ISSN: 3222 – 3844
Volume 7, Number 2, 2022
International Journal of Agricultural Extension and Research

ASSESSMENT OF AGRICULTURAL EXTENSION METHODS OF THE RIVERS STATE AGRICULTURAL DEVELOPMENT PROGRAMME (RISADEP)

Harry A.T[1], Uruang, E. S.[2]
[1]Department of Agricultural Extension/Rural Development, Rivers State University, Port Harcourt, Nigeria. [2]Department of Agricultural Technology School of Science and Technology, Elechi Amadi, Polytechnic Rumuola, Port Harcourt, R/S, Nigeria

Author for Correspondence: Email:harryariamebo@yahoo.com, ariaebo.harry@ust.edu.ng

ABSTRACT

The purpose of this study was to examine the assessment of Agricultural Extension Methods of Rivers State Agricultural Development Programme (RISADEP).In disseminating the skills of testing viability the following was observed, provision of regular and systematic training programmes for the department staff for effective programme and provision of effective inter – department linkage in the process of generating and disseminating low cost technologies and finally increasing the number of well-trained extension agents for state coverage. A total of two hundred and ten (210) questionnaires were distributed, one hundred and eighty (180) participating farmers and thirty (30) extension personnel drawn from nine (9) operational areas where RISADEP was being practiced. The socio – economics characteristics of extension personnel of the RISADEP indicates low level of female participation in farm activities. Furthermore farmers in the study areas believed that farm work is mainly for men, no particular skill possessed by extension personnel was regarded as the best effective extension methods. Finally, it was recommended that extension programme must be flexible in order to meet the different demands of the farmers, quality of training given to farmers depends on the skill of officers, the socio – economics characteristics of farmers must be considered before adoption should be introduced, the state RISADEP should encourage their field extension personnel for effective performance in their service and finally the constraints of the extension methods should be minimized through enhanced staff supervision.

Keywords: Assessment, Agricultural, Extension, Development and Programme

INTRODUCTION

The importance of agriculture in socio – economic development of nations has long been recognized by several researchers. In Nigeria as well as other developing countries, majority of the people live in rural areas and rely on agriculture for their livelihood. Scarborough (1996) observed that with increasing population densities, the land available for the expansion of agriculture is becoming increasingly limited. The author notes further that sustainable increase in agricultural productivity could be obtained, even with the available land, only through technological managerial innovations. Agricultural extension has therefore, been recognized as a major tool for achieving this. The importance of extension therefore cannot be overemphasized as the rural farmers who produce the bulk of the food items in the country must be given adequate attention and recognition.

One of the basic objective of agricultural extension is to teach farmers improved technological practices and encourage the farmers to adopt them, with a view to increasing production and farm income. Diffusion of technology in this regard is of fundamental importance because it transfers research based information from knowledge creation centres to areas where the information is unknown and could be put to productive uses (Atala and Abdulahi, 1988).

A number of extension methods are used in the dissemination of technology. The methods commonly adopted are the individual, group and mass methods. Whatever method is used, the key indices of extension activities are the number of farmers taught and made aware of recommended practices and the number who adopt them even if eventually on only a small portion

of their farmers. The Agricultural Extension agent still remains a very important source of disseminating information for the purpose of agro – development. However, for an extension agent to be successful in this endeavor, he must be technically competent as well as being highly skilled in the methods of transferring appropriate technologies and ideas to the farmers and other agro – producers. The Rivers State Agricultural Development Programme (RISADEP) was empowered to establish an efficient and well supported unified Extension service (the T and V system of Extension) in the entire Rivers State. Through this, farmers and fishermen are mobilized, (especially the resource poor farmers) and thereby resulting in increased productivity and family income. The RISADEP serves 479, 170 farm families in the State, divided into zones, areas, blocks and circles.

Objectives of the Study

The main objective of the study was to assess the effectiveness of the Agricultural Extension Teaching methods utilized by Rivers State Agricultural Development Programme (RISADEP).

Specific objectives of the study are:

i. identify the personal (socio – economic) characteristic of extension personnel of the RISADEP;
ii. determine the socio – economic characteristics of farmers in the study area;
iii. identify extension teaching methods utilized by the RISADEP to reach out to farmers;
iv. assess the effectiveness of the extension teaching methods;
v. analyze constraints affecting utilization of extension teaching method in RISADEP

Hypotheses of the Study

The following hypotheses were formulated to guide the stated objectives.

HO_1: There is no significant relationship between the socio-economic characteristics of farmers in the study area and the choice of use of extension methods

HO_2: There is no significant relationship between the form of extension teaching method utilized and level of adoption of innovation

LITERATURE REVIEW

Conceptual Framework

Concept of Development/Agricultural Development

Development is a multi – dimensional process aimed at improving the quality of human. Moro (1994) defines development as a process involving the reorganization and re – orientation of entire economic and social systems. It also involves changes in institutional, social and administrative structures as well as in popular attitudes, customs and beliefs. In this report, development is seen as raising peoples living standard, promoting human dignity and respect (Todoro, 1977).

Thus, increasing the general satisfaction and wellbeing of the people partly means the development of agriculture which has been categorized as the main stay of Nigeria economy. In essence, in Nigeria economic development is synonymous with agricultural developments.

Famoriyo, (1982) defines agricultural development as a process of transforming subsistence or semi – subsistence agriculture to one dominated by investment and market economy. A developed agriculture is one which is capable of earning substantial foreign exchange for importation of appropriate technology for development.

Meler (1975) noted that such a developmental process must ensure realized improvement in crucial variable such as increase in productivity, social and economic equalization between low and high income earners, improved institutions and enlarged attitudes and a rationally co – ordinated system of policy measures that removes most of the undesirable conditions in the social system which perpetuated a state of under – development.

Role of Extension in Agricultural Development

Agricultural Extension is an informal teaching method which assists farm and non – farm adults through educational procedures and techniques in acquiring needed knowledge, skills and attitudes for increasing the productions, efficiency and outcomes, improving their levels of living, thereby lifting their social and economic status. It is also a discipline, a process and organization in which useful and practical agricultural information and improved family living are passed from a reliable source for benefit of the users (Adivi, 1983; Addision, 1983; Ekpere, 1983; Ojoko, 1983; Obibuaku, 1983).

Agricultural extension serves the needy farmers, prepares them to accept technological changes with least costs for personal and economic improvement, disseminates research and adaptive findings to the users, helps farmers gain managerial skills to operate in commercial economy, enables farmers see the gulf between their present status and their potentials (Adams, 1982; Dickson, 1982; and Knowles, 1982).

For the important role of agriculture in the economic development of many countries, and the rapid rate of change in the technology of modernizing agriculture, there is a strong case for the establishment of an effective agricultural extension system for these developing countries (Brown and Okedara, 1981).

Agricultural extension services in Nigeria are mostly the responsibility of extension division of the Ministry of Agricultural and Natural Researches (MANR) and Agricultural Development Project (ADP). The role of Agricultural extension in agricultural development cannot be overemphasized. Owing to the rapid increase in population, Nigeria has been experiencing decline in food production. This decline calls for a concentrated effort by national, regional and international research system through a well co – ordinated extension programme to ignite the rural transformation framework which helps arrest the ugly trend (World Bank, 1982).

It is characterized by Stevenson of Harvard University as the quest for circumstances without respect to assets at present controlled. Robert (1985) characterized it as the way toward creating something particular with the incentive by dedicating the fundamental exertion and time expecting going with money related, mental and social hazard and accepting the subsequent prizes of financial and individual fulfillment. Fulfillment and compensate and is extremely basic in business enterprise since they are essential vehicles that can drive the business person into business enterprise.

Extension Methods

The primary responsibility of extension is the education of farmers and a good basic knowledge of communication is a prerequisite for effective extension delivery. There is a good variety of extension teaching methods available and these methods vary in their effectiveness. The selection of the extension method to use depends largely on the general level of education of the farmers, subject matter and the resources available. No single method has been found to be all embracing, but agricultural demonstrations have the widest application in traditional agriculture.

Whatever method adopted in reaching farmers has to be in writing, speeches, meetings and demonstrations. Saville (1965) in his study concluded that individual contact methods are most effectively used to persuade farmers to adopt new farm practices. This is probably because there is a face – to – face contact which affords extension agents the opportunity to find out reactions of farmers, for development measures being offered. Extension cost per head of individual farmer is however, relatively high. An important feature of the group contact method of extension teaching, however, is that members of a target group have the opportunity to work together, as questions, exchange ideas and stimulate others to action. It is also possible to reach a large members of farmers with this method even if staff and materials of extension are limited. When compared with the individual method, it saves a lot of time and costs less.

Saville (1965) reported that mass contact method which includes media facilities such as radio, television, newspapers, circulars, newsletters, posters and bulletins are usually more effective in creating awareness and interest in new ideas among large member of farmers.
Williams (1978) reported that the television is a "complete" medium; and that its greatest advantage over other mass media is that it combines sight and sound, making its effect on people more potent than any other medium.
Studies conducted by Mishra et al., (1968); Sekhon (1968) and Sinha (1968) confirmed this assertion and concluded that the television is exceptionally effective in imparting knowledge to farmers about farm technologies.

The Training and Visit (T and V) System of ADP

One of Nigeria's response to the continued decline in agriculture from the early 1970s – to – date was the establishment of the World Bank Assisted Agricultural Development Projects (ADPs), the main agency responsible for disseminating technical information on productivity among farmers in Nigeria. Rivers State ADP was established as an Accelerated Development Project. It was set up to mobilize farmers, especially smallholders for increased food production and high income which normally resulted from the adoption of agricultural innovations. The Training and Visit System of Agricultural extension was developed by Daniel Benor following reports of ineffectiveness of conventional extension services operated by ministry of Agriculture and Natural Resources (MANR) in many Third World Countries (Benor, 1977).
Benor and Baxter (1984), Chapman (1984) and Sutherland (1984) indicated that invigorated extension services through the training and visit (T & V) extension system has increased small farmers food production. Furthermore, many developing countries have adopted the T and V in either explicit or implicit form for its attractiveness both for increasing farmer's food, production and income and as a flexible management tool that is well suited to the needs of Department of Agriculture (Benor and Baxter, 1984).
Training is necessary for extension workers not only in technical agriculture, but also in behavior sciences which are essential if workers are to be effective in bringing about changes in the knowledge and behavior of their clientele (Obibuaku, 1983). The quality of professional training received by the change agent is the most important single factor determining individual levels of staff performance and the overall effectiveness of extension programmes (Uwakah, 1980).
Benor and Baxter (1984) maintain that it is through the fortnightly training that extension workers are infused with confidence to meet farmers, as it is from this training that they learn specific recommendations that will be discussed with farmers over the coming fortnight. Without the FNT, their visit are likely to be generalized and of little use to farmers.
Judd (1983) posited that Training and Visit system of agricultural extension is not a new extension model, rather it is an attempt to reform and improve upon the effectiveness of conventional agricultural extension organization. The system aims at enhancing a professional extension service that is capable of assisting farmers in raising production and increasing income and providing appropriate support for agricultural environment. Of particular the relevance and importance in T & V extension approach are the sue of contact farmers, On – Station Research (OSR), and On – Farm Trials (OFT) on farmers farms, schedule to visits and training sessions for block extension supervisors and extension agents by subject matter specialists. Regrettably, low rate of adoption of improved planting materials and fertilizer shortages have been reported as common among ADPs (World Bank, 1992).
Maunder (1972) stressed that fundamental to improvement in training is the establishment of training goals, developing facilities, adequate financing assignment of responsibility for training activities and periodic review of progress.
Isife and Madukwe (1995) suggested that evaluation of the fortnightly Training programme is necessary to determine the extent to which the objective of the training programme is achieved, and identify problem areas that need to be strengthened. If field staff must be functionally

effective, there is no substitute for proper training and competence in relevant subject matter areas, as well as in the principles and process of social change (Uwakah, 1980). The Training and Visit involves an intensive series of fortnightly visits on a fixed schedule known to farmers, supervising and technical staff. The village extension worker receives one day training weekly comprising subject matter specialist (SMS) and only agricultural extension workers.

Adoption of Technologies

Atala and Abdulahi (1989) said, the importance of technological development and diffusion in bringing about improvement in small – scale farmers productivity and income is well recognized by agricultural theoreticians, administrators and practitioners, because it serves as an indicator of the degree of social change, growth and development as well as the patters, sources and causes of behavioral change in a people.

Rogers and Shoemaker (1971) also stated that the level of adoption of any improved practice by an individual is influenced mainly by personal factors, innovation related factors, socio – cultural factors, economic factors as well as change – agent related factors. For a technique to be adopted it depends on the methods applied. This is because technique in agricultural or farming activities does not require the same method; hence correct method should be adopted for the objectives to be realized. Attitude is the way people feel, think and behave about an idea, and in which farmers are more inclined to reach in relation to their need and intended goals. Rogers and Shoemaker (1971), observed that farmers are more likely to accept a recommended practice if the practice is profitable, compatible with existing norms, divisible, simple to use, has relevance for labour use, farm – inputs, marketing, credit and crop situations.

The level of improvement among farmers depends greatly on their rate of adopting new technologies as given by researchers through the Village Extension Agents (VEAs). Adoption of technologies is the product of the ultimate interaction between extension and research extension would be meaningless if tested and improved knowledge is not transferred to farmers for improved productivity, hence the acceptance and putting into practice the innovations can be termed "adoption" (Ghouri, 1985).

Rogers (1982) argued that the characteristics of improved technology such as relative advantages and compatibility, complexity, traibility and observability; affect the adoption of such technology. He pointed out that the rate of adoption of a technology depends on its resultant increase in production as a result of its relative ease and simplicity. He noted that socio – economic status such as literacy level, contact with extension officers and other sources of extension advice do relate positively and significantly to innovation adoption.

Benor and Baxter (1984) pointed out that agricultural extension and research are mutually dependent. Extension requires the findings of research tot each farmers and in solving farmers problems without researchers involvement. It is a fact that technology is developed for transfer to the ultimate beneficiaries. Farmers must be tested for suitability under actual farming systems of different agro – climatic regions (Harrison, 1977; Benor and Baxter, 1984; Kellog, 1977).

Uwakah (1977) and Obibuaku (1983) added that the adoption levels of farmers are likely to be high if extension agents have problems of mobility and administrative red – tapes are solved. The failure by farmers to adopt new technologies could be as a result of extension agent's related factors (Uwakah, 1980). This might make the village extension worker reluctant to relate with contact farmers frequently and regularly (Akinbode and William, 1985).

Osuji (1983) however, concluded that the financial position of farmers also determines to a large extent their ability to adopt new techniques in farming and that the extension agents must be given adequate incentives to enable them perform their duties well as frustration on the part of extension agents was adversely affecting their efficiency and farmers adoption rate.

RESEARCH METHODOLOGY

Study Area

This study was carried out in Rivers State; the state is divvied into upland and riverine areas. The state is bounded in West by Delta State and Bayelsa State, in the East by Cross River and Akwa Ibom States, to the North by Imo and Abia State and in the South by the Atlantic Ocean. Rivers State is currently made – up of twenty – three (23) Local Government Areas.

The major occupations of the people of Rivers State are farming and fishing. The total farming and fishing families stand at 479,170 who are mainly engaged in farming activities of Cassava, Yam, Plantains, Banana, Cocoyam, Maize, Vegetables, Oil palm, Citrus, Coconut, Mango, Rice and fishing activities of captured and aqua – culture fishing. Livestock kept by both men and women are goats, sheep, native and exotic chicken etc. Rainfall is observed in the state in most of the months of the years, Rivers State occupies about 50,000 square kilometers (Wokocha and Gabriel, 1998).

Population of the Study

The population for this study included all the registered participating farmers of RISADEP that are grouped into nine (9) operational zones for convenience and three (3) zonal headquarters where RISADEP were functioning. The list of the one hundred and eighty (180) registered framers was obtained from the RISADEP Extension Department. Thirty (30) extension personnel, including Extension Officers and Block and Zonal Managers, were utilized for the study.

There are nine (9) operational areas of RISADEP located in Rivers State. They include zone one zonal headquarter at Nchia comprising of:

1. Port Harcourt City and Obio/Akpor
2. Khana and Oyigbo
3. Tai, Eleme, Ogu/Bolo and Walga zone two Headquarters Degema. Operational area
4. Delga, Asalga and Akulga
5. Abolga
6. Bonny, Andoni and Opbo/Nkoro Zone three Headquarter Ahoada. Operational Area.
7. Ahoada East, Ahoada West and Ogba/Egbema/Ndoni
8. Ikwerre and Emohua
9. Etche and Omuma

All the three zonal headquarters were studied.

Sampling Procedure and Sample Size

The sample for the research was made up of 210 respondents, 20 registered participating farmers were randomly selected from each of the nine operational zones of the RISADEP making up a total of 180 farmers. Eighteen (18) field extension agents were also randomly selected, two from each of the nine operational areas. Also included were the nine resident Agricultural officers each in charge of a zone. Finally the three zonal managers were purposively utilized for this study. On the whole a total of two hundred and ten (210) respondents were interviewed to serve as sample size for the study.

Table 1: *The Table below Shows the Respondents Sampled in the Study Area*

Zones	Zonal Headquarter	Operational Area	Zonal Manager	Agri. Ext. Officer	Ext. Agents	Participating Farmers
1	Nchia	(a) Phalga/Obalga	1	1	2	20
		(b) Kholga		1	2	20
		(c) Gotelga		1	2	20
2	Degema	(a) Delga	1	1	2	20
		(b) Akulga		1	2	20
		(c) Olga		1	2	20

3	Ahoada	(a) Alga	1	1	2	20	
		(b) Kelga		1	2	20	
		(c) Elga		1	2	20	
		Total	**3**	**9**	**18**	**180**	**210**

Method of Data Collection

Both Primary and secondary sources of data were utilized. A structured questionnaire (consisting of open – close – ended questions) complemented by interviews and observations were used to elicit primary data from the respondents. The questionnaire consisted of two sections. Sections A consisted of information on respondents personal characteristics while the second section consisted of evaluative questions based on the objectives of the study.

Method of Data Analysis

In this study, descriptive statistical tools such as tables, frequency distributions, mean scores and percentages were utilized in summarizing the collected data. Since the study was focused on the effectiveness of the methods rendered by Rivers State Agricultural Development Programme, analysis involved the use of chi – square (x^2) test. The hypothesis was analyzed through the use of inferential statistics using the chi – square (x^2) goodness of fit test. The chi-square (x^2) is a statistical method used generally when one wishes to test or evaluate frequencies obtained from samples, to see if they vary significantly from those which would be expected by chance alone. The test was made at 5% level of significance and at one degree of freedom.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of the Respondents

In this chapter, socio-economic characteristics of the respondents are presented in a tabular form.

Socio-Economic Characteristics

Sex of the Respondents

The results indicated from table 2 below shows that 96.7 percent of the extension personnel were male while only 3.3 percent were female. This implies that farmers in the study area generally believe that farm work is mainly for men while women are expected to engage mostly in household jobs. This study also shows the low level of female participation in farm activities.

Age of the Respondents

Results in table 2 below shows that 70 percent of extension personnel were within the age range of 21 – 40 years, while 30 percent of the extension personnel were of 41- 60years age range. No respondent was below 21 nor 60 years. Furthermore, table 2 also shows that 72.8 percent of farmers were within the age range of 21 – 40 years while 26.1 percent of the farmers were between 41-60 years. While 0.6 percent respondents each were below 21 and above 60 years. This result can be summarized that majority of the farmers were in their youth and are engaged in farming activities.

Educational Level of the Respondents

The result in table 2 below shows that the extension personnel had acquired a level of tertiary education. Furthermore, the result also reveals that majority (65%) of the farmers had attempted primary school but did not complete primary education while 19.4 percent had completed secondary school education. The result reveals the lower educational level of farmers when compared to the extension personnel.

Level of Contact with Extension Personnel

Interaction with extension personnel and farmers revealed that extension personnel relocated and contributing their quota to agricultural development in all parts of the state. It was therefore necessary to ascertain the level of contact of these extension agents with their farmers clientele because the frequency of contact the extension personnel have with their farmers is an indication of their commitment of duty, since their primary function is to visit and teach the farmers during such visits. The result in table 3 below shows that 60 percent of extension personnel accepted that they had contact with the farmers "twice in a year". The remaining 40 percent accepted that they had contact with farmers above once in 2 months. On the part of the farmers more than 33 percent of them agreed that the level of contact with extension personnel was "twice in a year", more than 27 percent claimed to have contact with the extension personnel only, 16.1 percent only once in a year while 2.2 percent denied any form of contact with extension agent. However the answer from the farmers varies because of the two categories of extension agents in the state. The Rivers State agricultural extension agents and the Shell agricultural extension agents. The farmers misconstrued which of them referred to.

Table 2: Showed Socio-Economic characteristics of the Respondents

	Extension Personnel (30)		Farmers (%)	
	Frequency	Percentage	Frequency	Percentage
Sex				
Male	29	96.7	141	78.3
Female	1	3.3	39	21.7
Total	**30**	**100.0**	**180**	**100.0**
Age Range (years)				
Under 21	0	0	1	0.6
21 – 40 years	21	70.0	131	72.8
41 – 60 years	9	30.0	47	26.0
Above 60	0	0	1	0.6
Total	**30**	**100.0**	**180**	**100.0**
Level of Education				
No formal schooling	0	0	5	2.8
Primacy sch. Attempted	0	0	117	65.0
Primary sch. Completed	0	0	7	3.9
Sec. sch. Attempted	0	0	16	8.9
Sec. sch. Completed	0		35	19.4
COE/Polytech/University	30	100	0	0
Total	**30**	**100.0**	**180**	**100.0**
Respondents Level of Contact with Extension Personnel's				
Once in 2 months	12	40	49	27.2
Once in 3 months	0	0	37	20.6
Twice in 1 year	18	60	61	33.9
Once in 1 year	0	0	29	16.1
None at all	0	0	4	2.2
Total	**30**	**100.0**	**180**	**100.0**

Training and Visit System (T and V)

The association between the extension personnel and the farmer's perception of performance of the T and V system reveals that 76.7 percent (23) of the extension personnel imported the innovations while 23.3 percent (7) did not impact the innovations of T and V system. Furthermore,

86.7 percent (156) of the farmers also adopted the implementation of the T and V system while 13.3 percent (24) are non – adopters. The finding reveals that positive responses had been made towards T and V system, what is left is that effective monitoring of the system at all states should be made. The training and visit system is a new system of improving the effectiveness of extension work and extension agents.

Table 3: Respondents Perception of Performance of the T and V system

T and V System	Extension Personnel		Farmers	
	Frequency	Percent	Frequency	Percentage
Yes	23	76.7	156	86.7
No	7	23.3	24	11.3
Total	**30**	**100.0**	**180**	**100.0**

Extension Methods Utilized

A Likert scale given to the various frequencies respondent i.e. 1 for not – at all, 2 for sometime and 3 for frequently. Each of the frequencies were used to multiply the number of persons/respondent.

i.e. (P x 1) + (P x 2) + (P x 3) = T

where P = number of persons that answered that option

T = Total

Mean $(\bar{x}) = \mathrm{T} \div \text{sample size } (210)$

NR = not regular

Formal for the mean value is given as $\bar{x} = \frac{\sum fx}{n}$

Table 4 below reveals that none of the extension methods was utilized with a regularity, as all scored below the arbitrary mean cut off point of 2.5. The table below further reveals the two common extension methods utilized in order of their mean $(\bar{x})$ scores include;

(i) Radio and television programme on Agriculture (Rank = 1 and $\bar{x}$ of 2.4).

(ii) Method and result demonstration programme (Rank = 1 and $\bar{x}$ of 2.4).

While the least common methods utilized by the extension personnel were;

(i) Newspaper and magazine article or features (Rank = 5 and $\bar{x}$ of 2.0).

(ii) Seminars, conferences and field day (Rank = 6 and $\bar{x}$ of 1.9).

Igodan and Adekoya, (1987) in their study also found out that television and radio were very effective for dissemination of extension information to urban and sub – urban farmers in Lagos state.

Obibuaku (1983), however, highlighted that though method demonstration is one of the best ways to break down the natural resistance of people towards change for it power of conviction, it is not likely to be adopted to all teaching situation particularly as its involves individuals.

Table 4: Frequency of Extension Personnel Utilization of Different Extension Methods

S/N	Extension Methods	Not at all (1)	Sometime (2)	Frequently (3)	Total (210)	Mean $(\bar{x})$	Remark	Rank
1	Newspapers and magazine article or features	51	90	69	210	2.0	NR	5
2	Radio and television programme on Agriculture	2	122	86	210	2.4	NR	1

3	Methods and result demonstration programmes	24	76	110	210	2.4	NR	1
4	Seminar, conferences and field day	75	87	48	210	1.9	NR	6
5	Programs for special clientele group (poultry farmers)	49	75	86	210	2.2	NR	3
6	Newsletter and calendars of event to farmers	40	93	77	210	2.2	NR	3

Impact of Training and Visit (T and V) System

The results on table 5 below reveals that 70 percent (21) of the extension personnel were of the opinion that, level of agricultural production has increased as a result of the T and V system while the remaining 30 percent (9) were of the opinion that the T and V system had resulted in the farmers developing new skills. Furthermore, the table reveals that 55.5 percent (100) of the farmers were of the opinion that agricultural production has increased as a result of the T and V system while 22.2 percent (40) were farmers that have developed new skills. The system is an attempt to reform and improve, on the conventional extension system which has made impact on agricultural productivity. "The effectiveness of the extension methods".

Table 5: Respondents Responses on the Impact of Training and Visit System

Impact of T & V System	Extension Personnel		Farmers	
	Frequency	Percent	Frequency	Percentage
Farm input and its application	0	0	10	5.6
Technical message	0	0	20	11.1
New skill development	9	30	40	22.2
Increase agric – production	21	70	100	55.5
Motivate small holder farmers	0	0	10	5.6
No impact	0	0	0	0
Total	30	100.0	180	100.0

Skills Possessed by Extension Personnel that Help Agro – Development

The results of the study in table 6 below indicated that 43.3 percent (13) of extension personnel impacted the training to farmers in agricultural activities as the major skill possessed followed by "ability to practicalize innovation" with 40 percent (12) extension responses. Also in table 6 below it is observed that about 32.2 percent of the extension personnel possess the skills of training farmers in agricultural activities, 31.6 percent chose the ability to provide technical information", 25.6 percent chose "ability to practicalise innovation" and finally, 10.6 percent chose "organize and co – ordinate extension activity".

The finding reveals that no particular skills possessed by extension personnel was regarded as the best but extension is basically a system of equation that teaches people how to do things for people and this educational process should be based on freedom of choice and not compulsion (Akpabio, 1997).

Table 6: Respondents Response's based on skills possessed by extension personnel

Skills Possessed by Ext. Personnel	Extension Personnel		Farmers	
	Frequency	Percent	Frequency	Percentage
Ability to practicalise innovation	12	40.0	46	25.6
Organize and co – ordinate	2	6.7	19	10.6
Train famers in agric – activity	13	43.3	58	32.2
Ability to provide technical information	3	10.0	57	31.6
Total	30	100.0	180	100.0

Agricultural Enterprise

The study reveals that the extension personnel introduced food crop as an agricultural enterprise which is about 86.7 percent (26) and the remaining 13.3 percent (4) was on tree crops. While farmers perception on agricultural enterprise was equally on food crop which was 74.4 percent (134), livestock was 17.8 percent (32) and finally 7.8 percent (14) was tree – crop.

Hence during the study, it was necessary to survey the farmers' perception of the extension personnel in their circles that the farmers were mainly taught on food crop plantation.

Table 7: Respondents responses based on the Agricultural Enterprise Introduced to Farmers

Agricultural Enterprise	Extension Personnel		Farmers	
	Frequency	Percent	Frequency	Percentage
Livestock	0	0	32	17.8
Tree crop	4	13.3	14	7.8
Food crop	26	86.7	134	74.4
Total	30	100.0	180	100.0

Adoption of Agricultural Innovation

The result in table 8 below shows that 62.2 percent (112) of farmers adopted the use of Agricultural innovation while the remaining 37.7 percent (68) are non – adopters. Another criterion for assessing the level of achievement of the extension agents in their extension functions was by determining the level of farmer's adoption of transferred innovation. Extension would be meaningless if tested and improved knowledge is not transferred to farmers for improved productivity, hence the acceptance and putting into practice of innovations can be termed "Adoption" (Ghouri, 1985).

Table 8: Frequency Distribution on Adoption of Innovation by Farmers

Adoption of Innovation	Farmers	
	Frequency	Percentage
Yes	112	62.2
No	68	37.8
Total	180	100.0

Constraints Affecting Performance

The result on Table 9 indicates the different problems causing constraints to extension personnel. The most serious constraint was revealed to be "inadequate incentive 93.4 percent while

"Delay/lack of inputs" and "all of the above option" was 3.3 percent each. The finding revealed that no single constraint confronted particular respondents but multiplication of problems causing against effective utilization of extension teaching methods.

Table 9: Distribution of Extension Personnel Based on Constraints Affecting their Performance

Constraints Affecting Performance	Farmers		
	Frequency	Percentage	Rank
High cost of transportation	10	0	6
Inadequate incentive	28	93.4	1
Non promotion and nonpayment of allowance	0	0	6
Delay/lack of inputs	1	3.3	2
Lack of finance	0	0	6
All of the above option	1	3.3	2
Total	30	100.0	

Chi – Square Analysis for Significant Relationship between the Form of Extension Teaching Methods Utilized and Level of Adoption of Innovation

Code

x^2c = Calculated value of chi – square
df = degree of freedom
P = level of confidence
x^2t = Table value of chi – square
C = coefficient of contingency
Ns = No – significant
S = Significant
Remarks = relationship is regarded significant when $x^2c > x^2t$

Table 10 below presents the association between some factors affecting the form of extension teaching methods utilized and level of adoption innovation. According to table 10 below, only 2 of the 6 variables significantly predicted the form of extension teaching methods utilized and level of adoption of innovation. These variables are: relationship of respondents towards programmes for special clientele group ($x^2 = 16.04, p < 0.05$) and Newsletter and calendar of events to farmers ($x^2 = 10.73, p < 0.05$). These findings are as analysed below.

Table 10: Summary of Tests of Relationship between the Form of Teaching Methods Utilized and Level of Adoption of Innovation

Extension Methods	x^2c	Df	P	x^2t	C	Remark
Newspaper and magazines article or features	2.397	2	0.05	5.99	0.11	NS
Radio and television programmes on Agriculture	0.656	2	0.05	5.99	0.06	NS
Method and Result demonstration programmes	2.397	2	0.05	5.99	0.11	NS
Seminar, conferences and field – day	2.397	2	0.05	5.99	0.11	NS

Programmes for special clientele group	16.04	2	0.05	5.99	0.27	S
Newsletter and calendar of event to farmer	10.73	2	0.05	5.99	0.22	S

CONCLUSION

i. There was an indication that extension clientele with high education perceive extension service better than those with elementary education, which has then called for improved educational programme for the less educated clientele to enable them have improved perception on the extension service.
ii. There was a strong indication that individual, in some agricultural enterprises were given less attention by extension personnel and this has led to a decrease in production of that aspect for all agricultural enterprises to be given equal attention for the realization of agricultural development in the state. Extension personnel were slow in executing some agricultural extension methods and this could lead to decrease or total collapse in food productions.
iii. Extension personnel, therefore, called for in services training for the extension personnel to enable them acquire enough skills which will definitely enhance agricultural development in the state.
iv. Inadequate incentives problems were one of the constraints that affected the performance of the extension personnel and their services. Others were delay/lack of inputs and lack of finance. The need for the state government to improve on inadequate incentive system for extension personnel was consistently demanded by the respondents.
v. It was discovered that training and visit (T & V) system has made significant impact on agricultural production. To maintain this impact, there is need for more inputs to farmers and more encouragement to the extension personnel.
vi. It was also discovered that one of the socio – economic characteristics of the farmers like the age of the farmers must be considered before the choice of extension method to be utilized.
vii. Furthermore, the various extension teaching methods skills used by extension personnel should be reviewed.

RECOMMENDATIONS

Based on the above Conclusions, the following Recommendations were made:

i. Extension programmes must be flexible in order to meet the different demand of the farmers, furthermore the socio – economic characteristics of the farmers must also be considered before adoption should be introduced.
ii. Quality of training given to farmers depends on the skills of the officers. Therefore, RISADEP with their Subject Matter Specialists (SMS) should be up and doing in training the field staff who have direct contact with farmers. In – service training should be made compulsory for all extension personnel to equip them more on their future services.
iii. The State RISADEP should encourage their field extension personnel for effective performance in their services amenities, especially in the areas of incentive, delay/lack of inputs and lack of finance including transportation. The issue of inadequate incentive could be addressed through loaning money from agricultural banks and central bank so that their salary could be deducted gradually.
iv. It was observed that RISADEP concentrated more on food crops, this is good but cannot alone achieve the self – sufficiency for which the effort geared to. Therefore, other agricultural enterprise like the fruit and livestock farming should be given equal attention.
v. The equality and number of RISADEP field staff in the state should be increased to enable them have more contact with all the farmers quality in terms of educational background.

vi. The constraints to the success of the extension methods should be minimized through enhanced staff supervision and provision of reasonable fringe benefits to extension personnel.

REFERENCES

Adams, M. E., Dickson, P. & Knowles, T. (1982). "Improving Rural Development in Nigeria" *Rural Agricultural Development Journal,* vol. 5, p. 281.

Adivi, N., Addision, B., Ekpere, J. A., Ojoko, S., S. & Obibuak, L., O. (1983). Co-ordinating Human Services. San Francisco: Jossey – Bass.

Akinbode, I. A. & William, S., K. T. (1985). "Factors Associated with adoption of 3 farm practices in Western State". *Nigeria Research Bulletin;* No. 1, pp. 2, University of Ife.

Akpabio, I. A. (1997). "Extension Communication Methods as a Strategy for Agro – Development in AKADEP", Issues in Sustainable Agro – Devt. Vol. 1. Pp. 112 – 122.

Atala, J. & Abdulahi, Y., A. (1988). Acquisition of formal authority to won and manage natural resources by local Mali Ngos in: African Farmer. January, No. 10, pp. 20.

Benor, D. & Baxter, T. (1984). Training and Visit (T & V) Extension Washington D. C.; *The World Bank Publication.*

Brown, L. & Okedara, J., T. (1981). An introduction to the study of Adult Education. Ibadan: University Press Limited.

Famoriyo, S. (1982). "Extension and manpower development in Nigeria's Agricultural" paper Presented at a workshop for the Fourth National Development plan.

Ghouri, A. S. K. (1985). Selection Criteria and Regular Visits of extension agents to contact farmers and groups. In A. U Petal. Et al (eds). Managing of Agricultural Extension in Nigeria, Ibadan: Federal Agricultural Co – ordinating Unit (FACU).

Harrison, R. & Kellog, E. (1977). Managing people at work: concepts and cases in interpersonal behaviour. New York: Wiley Publishers, pp. 422 – 430.

Igodan, I. & Adekoya, T. (1987). Planning for innovation through the Dissemination and Utilization of Knowledge. Illorin, ARMTI Publication.

Isife, B. I. & Madukwe, M., C. (1995). "An Evaluation of fortnightly Training programme in Enugu State Agricultural Development Programme" *Nigeria Journal Agricultural Teacher Education.*

Judd, P. (1983). "The Training and Visit Extension System in South – East Asia", paper presented at the Regional Seminar on Extension and Rural Development Strategies; Universities Peranian, Malaysia, Serdang, Eclanger, Malaysia.

Kellog, E. (1977). New Models for Agricultural Research and Extension. Women and the crisis in Agriculture. New York Matins Press, pp. 144 – 195.

Maunder, A. H. (1972). Agricultural Extension; a Reference Manual. Rome: FAO of the United Nations; pp. 289 – 388.

Meler, D. (1975). Planned change in a traditional society. (Psychological Problem of modernization in Ethipia) New York: Praegan Publishers: Inc.

Mishra, P., Sekhon, E. & Sinaha, D. (1968). Getting agriculture moving. New York Praege.

Moro, R. S. (1994). The Personnel Interview extension method series, No. 1. University of Minnesota Minneapolis, p. 1.

Obibuaku, L. O. (1983). Agricultural extension as a strategy for Agricultural transformation; University of Nigeria Press, Nsukka.

Obibuaku, L. O. (1983). Agricultural Extension as a Strategy for Agricultural Transformation; University of Nigeria Press, Nsukka

Osuji, L. O. (1983). "Institutional factors Associated with Adoption of New – farm Technologies by farmers in Eastern Nigeria". *The Nigerian Journal of Agricultural Extension (1);* Agricultural Extension Research Liaison Services, Ahmadu Bello University Aaria, pp. 43 – 44.

Rogers, F. & Shoemaker, E. (1971). Studies in Transactional Evaluation; Berkeley, California; Mckutchan.

Saville, A. H. (1965). Extension Rural Communities; Oxford University Press, pp. 56 – 61.

Todoro, B. (1977). Conducting Educational Research; New York, Harcourt and Brace Jouanouich Inc. 2nd Edition.

Uwakah, C. T. (1977). An Evaluation of the performance of Agricultural Extension Staff in Imo and Anambra State of Nigeria', Research Monograph; No. 3/76, Department of Agricultural Economics and Extension, University of Nigeria, Nsukka.

Williams, S. K. T. (1978). Rural Development in Nigeria Ile – Ife: University of Ife Press.

Wokocha, I. & Gabriel, A. (1998). Agriculture Extension, Agricultural University, Wageningen, Netherlands.

World Bank, (1992). Accelerated Development in Sub – Saharan African: An Agenda for Action; Washington D. C. The World Bank.