oddo, Prof. S. Y. Giami, Prof. H. D. Mepba, Dr. D. B. Kiin-Kabari, Dr. G. O. Wordu, Dr (Mrs.) J. Eke-Ejiofor, Mrs. L. I. Barber, Dr. M. O. Akusu, Dr. (Mrs) N. J. T. Emelike, Dr. (Mrs) P. C. Obinna-Echem, Prof. M. S. Igben, Prof. A. Monsi, Prof. J. P. Alawa, Prof. S. N. Wekhe, Prof. (Mrs.) A. O. Amakiri, Prof. E. C. Chukuigwe, Prof. M. N. Ogburia.

My heartfelt appreciation goes to Miss. Gold Leton Kpurunee who painstakingly type-set this lecture even when it was not convenient for her to do. I thank her so much. Also, to every graduate and undergraduate student of the Department of Agricultural and Applied Economics, and the Department of Agricultural Extension and Rural Development for their willingness and support whenever they were needed. I thank you so much. Many thanks to Mr. Agbam Chukwudi, Mr. Robinson Daniel, Iragunima Dee Victor, and Mr. Omeodu for their contributions to the success of this lecture.

To my spiritual father Snr. Pastor Israel Oyebamiji and the entire pastorate, Deacons and Deaconesses of the Living Faith Church, Mile 3 Diobu and those of Rev. Paul Kingston Methodist Church, Kono for their prayers and guidance at all times may God grant you strength, wisdom and understanding to do His will.

To my bosom friends of blessed memories – Chief George Menekpugi Abednedgo Nwine, Mr Roland Deekia Deegbara; Mr. Deegbara Wike and Mr. Victor Badey. I miss you all at this occasion when I expected you to stand by me, to tease me in our usual manner. I shall never forget the humorous interactions we used to enjoy together. May your souls rest in perfect peace, Amen.

My gratitude also goes to my secondary school friends- Mr. S. B. Giadom, Chief S. K. Deekor and Flight Lieutenant Monday Oke and their families for their support and cooperation.

Adoption Techniques (SPAT), used for training farmers and demonstration.

iv. Provision of information and input supply in the Delivery System

Extension assists in providing information on various types and sources of supply. For instance, the constraint to inorganic fertilizer uses is the unavailability of affordable supply.

v. Promoting Farmer Awareness and Participation in the Delivery System

Extension plays a major role in creating the desired awareness to make farmers interested in the adoption process.

ROLES OF RESEARCH IN AGRICULTURAL EXTENSION

The role of research is finding solutions to problems after a detailed study and analysis (Sekaran, 2006). The purpose of research is to inform action and it focuses on technical aspects of generating useful technology.

Research Plays the Following Roles in the Extension Service Delivery

- i. Research provides the necessary information required by farmers in the field.
- ii. Provides the working tools for extension agents.
- iii. Research invokes a demand for successful change.
- iv. Provision of solution to farmers' problems in agro production and processing.

- v. Provision of technical information for extension to disseminate to target audience.
- vi. Research brings about new discoveries and inventions in extension work.
- vii. Promotion of agricultural extension and rural development.

Role of Farmers in Extension Service Delivery

- a. Farmers help to make research findings and extension work meaningfully.
- b. Facilitates diffusion process through farmer dissemination of new farm practices.
- c. Farmers aid research through the problems they encounter on daily basis and complain to extension agents.
- d. They help researchers to discover lapses in their previous works for continuity.
- e. Farmers help to achieve the goals/objectives of agricultural extension.

Roles of Extension Agents in Extension Service Delivery

Extension agents play the role of educator and communicator to farmers in order to help them improve their living standard.

- a. Extension agent plays a coordinating and developmental role by working with input suppliers and research institutes
- b. They provide technical advice and input to farmers.
- c. They act as facilitators or catalyst in participatory process programme planning, implementation and evaluation involving farmers.
- d. Formation of farmers into cooperatives and organizing credits and marketing of farm produce for farmers.

ACKNOWLEDGMENTS

I wish to express my profound gratitude to the Vice Chancellor, Professor Blessing Didia for giving me the opportunity to deliver my inaugural lecture. I am also grateful to the Deputy Vice Chancellor, Prof. B. M. Oruwari, the Registrar, Mrs. Victoria T. Jamabo, the Librarian, Mrs. Jennifer Igwele, the Bursar, Mr. Kennedy Abraham, Prof. I. k. E. Ekweozor, Prof. R. Oruamabo (Provost, C. M. S.) our Emeritus Prof. D. M. J. Fubara, Emeritus Prof. A. I. Ahiazu, Emeritus Prof. S. Odi-Owei, and Emeritus Prof. S. C. Achinewhu. I thank you all for your support.

I also thank all senate members of this University and all the Deans of faculties, and lecturers those present or unavoidably absent at this occasion for their support and encouragement.

I wish to appreciate all my colleagues in the faculty of Agriculture especially my colleagues in the Department of Agricultural Extension and Rural Development for their support, encouragement and understanding over the years.

My special thanks to Prof. H. Ukoima, (Dean of Agriculture), Prof. B. I. Isife, Dr. (Mrs.) C. O. Elenwa, Dr. F. N. Nlerum, Dr. A. T. Harry, Dr. Leton, De-Great Blessing, Pst (Mrs.) Nwisagbo Ayodele, Dr. D. B. Ewubare, Dr (Mrs.) D. I. Ekine, Dr. I. K. Agbugba, Dr. I. A. Okidim, Mr. G. L. Tuaneh, Prof. U. I. Oji, Dr. Johnson, Dr. H. H. Gun, Mr. I. J. Nte, Mr. I. Hanson, Prof. T. A. T. Wahua (Rtd.), Prof. E. E. Opuwaribo (Rtd.), Dr. J. A. Osakwe, Dr. L. O. Gbaraneh, Dr (Mrs.) A. I. Nwonuala, Dr. (Mrs.) O. A. Orji, Mr. K. D. Peters, Prof. U. U. Gabriel, Prof. S. N. Deekae, Prof. (Mrs) O. A. Davies, Dr. B. B. Otene, Dr. A. D. I. George, Dr. Osuakpe, Mr. K. Chukwu, Miss D.

5. Competent managerial staff with sound vision for the job should be employed to man the administration of the programme.
6. Government should make laws that will support the smooth implementation of all Federal and State agricultural development programmes in such a way that if there is a change of hand in government regime, the programmes can be sustained and not die.
7. Bureaucratic tendencies, corruption, mismanagement of funds etc, should be discouraged for smooth administration of extension delivery system.
8. Extension policies should be legislated by the country's highest law-making body (House of Representatives and the Senate) to provide strong legal backing to effective extension impact. The reason is that countries that have enacted extension policies through legislative action tend to have well-organized, financially stable extension system that have sustained effectiveness in production.
9. The programmes should be supported with adequate funding.
10. Since the technology transfer of the Training and Visit (T & V) system that emphasized individual contact has failed, a privatized approach to extension system, though expensive is recommended for effective extension delivery in Nigeria.

Roles of Government in Extension Service Delivery

Government having keen interest in the wellbeing of the people and in agriculture acts as:

- ❖ Promoter and facilitator of research
- ❖ Generates policies and programmes of the sector
- ❖ Develops infrastructure and adequate social services
- ❖ Facilitates the modernization of cooperative laws and regulations, eliminating existing barriers to cooperative development.

Process of Communication in Extension Service Delivery

Communication is the interaction between two or more people with useful and acceptable outcomes that can lead to change of attitude for improved standard of living. In agricultural extension, communication usually occurs in a teaching-learning-situation which is referred to as an environment in which most necessary ingredients to facilitate efficient teaching-learning-process are present.

The Teaching-Learning Situation Consists of the Following Elements:

1. Sender or communicator - Teacher
2. The message to be transmitted - Information
3. Channel of communication - Medium
4. Receiver of information - Audience
5. Physical factors - Equipment/ facilities
6. Response resulting from the - Feedback

The Communication Process

The Communication Process Involves the Following:

S		M		C		R
Sender	→	message	→	Channel	→	Receiver
		—	Purpose	Methods	—	Perception/ Awareness/ Interest
					"Noise"	
		—	Content	Visual		
						Evaluation/ Understanding
				—	Spoken	Decision making
		—	Treatment	—	Written	(Try-out)
				—	Combination	Action (adoption)

The Process when Receiver Responds to Message

Receiver	→	Channel	→	message	→	Sender
(Former Receiver)						(Former Sender)

When the extension worker (teacher) talks with the farmer the extension worker becomes the sender, what he says in the message, the spoken word is the channel and the farmer is the receiver. But when the farmer replies, the roles are temporarily reversed. The farmer is the sender and the extension worker becomes the receiver. Farmer's response is called FEEDBACK.

RECOMMENDATIONS

This lecture offers the following recommendations as a way of solving lingering problems challenging effective extension delivery system in the country.

1. Government should involve all stakeholders in planning and implementation of all Local, State and Federal governments agricultural development programmes to avoid the usual top-bottom approach to planning which has been found to be a failure.
2. Adequate awareness campaigns should be carried out through the media, meetings, farm and home visits, seminars etc before launching any new programmes that will benefit food production practices of Nigeria farmers.
3. The gross shortage of field extension staff as indicated by the high level of extension: farmer ratio in the country should be discouraged by employing more staff with basic qualifications and skills to cope with the situation on the field.
4. Government should provide those logistics that will encourage a smooth working condition for extension agents and the farmers.

CONCLUSION

From the above analysis of government intervention programmes aimed at alleviating the problems of food security in Nigeria, it was observed that many of these projects did not deliver the desired objectives as proposed initially by government. As a result, it was concluded that although all the programmes were beautifully planned and designed at drawing boards, even at pages of newspapers and radio broadcasts by government, poor planning (top-bottom approach), lack of continuity of programmes, weak project appraisal, poor funding, hijacking of programme benefits by top officials and corruption have rendered the implementation and monitoring of these programmes unsuccessful while non-involvement of agricultural extension services in the planning, monitoring and implementation of most of these programmes and lack of commitment to policy implementation have become problems challenging effective extension service delivery system in Nigeria. Therefore, until government allows agricultural extension service to be part of the planning and implementation of State and National agricultural programmes, the success of extension services in Nigeria will remain a mirage for years to come.

METHODS OF COMMUNICATION IN EXTENSION SERVICE DELIVERY

Extension workers/agents communicate through the following methods:

1. Methods according to the number of people reached.

(a) Individual Contact Method:

These are methods directed at individual or individual families.

(b) Group Contact Methods:

These are methods directed at group of people having a common interest.

(c) Mass Contact Methods:

These are methods directed at people in general or to a large assemblage of people. Example of these methods are illustrated on the table 1 below

Table 1: The Individual, Group and Mass Media Methods

Individual Methods	Group Methods	Mass media Methods
Visits (farm & home)	Demonstrations	Radio
Office calls	Meetings	Television
Correspondences	Lectures	Newspaper
Personal letters	Group discussions	Circular letters
Telephone calls	Workshop:- Excursion, tours, Local leadership Training	Exhibits and posters, Leaflets, bulletins, information sheets and other publications film shows etc

Source: Adapted from Benor and Baxter (1994) Training & Visit Extension, World Bank, Washington D. C. USA.

Channels of Communication

This simply means the communication methods the extension workers use in teaching the farmers.

Table 2: Methods According to the Forms of Message

<i>Written</i>	<i>Spoken</i>	<i>Visual</i>	<i>Visual & spoken</i>
Publication	Visit (farm/home)	Exhibit	Result demonstration
Circulars	Meetings	Posters	Method of demonstration
Leaflets	Demonstrations	Slides	Film-shows, discussion
Magazine	Telephone calls	Film shows	
Personal letters	Office calls	Charts	Field, tours
Newspapers	Radio	Pictures	Excursion, Agric. Shows workshop

Source: Adapted from Benor and Baxter (1994) Training & Visit Extension, World Bank, Washington D. C. USA.

RESEARCH – EXTENSION – FARMER - INPUT LINKAGE

The concept of linkage implies that the communication and working relationship is established between two or more organisations (research, extension and farmers) pursuing commonly shared objectives in order to have regular contact and improved productivity (Agbamu, 2000). Also, Ogunremi and Olaniyan (2010) identified Research-Extension Farmer-Input Linkage (REFIL) as a communication method used by non-University based scientists to contact farmers. Vice chancellor Sir, the linkage system is not without challenges.

were included in the survey in order to authenticate the responses of CDC members, totality 158 respondents were used in this study and the result shows as follows:

Table 10: Agricultural Problems associated with Youth Restiveness in the Study Areas of Delta State

S/No.	Problems of Restiveness	Score	Mean
1.	Destruction of growing crops	536	3.39
2.	Destruction of farm produce	538	3.41
3.	Looting of farm animals	555	3.51
4.	Destruction of farmers' houses	557	3.52
5.	Loss of farmers' lives	562	3.56
6.	Destruction of agricultural machinery	579	3.66
7.	Disruption of fishing activities	592	3.74
8.	Inhibition of the movement of agriculture Extension officers	598	3.78
9.	Stalling of transportation of farm inputs and produce	600	3.80
10.	Rural-Urban Migration of farm labour	610	3.86
11.	Disruption of farm operations	620	3.92

Source: Field Survey, (2005).

Critical Mean = 2.50

Critical Mean ≥ 2.50 = Very serious problem

Critical mean < 2.50 = Less serious problem

Since every problem of restiveness in the table has a critical means of more than 2.50, it was concluded that all the items of youth restiveness as perceived by Community Development Committee (CDC) in Central and Southern Zones of Delta State were very serious. This means that youth restiveness is one of the major problems challenging effective extension delivery system in Nigeria.

Critical Mean = 3.3

** = Mean scores of ≥ 3.3 = Most Important areas

* = Mean scores of < 3.3 = Less Important areas

Table 9 further showed that only 5 out of 14 areas of training needs were found to be most important to farmers in the programmes. This means that farmers will be willing to accept training only in areas of their need. Therefore, a lot of education and enlightenment campaigns to change farmers opinions will be required. The less important areas of training need were perceived as areas of training in which farmers were less involved on day-to-day production practices. Less involvement of respondents in areas of training need is another challenge to effective extension delivery system.

6. Youth Restiveness as perceived by Community Development Committee in Delta State

One of the aims of this study was to ascertain the Community Development Committee members' perception about youth restiveness in rural communities in Delta State of Nigeria and to determine the agricultural problems associated with it. The area used for this study comprised the central and southern zones of Delta State located between longitudes 5°E and 7°E and of the Greenwich and latitude 4°N and 6°N of the equator. (Eight Local Government Areas were randomly selected from the central and southern zones of Delta State on the basis of four LGAs from each zone. One community was purposively selected and (10) CDC members per LGA were randomly selected. Eighty respondents who were members of Community Development Committees and another eight respondents who were non-members of CDC were randomly selected. All together, 79 CDC members and 79 non-CDC members

Some challenges of the Linkage System include:

- i. If the flow of information is hampered either from research to extension or from extension to farmers, the end product which is increased food production will be adversely affected.
- ii. Expanded range of stakeholders managing the process of demand and supply of services, setting and enforcing standards for the quality of services provided is another challenge (Bassir and Ekpere, 2007).
- iii. Poor inter-organizational relationship between the extension agency and research organization almost guarantees that research results will not reach farmers and if they do, farmers will not be able to use them (Adesojiet *al.*, 2006).
- iv. Agbamu (2005) identified one of the problems that bedeviled agricultural extension in Nigeria as ineffective agricultural research extension linkages and poor input supply.
- v. Poor feedback from farmers to research which means that there is a linkage-gap between farmers and extension agents.
- vi. Most obvious problems occur when researchers and technology transferred workers are ignorant of each other's activities.
- vii. When extension directors as well as middle level managers within the respective organizations (research and extension) operate independently, their organization affects the overall system performance.

Vice Chancellor Sir, the gap between Research-Extension Farmer-Linkage system is a major problem responsible for poor extension delivery system and consequently low level of food production.

STAKEHOLDERS IN AGRICULTURAL EXTENSION SERVICE DELIVERY SYSTEM

They can be internal or external and can be at senior or junior levels (https://www.stakeholdermap.com.com/stakeholder_definition.html#Freeman)

Stakeholders usually have interest or concern in an organization. They are members of the group without whom or whose support the organization would cease to exist. They are party with most direct and obvious interest of stake in business decisions (<https://www.quora.com/who-are-stakeholders>).

Eden and Ackerman (1998), sees stakeholders as “people or small groups with the power to respond to, negotiate with and change the strategic future of the organization. Freeman (1984), in his influential book “strategic management” defined stakeholders as “any group or individual who can affect or is affected by the achievement of the organization's objectives.

The major stakeholders in Agricultural Extension Delivery and Management System include: Agricultural Development Programmes (ADPs), Research-Extension-Farmers-Inputs-Linkages System (REFIIS), Agriculture and Rural Development (ARD) and Agricultural and Rural Management Training Institute (ARMTI), Shell Petroleum Company, Nigeria Agip Oil Company Limited (NAOC), The British American Tobacco (BAT), ATCOT Nigeria PLC, Farmers Development Union (FADU) and some others. All these stakeholders are part and parcel of management in Agricultural Extension Delivery System. However, these stakeholders cannot operate the system successfully without challenges.

5. Farmers' Perception of Areas of Training Need in Programme of Agricultural Development Project (ADP) in Rivers State.

The purpose of this study was to examine farmers' perception of areas in which training is needed to assist them improve their skills and to determine the most important areas of the training need.

A total of 216 respondents were randomly selected out of 3,000 in all the 24 ADP zones in Rivers State. Copies of a structured questionnaire were distributed to 216 respondents and only 150 copies were found useable for data analysis. A likert format with 5 options was used to measuring the perception of farmers on the area of training need in programmes of ADP in Rivers State.

Table 9: Mean Perception of Respondents of Areas of Training Need

S/N	Area of Training Need	Weighted Mean	Remarks	% Importance of Area of Training Need
1.	Method of Storage	4.3	**	
2.	Seed yam Multiplication	4.0	**	
3.	Fertilizer Application Technique	3.9	**	36
4.	Harvesting and Processing	3.8	**	
5.	Livestock Production Techniques	3.3	**	
6.	Soil Management Techniques	3.2	*	
7.	Cropping System and Management	3.1	*	
8.	Techniques of Practical Skills	3.0	*	
9.	Farm Management & Record Keeping	2.9	*	64
10.	Home Economics and Nutrition	2.7	*	
11.	Fish Production Techniques	2.5	*	
12.	Nursery Management Techniques	2.3	*	

Source: Field Survey, (1999).

Table 8: Mean Assessment of Extension Agents' Perception to Extension Practices

S/No.	Practices	Weighted Mean	Ranking	Remarks	%
1.	Practical Field Work	3.6	3.3	**	
2.	Method/Result Demonstration	3.4		**	30
3.	Training and Learning	3.3		**	
4.	Observation and Supervision	3.2		*	
5.	Scheduling Visits	3.2		*	
6.	Conducting Visits	3.2		*	70
7.	Farm Trials	3.2		*	
8.	Group/Mass Discussion	3.1		*	
9.	Workshop and Seminar	2.9		*	
10.	Publicizing Visits	2.8		*	

Source: Field Survey, (1996).

Critical mean = 3.3

Mean \geq 3.3 = Most implemented Practice

Mean $<$ 3.3 = Less implemented Practice

The results showed that lack of implementation of some of the procedures and practices were due to poor conditions of services provided for extension agents in the system. Therefore, poor implementation of extension practices is a challenge to effective extension delivery system in Rivers State, unless there is adequate training for both farmers and agents alike, provision of accommodation for agents in their area of operation, provision of teaching aids, effective supervision, monitoring and evaluation of extension programmes and motivation of extension agents through adequate provision of incentives, sound implementation will continue to be a challenge to extension procedures and practices in Rivers State.

Therefore, Stakeholders Challenges in the Extension Service Delivery Include:

1. **Targeting the right clientele:** Selecting the right and relevant clientele is the key to success of any extension approach.
2. Partial decentralization of authority/responsibility.
3. Climate change and natural disaster.
4. **Insecurity:** As a result of cultism in communities. Major stakeholders are discouraged to take part in agriculture for safety reasons.
5. **Experiences and Agricultural information are withheld:** Most stakeholders do not relate or disseminate useful information. This may be based on selfish reasons and as such results to setback in technological advancement
6. **Inexperience by some stakeholders:** Lack of experience is common with most stakeholders in discharging their duties and leading to mis-guidance (Shahbaz, & Ata, 2014).

SOME MAJOR PROBLEMS OF AGRICULTURAL EXTENSION SERVICE DELIVERY

Agbamu (2005) identified several problems affecting Agricultural Extension Service as:

- a. Inadequacy and instability of funding
- b. Poor logistic support for field staff
- c. Use of poorly trained personnel at local level
- d. Ineffective agricultural research linkage

- e. Insufficient and inappropriate agricultural technologies for farmers
- f. Disproportionate Extension Agent: Farmer Ratio
- g. Irregular evaluation of extension programmes and policy
- h. Lack of clientele participation in programme development.

Some Notable Development Intervention Programmes of Federal Government that Failed

These intervention programmes were meant to improve and increase the quality and quantity of food production for Nigerians. These programmes include those affecting Agricultural Production Directly.

- a. Farm Settlement Schemes (1956)
- b. National Accelerated Food Production Programme (1973)
- c. Operation Feed the Nation (1976-1979)
- d. River Basin Schemes (1977)
- e. Integrated Rural Development Programme (1975)
- f. National Accelerated Food Production Schemes (1972)
- g. Agricultural and Cooperative Banks (1978)
- h. Green Revolution Programme (1980)

Source: Oyeshola et al., (2009)

Table 7: Mean Assessment of Extension Agents' Perception to Extension Procedures.

S/No.	Procedures	Weighted Mean	Ranking	Remarks	%
1.	Farm and home visit	3.7	3.4	**	
2.	Motivation and Dissemination of Information	3.4		**	38%
3.	Training of all kinds	3.4		**	
4.	Linkage with Research	3.3		*	
5.	Programme Execution	3.3		*	
6.	Programme Monitoring	3.3		*	62%
7.	Programme Planning	3.2		*	
8.	Programme Evaluation	3.2		*	

Source: Field Survey, (1996).

Critical mean = 3.4

** = Most implemented Procedures

* = Less implemented Procedures

Table 7 shows that out of the 8 extension procedures assessed, only 3 were rated as most implemented while 5 were rated as less implemented by agents. The finding revealed that extension procedures were poorly implemented in Rivers State ADP. This is another challenge to effective extension delivery system.

4. Agents' Assessment of Extension Practices of the Training and Visit (T & V) System in Rivers State.

The purpose was to assess agents' perception of practices of the T & V System in Rivers State. The same numbers of 170 out of 240 extension agents in 24 Local Government Areas of Rivers State were randomly sampled and interviewed using a structured questionnaire for data collection. Likert formats with 5 options were used to rate respondents' opinions on practices of the T & V System.

Key: Critical means = 3.05

** Mean score ≥ 3.05 = Effective Strategy

* Mean Score < 3.05 = Ineffective strategy.

Eight (8) strategies were used for the dissemination of extension information among farmers in the project area. The index which determined the effectiveness of strategies shows that three (3) strategies were effective while the remaining 5 were ineffective. Findings showed that 63% of information dissemination was ineffective in 5 strategies due to lack of awareness and understanding which are challenges to effective extension delivery system in the study area.

3. Agents' Assessment of Extension Procedures of the Training and Visit (T & V) System in Rivers State.

The purpose of this study was to assess agents' perception of the procedures and practices of the system in Rivers State. A total of 170 out of 240 extension agents in 23 Local Government Areas of Rivers State were randomly sampled and interviewed using a structured interview schedule for data collection. Two likert formats with 5 options each were used to rate respondents' opinions on procedures and practices of the T & V System. Each respondent was required to rate each item of the formats by ticking any of the options.

NATIONAL INTERVENTION PROGRAMMES IN PHASES

According to Akinbode (1985 in Nwachukwu, 2013) the problems challenging Agricultural Extension Service were examined under three phases:

Phase One (1893-1921)

Challenges of Extension Service Delivery during this period were:

1. Absence of scientific information to extend to farmers
2. Conflicting roles arising from the adoption of inconsistent extension strategies
3. Dual structure of agricultural development strategies (i.e. cash crops versus food crops dichotomy) in favour of cash crops and neglect of food crops.
4. Extension Organization not designed to serve the needs of Nigerian farmers but was aimed at experimenting on production of "export crops" for the British industries.
5. The top hierarchy of extension system then was staffed and managed by British colonialists whose assignment was to protect the interest of their home country.

Phase Two (1952-1968)

This period did not experience much challenges except that Federal Government got more involved in agriculture and a number of reorganizations were carried out. For instance:

- a. Federal Ministry of Agriculture and Natural Resources was established in 1964.
- b. Regions were established for the first time and Agricultural Extension and Rural Development became the exclusive responsibility of the Regional Governments.

- c. General extension services were encouraged for food crops and livestock.

Phase Three (1970-1980)

Many extension organizations were established during this period by the Federal Government as follows:

In 1970, the Federal Department of Agriculture (FDA) established field offices in the States to supplement the activities of the State Ministry of Agriculture.

In 1972, the National Accelerated Food Production Programme (NAFPP) the best extension strategy ever adopted in Nigeria then was established.

The Aim was to bring researchers, extension workers and farmers together cooperatively to improve productivity.

Challenge to Agricultural Extension Delivery through NAFPP (1972):

The programme focused mainly on Mono-cropping-a system that was alien to Nigerian farming culture. It was therefore not surprising that the NAFPP gradually died as an extension strategy and farmers did not benefit from it.

In 1974, the Project Performance Budgeting Systems (PPBS) was introduced along with Agro-Input Services Unit (AISU). The purpose was to harmonize agricultural development plans with the budget provisions.

Challenges to Extension Delivery through PPBS (1974) include:

- i. Inadequate management training
- ii. Inadequate financial support

2. Farmer's Perception of Strategies for Information Dissemination by the Green River Project

The purpose of the study was to examine the strategies used by the Green River Project of the Nigerian Agip Oil Company for dissemination of extension information and to determine the effectiveness of each strategy in disseminating information among farmers in the study area.

Questionnaire were used in data collection whereby a likert format with 5 options was utilized to elicit information from respondents who were required to indicate their perception of the effect of each strategy used for disseminating information by checking the appropriate options.

A total of seventeen (17) villages were purposively selected from the 5 Districts of Omoku, Obrikom, Ebocha, Mgbede and Okwuzi within the OML 61- an oil Zone of Agip Oil Company located in Ogba-Ebema-Ndoni Local Government of Rivers State. One hundred and seventy (170) respondents out of 240 identified contact farmers were used for the study.

Table 6: Effects of Strategies used for Information Dissemination as Perceived by Farmers.

S/No.	Strategies	Weighted Mean	Ranking	Remarks	%
1.	Personal contact method	3.56	1st	**	
2.	Small Plot Adoption Technique	3.41	2nd	**	31%
3.	Farm Demonstration	3.27	3rd	**	
4.	Agricultural Show	2.85	4th	*	
5.	Radio information	2.38	5th	*	
6.	Enlightenment Campaign	2.09	6th	*	63%
7.	Television show	1.95	7th	*	
8.	Seminar presentation	1.33	8th	*	

Source: Field Survey, (1995).

Table 5: Perceived Level of Participation of Farmers in each Program

S/No.	Programmes	Rank	Remarks	% Participation
1.	Cassava	1st	**	
2.	Improved Seeds	2nd	**	
3.	Seedyam	3rd	**	31%
4.	Agricultural Loan	4th	**	
5.	Plantain	5th	*	
6.	Piggery	6th	*	
7.	Poultry	7th	*	
8.	Fisheries	8th	*	69%
9.	Plant Protection	9th	*	
10.	Oil palm	10th	*	
11.	Fertilizer	11th	*	
12.	Cocoa	12th	*	
13.	Rice	13th	*	

Source: Field Survey (1997)

Key 1: Cut-off point ≥ 3.00 = high level; < 3.00 = low level

2** = High level participation

3* = Low level participation

Table 5 shows only 31% participation in 4 programmes of cassava, improved seeds, seedyam and agricultural loan, while 69% participation in 9 programmes of plantain, piggery, poultry, fisheries, plant protection, oil farm, fertilizer, cocoa and rice, hence, the inference that participation of small-scale farmers in programmes of ADP in Rivers State was very low. This is another challenge to extension a practice which implies that majority of small-scale farmers were still practicing traditional agriculture as a major means of food production in the improved production techniques being provided by ADP extension staff.

- iii. Lack of built-in feedback from extension clients
- iv. No desired impact on extension work

In 1975, an integrated approach to Agricultural Extension and Rural Development was introduced and the Agricultural Development Programme (ADP) was established with counterpart funding from the World Bank, Federal and State Governments, using the Training and Visit (T & V) system approach as an extension strategy.

Challenges to Extension Delivery through ADP (1975) include:

- i. World Bank withdrawal of its counterpart funding
- ii. Inadequate funding from Federal and State Governments
- iii. Shortage of Extension Manpower – Extension: Farmer Ratio
- iv. ADPs statutory function of extension service delivery in Nigeria failed and almost collapsing.
- v. Inadequate and non-implementation of extension policies.

In 1976, the Operation Feed the Nation (OFN) was established. It was aimed at increasing food production in the entire nation through active involvement and participation of everybody in every discipline thereby making every person capable of feeding himself.

Challenges to Extension Delivery through OFN (1976-1978) include:

- i. Most studies which examined the contributions of OFN to extension service delivery in Nigeria returned failure.
- ii. Creation of awareness of food situation and production was not sustained beyond that year because of lack of extension inputs (Akinbode, 1985).

In 1977-1978, the River Basin Development Authority (RBDA) was created to promote agricultural extension services in the country.

Challenges to Extension Delivery through RBDA include:

- i. Hard data on the performance of the authorities were not available.
- ii. Poor management and implementation limited the impact of the authorities and they died.
- iii. Extension service and farmers did not benefit from the programme.

In 1980, the GREEN RIVER PROGRAMME (GRP) was introduced to replace the OPERATION FEED THE NATION (OFN). The main aim was to increase the production of food crops for food security of the nation.

Challenges to Extension Delivery through the GPR include:

- i. The GRP was used to exploit the suffering masses of the country by making few privileged rich, richer and the poor, poorer
- ii. No massive food production was noticed
- iii. No agricultural extension inputs were involved and
- iv. Management was top-bottom.

Vice Chancellor Sir, it should be on record that Agricultural Extension is the pivot and a conveyor vehicle for food production in all developed and developing countries of the world. Without effective extension service delivery, food security cannot be achieved in Nigeria.

The Staff-Farmer-ratio for Rivers State was estimated for each Local Govt. Area by dividing the number of farm families by the number of extension staff. In Rivers State, there were 172 extension staff working with 348,740 farm /fishing families throughout the state. The present number of extension staff was insignificant for effective contact and dissemination of technical information among 348,740 farm/fishing families in Rivers State. Therefore, it is concluded Sir, that the present state of staff-farmer ratio estimated for Rivers State is a big challenge to effective extension delivery system visa-vis increased food production.

1. Level of Participation of Small-Scale Farmers in Programmes of Agricultural Development Programmes (ADP) in Rivers State

The purpose of this study was to examine the level of participation of small-scale farmers in programmes of ADP in Rivers State and to determine which of these programmes attracted high or low level of participation of respondents. A total of 13 programmes were used for the study. A likert format with 5 options was used to test the level of participation. Each respondent was required to indicate his level of involvement in each programme by checking any of the 5 options using a table of random digits, 300 out of 500 contact farmers in 30 ethnic communities in Rivers State were randomly selected for the study.

conservativeness and lack of contact with extension staff. It was for this reason that it became mandatory to estimate the actual staff: Farmer ratio for Rivers State.

Recent Estimate	Ratio
World Bank	1:500
Ghana	1:1500
Bangladesh	1:1200
Northern Nigeria	1:1500 - 1:3,240

Source: New Agency of Nigeria (NAN) 2013

EMAH'S RESEARCH CONTRIBUTIONS

Table 4: Staff-Farmer Ratio Estimated for Rivers State

S/N	Local Government Areas (LGA) or Extension Zones	Population Projection (1987)	No. of Farm Families	No. of Staff (Extension)	No. of Staff (Fisheries)	Total Staff	Staff Farmers Ratio
1.	Ahoda (ALGA)	329602	32960	22	3	25	1:1,318
2.	Bonny (OLGA)	234606	23460	6	5	11	1:2,13
3.	Bori (BOLGA)	310676	31067	23	1	24	1:1,294
4.	Brass (BALGA)	229960	22996	6	4	10	1:2,299
5.	Degema (DELGA)	504839	50403	1	6	7	1:7,212
6.	Ikwerre-Etche (KELGA)	367793	36779	34	1	35	1:1,051
7.	Okrika/Oyigbo/Tai/ Eleme (OTELGA)	298147	29014	13	2	15	1:1,988
8.	Port Harcourt (PHALGA)	690599	69059	14	3	17	1:4,062
9.	Sagbama (SALGA)	189964	10996	8	1	9	1:2,111
10.	Yenagoa (YELGA)	331210	33121	16	3	19	1:1,743
	State Total	3,487,405	348,740	143	29	172	1:2,020

Source: Estimated Staff-Farmer Ratio by Emah, in Nigeria Journal of Rural & Community Development 4(1992).

PRIVATIZATION AND COMMERCIALIZATION OF AGRICULTURAL EXTENSION SERVICES – A NEW APPROACH TO TACKLING THE CHALLENGES OF EFFECTIVE EXTENSION DELIVERY SYSTEM

Privatization

Privatization simply means bringing to an end of total ownership and operational control of extension services from government to the private sector. It involves the development of new partnerships and associations between agencies and non-governmental organizations (NGOs) and the private sectors like Shell and Agip etc.

Commercialization

In this method, farmers pay for the extension services they receive. This method is widely practice in developed and some developing countries, but it is yet to be debated as to its practicability in Africa. In Nigeria, this practice has not been adopted on a large scale, but can be seen among livestock farmers in Northern Nigeria where farmers pay livestock extension staff for the services they render (Rivera & Kline, 2000).

WHY PRIVATIZATION AND COMMERCIALIZATION OF EXTENSION SERVICE?

Agricultural Extension Service is a public good that offers all extension services free of charge to farmers in Nigeria for the purpose of improving the quality and quantity of food production. However, since the World Bank withdrew its financial assistance from Nigeria, the extension service of the ADPs can no longer support or sustain the desired strategy for food security in Nigeria.

Vice Chancellor Sir, this means that government efforts have not yielded the desired results, as the country still witness increasing high cost of food, high cost of living and perpetual poverty.

Farmers Challenges to Privatization of Extension Service

- i. Most farmers are poor and peasant and will not be able to pay for the services they receive.
- ii. Government policies with political will hamper implementation and sustainability of privatization.
- iii. Nigerian farmers are mostly small scale producers whose socio-economic status might not sustain privatization of extension service (Oladoja and Omotayo, 2004).
- iv. Corruption by self-centered, nepotic and fraudulent manner of managing public funds by officials.
- v. Lack of capable professional personnel to exhibit credibility among farmers.
- vi. Poor infrastructural facilities – road, transportation, and communication systems.
- vii. Climate change, environmental degradation and ecological changes (Adejo, Okwu and Ibrahim, 2012).
- viii. Farmers will go about cap-in-hand begging for assistance from private investors - (NGOs) because they do not have the money to pay for services they receive.

COUNTRIES THAT HAVE ADOPTED PRIVATISATION THROUGH LEGISLATED EXTENSION POLICIES

- 1. The United States of America established the Cooperative Extension Service through legislation of the Smith-Lever Act of May 8, 1914.
- 2. The Japanese Agricultural Promotion Law of 1948 created and provided funding for Japan's Cooperative Agricultural Extension Service (Shinji Imai, 1994 and Agricultural Extension Service in Japan, 1978).

- 3. South Korea Agricultural Extension Policy embodied in the 1957 Agricultural Extension Law and in Rural Development Law of 1962 (Yong-Bok Chung & Youl - Mo Dong, 1984).
- 4. Thailand's Agricultural Extension Policy codified in the 1956 Law that created the Department of Agricultural Extension Thailand.

Staff - Farmer Ratio - A Challenge?

Table 3: Estimation of Staff-Farmer Ratio in Selected Countries

S/N	Country	Ratio
1.	Denmark	1:255
2.	Netherlands	1:191
3.	Norway	1:143
4.	United Kingdom	1:312
5.	Kenya	1:200
6.	India	1:250
7.	Philippines	1:100-150
8.	Nigeria	1:2000-5000

Source: Extension Manpower Development in Nigeria's Agriculture; Estimated by Ijere, (1983).

This is a profile of staff-farmer ratio estimated in selected countries of the world. The information available here shows that there are discrepancies in the extension-farmer ratio estimated for the Philippines and Nigeria by various experts and organizations which should not have been so at our present level of agricultural development.

The low level of agricultural yields is based on the present methods of production and actual understanding of latest technologies and practices used by majority of our farmers. As a result, farmers become indifferent to accepting technologies due to their