

ASSESSMENT OF GENDER PARTICIPATION IN PUBLIC AND PRIVATE AGRICULTURAL EXTENSION SYSTEMS IN RIVERS STATE, NIGERIA

Harry, A. T.
Department of Agricultural Extension and Rural Development,
Rivers State University, Port Harcourt, Nigeria.

ABSTRACT

General participation in public and private extension systems in Rivers state was assessed based on the following objectives (1) determine the socio-economic characteristic of respondent in the study area (2) assess the level of gender participation in public and private agricultural extension systems and; (3) determine gender perception on the effectiveness of agricultural extension services in public and private organization. Questionnaires, interviews, focused Group discussion and relevant literatures were the instrument used for data collection. One Public Organization, Rivers State Agricultural Development Programmers (RISADEP) and two Private Organization SPDC and NAOC in Rivers State, operating agricultural extension programmers were purposively selected. Two sets of validated questionnaires were administered. Qualitative and quantitative statistical tools were employed for data analyses. One hundred and forty-four respondents (72 males and 72 females) in public extension and 152 respondents (70 males and 82 females) in private extension were randomly selected for the study. Results showed that 55.7% males and 70.7% females in private extension systems attained secondary education, while 41.9% males and 45.9% females did not attend any form of formal education in public extension systems. Furthermore, 70% males and 65.9% females in private sectors claimed husband and wife controlled the resources of their house, while 59.7% male and 76.4% females claimed that their husband alone controlled the resources of their house in public extension. The total or grand mean score for males participation was 2.61 and females 2.50 indicating high level of grand participation in private extension, while grand mean scores for males and females participation. The overall level of gender in private extension result show grand mean score for males 2.61 and females 2.50 which were higher than the public extension services. While grand mean scores for males was 1.54 and females 1.51 which indicate low level of gender participation how however about 58.6% male and 54% females respondent rated helped you to improve you farming as very high perception and it also ranked first position in private extension, while 52% males and 42% female and agreed that public extension organization considered woman farmers and it was ranked first position. Effective service proved by private organization grand mean score for male was 1.65 and females 1.51 while ineffective service for public organization grand mean score for males was 0.85 and females 0.76 finally, 100% gender of preference cultivation practice of vegetable crops and 88.9% of females preferred harvesting techniques in public extension. It was recommended that regular monitoring and evaluation of extension programmes on gender disaggregation basis be supported and evaluation of extension programmes on gender disaggregation basis be supported and practiced by every agricultural extension system.

Keywords: Assessment, Gender, Participation, Agricultural Extension

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

INTRODUCTION

In recent years there has been increased awareness of the need to integrate women into mainstream development efforts. The objective behind his approach is that the full use of productive potential of human resources (male and female), cannot be realized if women, who make substantial contributions to food output, do not have adequate access to resources, productivity enhancing inputs and services (FAO, 2004). This approach focuses on gender

differences (Gender = socially and culturally determined differences between men and women) primarily in division of labour in production or income, earning activities, and access to control over resources and assets (Akpabio, 2005). Gender analysis also involves the desegregation of women's roles and responsibilities by socio – economic class, agro – ecological environmental and farming systems, culture and ethnic group and, for each of these categories, by age and marital status, (DFID, 2007). This student shift to a gender approach was medicated due to the overriding attention of government to the need for social-economic policies to take into account the role and the impact on woman. The fact that woman have traditionally earned valuable income through the processing of food at the household level for sale has become increasingly evidence to government but there are severe constraints on the extension of this due to a lack of information about markets, the absence of cold storage facilities, packaging technology and, inability to obtain credit (CWS, 2003). The limitation are now understood and one challenge is to foster this business acumen and to encourage small sale agro-processing. The gender approach to integrate women into mainstream development is the current international approach advancing gender equality and equity in society (CWS, 2003). Women play very important role in sub – Saharan Africa, where they physically produce 70 – 80 percent of domestic food crops, hence helping to ensure family and national security (Akpabio, 2005). Women contribute 60 – 80 percent of the total labour force in the agricultural sector in Nigeria, the author added. However, over the years, agricultural extension services, policies, programmes and research have operated with almost no acknowledgement of the participation and role of women, (FAO, 2006). Furthermore, women are faced with a number of constraints; they have more difficulties than men in gaining access to land, credit and extension services (Jiggins et al., 2006). Participation has been an important concept in extension programmes. Men and women farmers are portrayed as colleagues in research process hence, they are considered to an active participant in the process. Participation is a process of making for acceptability and legitimization of a project considering their overall benefit from the project. It also allows for leadership development and continuity of the programme (Oladele et al., 2007). World Bank (2001), gave three dimension of participation: involvement of all those affected in decision making about what should be done and how; mass contribution to the development effort, and sharing in the benefits of the programme. Gold Lash, (1981) advanced six reasons for participation as high involvement of project beneficiaries, cost – reduction in service production, sense of belongingness, sense of responsibility, doing things in the right way, and progressive changes take place. Ekong (2003) noted that participation can be measured in terms of holding membership, going out to work for the association and contribution of money and materials in the organizations. Extension is a non – formal educational function that applies to any institution that disseminates information and advice with the intention of promoting knowledge, attitude, skills and aspirations, although the term extension tends to be associated with agriculture and rural development (DFID, 2007). No matter the nature of the system, approach or programme (e.g. cooperative, extension and advisory service = public/private, special programme for food security, technical assistance or technology transfer) the function remains that of extension: the transfer and exchange of practical information. Agricultural extension has been described by practitioners as well as stakeholders as an essential tool for promoting production as well as rural development (Ani, 2007). In view of this lofty role that extension plays in agricultural development, the impact of public extension systems in agricultural development in Nigeria is generally disappointing, ineffective extension work, economically unviable technology transfer not matching with farmer's needs, little considerations for cost – effectiveness, less competent extension personnel with no accountability of farmer (UNDP, 2006). Moreover, public extension alone will never answer the entire demand of farming community (Unamma, 2006).

Objectives of the Study

The study was aimed at assessing gender participation in public and private agricultural extension systems in Rivers State, Nigeria. The specific objectives of the study were to:

Specific objectives of the study are:

- i. determine the socio – economic characteristics of respondents in the study area
- ii. assess the level of gender participation in public and private agricultural extension systems
- iii. determine gender effectiveness on agricultural extension services in public and private agricultural extension systems

Hypotheses of the Study

The following hypotheses were formulated to guide the state objectives.

HO₁: There is no significant difference in gender participation in public and private agricultural extension systems.

HO₂: There is no significant difference in gender perceived effectiveness both in public and private agricultural extension services

LITERATURE REVIEW

Theoretical Framework

Self – Perception Theory

The self – perception theory as described by Devine and Hrits, (1994) argues that communication process should be based on information. This entails the observation of attributes of the actors to be reached in order to come up with specific information, to meet specific needs of the actors. The Common Wealth Secretariat, (2001) seemed to agree with this theory in its 'gender mainstreaming' policy. This policy aimed at examination of factors in extension services as they relate to both men and women and specifically to women in relation to men, with proper considerations of their differing needs. The process was for identification of areas where attention is needed and what intervention that is required. This policy functioned in two main ways such as: **An integrating strategy:** in this case, gender issues were addressed within the existing development policy, strategies and priorities throughout a development process by integrating gender concern where applicable. **In agenda setting:** This implies the transformation of ongoing development using gender perspective. The implication of this was that the technological needs of men and women farmers would be determined through the understanding of their roles, their access to resources necessary for their work and effects of socio – cultural practices on their work. This theory implies that gender participation is more likely to be compromised if better means of attaining the goals are discovered. And as Obibuaku (1983) expressed, people appreciate a programme better and are more likely to lend it a support if they participate in planning it. Effective participation, studies have shown, has been achieved through group collaborations in the form of clubs and associations. Many people may be interested in development activities because, their friends, relations and other members of the community are involved (even though others may shy away for the same reason). The reason for this theory was that it has been an assumption that male is associated with Agriculture, however, with the change of trend in farming lately, it became pertinent to determine and document the extent of women and men particularly in public and private extension systems. This will help analyze extension problems according to gender based categories. These categories will in turn help mount intervention to cover intended target categories and guard against the use of diffusion process in the dissemination of extension program. Given the Extension Participation in Public and Private Systems women in all aspects of agricultural production, the mainstreaming of gender into the agricultural sector is a key strategy not only for the promotion of equality between men and women, but also for sustainable agricultural and rural development and economics growth in Rivers State (FAO, 2006). FAO (2006) explained that gender analysis framework has become the commonly accepted term for analyzing the social organization of productive activities decision – making, accessibility to resources and constraints within household farming system which are all important in determining progress made in agriculture. It is a concept used in the social sciences to look at roles and activities of men and women. Common Wealth

Secretariat (2003), explained that these roles are often socially defined and shaped by the traditions and beliefs of particular culture.

Conceptual Framework

The conceptual framework guiding this study is obtained from the relationship between the independent variables (socio – economic characteristics and socio – psychological situation) and dependent variables (effective extension participation, perception and preferences). Gender issues are established in different socio – cultural contexts (FAO, 2006) which determine what is expected. The focus of the approach is on giving equal weight to male and female issues, responsibilities, access to and control over resources and decision – making potentials. The concept of gender is not interchangeable with women. According to Akpabio, (2005) gender refers to both men and women, and the relations between them. Sex is used as a biological difference between men and women while gender differences arose from socially constructed relationships between men and women. Meanwhile, it is necessary to bring in gender when looking into participation strategies that public and private sector adopted in ensuring equitable access for extension programmes, both sectors are to assist rural development and poverty reduction programmes. The gender mainstreaming approach adopted, has been the best tool for the collection of gender specific data in a modern traditional African rural societies by (Ekong, 2003). This methods creates the opportunities for women and men farmers to rise and voice their concerns and priorities. Secondly, to identify gender specific aspects of co – existence, competition and conflict. Under the new demand – driven gender approach, this is different from most top – down organizational gender strategies (World Bank, 2001).

The gender mainstreaming approach is public and private sectors are based on the following four principles:

Men and Women: The focus of the approach is on giving equal weight to male and female issues. Equality between men and women has both qualitative and quantitative aspect. According to Oluwatayo and Ahmed (2007): the quantitative aspect refers to the desire to achieve equitable representation of women – increasing balance and parity while the quantitative aspect refers to achieving equitable influence to establishing development priorities and outcomes for women and men. Equality involves ensuring that the perception, interests, needs and priority of women and men (which can be very different because of the different roles and responsibilities of women and men). Will be given equal weight to planning and decision making.

Execution Phase of Projects: The approach consisted of providing “gender know – how” to in – country technical staff in the execution of the projects, not developing institutional policies or carrying out research to improve the need for gender mainstreaming as is the case in many other internal agencies.

Moving away from gender specialists in projects: The mainstreaming strategy implies moving away from using a gender specialist in any project, to involve a project sector specialist who has gender knowledge (or could be trained in gender).

Demand – driven gender approach: The approach is demand driven, which is different from most top – down organizational gender strategies (World Bank, 2001).

Explanation of the Conceptual Model: From the conceptual model which is the gender mainstreaming approach, the public and private agricultural extension services such as the simple On – Farm Research (OFR), On – Farm Adoptive Research (OFAR), Small Plot Adoption Technique (SPAT), Monthly Technology Review Meeting (MTRM) and Fortnightly Training FNT), Male and female participated in the above extension services. Participation in extension programmes is voluntary and therefore, programmes must meet the varying needs of individuals (Ani, 2007).

Participants in extension programmes differ significantly in age, sex, education, attitude, interests, needs, economic and social values etc. Programmes must therefore, be attractive and tailored to meet the needs and interests of the varying groups. The aim of the model is to show the

participation of individuals both men and women extension partner therefore, this is always been rooted in and considerably influenced by the wider social context (Hartmut *et. al.*, 1989). Equally, psychological variables have influence on adoption or non – adoption of technology by individual farmer. The respondents who benefit from gender participation in public and private agricultural extension systems would exhibit certain preferences, change in attitude and participate effectively on extension if socio – economic and socio – psychological variables play pivotal roles.

Concept of Gender Participation

Nigeria is a society in which gender plays an important role in agricultural systems (Adesina and Chianu, 2002). This means that social division of labour is such that men and women do different tasks in the farms as in any other areas of life. In the farming activities, the roles may differ by the types of activity such as crop or variety of crops, stage of production within an activity such as land preparation, weeding and harvesting, marketing and other activities. All these differ from location to location or culture to culture, within the Nigerian society. In some locations, gender – based division of labour is such that, sometimes the tasks of women and men overlap and sometimes they are distinctly separate (Commonwealth Secretariat, 2001). This report further states that everywhere, these gender roles are undergoing changes due primarily to economic crisis. As real incomes erode, men migrate to find waged labour, increasing the work of women who remain on the farm. This leads to almost a consensus in development literature that women are a vital force to reckon with in agriculture (Pini, 2002).

Concept of Agricultural Extension Systems

Agricultural extension systems emanated from the advent of agricultural development projects; hence a study on ADPs remains incomplete without a review on this concept. Agricultural extension is not a monolithic structure; rather it is an educational process, which has its goal as the communication of useful information to people, then helping them learn how to use it to build a better life for themselves, their families and their communities. Hence, Akpabio, (2005) stated the agricultural extension is a service or system which assist farm people, through educational procedures, in improving production efficiency and income and lifting the social and educational standards of life.

Agricultural extension services are undertaken by public and a wide range of organizations in the private business and non – governmental sectors (Prasad, 2001). In Nigeria, these extension systems operate on very distinctive structures, management and information communication strategies. In Nigeria, modern agricultural extension work covers a wide spectrum of services, including improvement in production, marketing, storage, processing, agro – forestry, fish – farming, inputs supply and distribution, credit administration, agricultural extension, credit administration, agricultural extension planning, manpower development, home economic and irrigation, etc. (Anwanane, 1990). Extension work is no longer a monopoly of the public sector since the private business sectors are generally taking over technology transfer through technical support services they provide the farmers in developing countries (CWS, 2001). The traditional concept of public agricultural extension involves government employers who teach improved methods of farming, demonstrate innovations and organize farming meetings and field days on a wide range of topic. Public extension is sometimes used as a channel to introduce and enforce government agricultural policies (ODI, 2004). The public extensions operate where the benefits of agricultural extension services are consumed by the generality of the people. Technical information to farmers is provided mainly on free for service arrangements. The public extension personnel provides educational, advisory and information services to farmers for fulfillment to humanitarian goal. Nonetheless, public extension cost recovery through fee – for service has been identified in India and United Kingdom (Arnon, 1989). Public extensions target is increased agricultural productivity, income and welfare of totality of farmer – clients. UNDP, (2002) identified and described various approaches to public extension service. They include Ministry of Agriculture

(MOA) – based extension, university extension, commodity based extension, integrated approach and Agricultural Development Programmes (ADPs). The MOA operates extension services under Agricultural Division using advisory and bureaucratic approaches. Multifunctional approach is enforced to serve the entire farm population, with a broad range of extension programmes. Private extension, firms operate on profit grounds. The private, for profit extension, involves in farming activities through farmer cooperative societies, commercial banks, private agri – business, agricultural input industries, agro – service enterprises, processing industries marketing firms, and multinational enterprises. The private firms provide services in accordance with their specialized incentives and farmers respond in terms of what they perceive as most beneficial to them.

Concept of Public and Private Extension Organizations

The term agricultural extension can mean different things to different people with different situations. Extension may be described as the process of assisting farmers to become aware of and adopt improved techniques, from any source to increase their production efficiency and income, in otherworld's all round development of life situation (Perumal, 2004). It is easy to say and define but there lies the complexity of the process that involves changing farmer behavior and most often, institutional behavior. Paramount amongst this is the principle that extension recommendations must be relevant to the condition of the client, regardless of the extension methods used (Harry, 2003). This in turn, necessitates that extension must understand the characteristics of the targeted farming system and the factor which impinge on these systems and must be underpinned by as effective technology generation/adaption capacity. Although in many countries there are large proportions of small holders near subsistence production levels, rapidly changing economic trade and sectorial conditions will impact on the type of extension services that will be needed ad the respective roles of private and public sector technical assistances will have to adjust to these demands.

METHODOLOGY

The Study Area

Rivers state is located in south-south part of Nigeria. Geographically the state falls within the sub-equatorial region, it is bounded in the west by delta and Bayelsa states, on the east by Croos Rivers and Akwa Ibom states and on north by Imo and Abia states. Southward Rivers State in bounded by the Atlantic Ocean. The climate is tropical and the relative humidity is particularly high at 80-100% throughout the year. A mean yearly temperature of 30⁰ C (86⁰ F). Is record by Rivers states Ministry of commerce and industry (20007). According to Ogionwo, (1979), the hottest months are January, February, March, April and May, all these have more than 20 days with a temperature of the Atlantic Ocean, and a layer of humid air over the Delta region. Rainfall is observed in the state in most of the month of the year. Rivers state occupied about 50, 000 square kilometers (Wokocha and Gabriel, (1917), the major occupation of the people of Rivers States is farming and farming and fishing. Total farming activities of cassava, mango, rice and fishing of capture and aqua-culture fishing, livestock kept by man and woman are goats, sheep, native and exotic chicken etc. Traditionally, the state is made up of distance ethic groups. It has six major language and twenty six dialects.

Population of the Study

Three selected operation agricultural extension programmes in the states of the study were used. On public or government extension organization which is the Rivers States Agricultural Development programme (RISADEPP) which are operating in all the twenty-three (23) Local Government Area L.G.A in the State was roused into 3 Agricultural Zone Two private agricultural extension organizations which are: Shell Development Company (SPDC) of Nigeria Agip Oil Company (NAOC)-Green Rivers project was used. The list of gender participation in public and private agricultural extensions systems on their operational areas/zones constituted the target

population. The lists were obtained from the administrative offices of the three extension agencies selected while the list of private registered farmers was obtained from the Corporate Affairs Commission. But RISADEP did not register in the commission. However, both public and private agricultural extension system operates in different forms with different motives, hence the need to study their special activities. The farmer's in private agencies or companies formed cooperative societies in the communities in which oil field have been discovered. Simple purposive sampling technique was used for private extension system.

Sampling Procedure and Sample Size

Table 1 below shows the operation area (zones) of the public agricultural extension systems that were utilized for the study. Rivers west Agricultural Zone, Degema block, 8 men and 8 women, with two cells. Bonny cell one 8 men and 8 women, cell two Ahoada 8 men and women were selected by sampling technique which comprised of (24 females and males). Rivers South – East Agricultural Zone, Bori Block, 8 men and 8 women. With two cells, Nichia Cell one 8 men and women. Cell two Agbeta 8 men and 8women were selected by simple random sampling technique in all (24 females, and 24 males). Rivers East Agricultural Zone, Rumudomaya Block, 8 men and 8 women, Igwuruta. Cell one, 8 men and women, cells two Elimgbu, 8 men and 8 wome were selected by simple random sampling technique in all (24 females and 24 males). In general, 144 farmers who comprised 72 females and 72 males were used through the 3 Agricultural Zones for easy convenience.

Table 1: Public Extension Systems/Agricultural Zone Sample for the Stud

| S/N | Agricultural Zones | Block | Cell | Males | Females |
|-----|--------------------|------------|--------------|-----------|-----------|
| 1 | Rivers West | Degema | | 8 | 8 |
| | | | Bonny | 8 | 8 |
| 2 | Rivers South-East | Bori | Ahoada | 8 | 8 |
| | | | Nichia | 8 | 8 |
| 3 | Rivers East | Rumudumaya | Agbeta | 8 | 8 |
| | | | | 8 | 8 |
| | | | Igwuruta | 8 | 8 |
| | | | Elimgbu | 8 | 8 |
| | | | Total | 72 | 72 |

Both Male and Female respondents were those have had some sort of contact with the RISADEP (ADP)

Similarly, selection of the private extension agencies was done randomly by balloting. This 8men, 8 women formed the sample. Therefore, the 11 operational zones, making a total of 176, formed the sample size for all the private extension systems; these are shown in table 2.

Table 2: Private Extension Services Operational Areas/Sample for the Study

| S/N | Private Ext. Systems | Operational Area | Male | Females |
|-----|--|------------------|------|---------|
| 1 | SPDC (4 ext. zones) | Rumuekpe/Obelle | 8 | 8 |
| | | Umueechem | 8 | 8 |
| | | Afam | 8 | 8 |
| | | Buguma Creek | 8 | 8 |
| | | | 8 | 8 |
| 2 | NAOC Seven locations in Ogba/Egbema/Ndoni (ONELGA)L.G.A. | Omoku | | |
| | | Obrikom | 8 | 8 |
| | | Mgbede | 8 | 8 |
| | | Okwuzi | 8 | 8 |

| | | |
|--------------|-----------|-----------|
| Aggah | 8 | 8 |
| Idu | 8 | 8 |
| Oshie | 8 | 8 |
| TOTAL | 88 | 88 |

The entire respondent will be 160 females and 160 male. In sum of three hundred and twenty (320) respondents, comprising gender participation constituted the sample size for the study. Although a total of three hundred and twenty constituted the target population. Only two hundred and ninety six (296) copies of the interview guide were analyzed, effort to retrieve the questionnaires was unsuccessful thus end up with returning rate of about 94%.

Method of Data Collection

In order to access the effectiveness of gender participation in public and private agricultural systems in Rivers State, Nigeria, two sets of instruments, structured questionnaires, interview schedule, and available relevant literature. The questionnaire was administered by direct contact in order to give explanations to some questions where need be, basically the interview was used to obtain information from men and women participating, in public and private extension sectors only. First, information on socio-economic-personal characteristic and socio-psychological situation of the farmer both public and private extension sectors, such as age of the farmer, household, total number of children, education level, size of land-holding, marital status and social involvement in farmer organization and socio-psychological situation of the farmer on change proneness and knowledge of technology. Secondly, a questionnaire divided into sub – sections reflecting the specific objectives of the study were to elicit information on gender participation in public and private extension activities in Rivers State. Thirdly, questionnaire on effectiveness of gender participation on public and private extension programmes, perception, preference on gender towards public and private sectors. Finally, perceived constraints on gender both public and private sectors and (FGDs) was used to get quality data in the field.

Method of Data Analysis

Data obtained through the questionnaire were subjected to both descriptive and inferential statistical analyses. Descriptively, data were analyzed used frequencies, percentages, mean, tables and ranking in objective 1 – 6, but T – test was used to analyze hypothesis one and two, while for hypotheses three and four, four functional forms were tried namely linear, semi – log, double log and exponential was analyzed (multiple regression) which was employed in measuring the socio – economics/socio – psychologies were analyzed using descriptive statistics such as mean score percentages and graphs. The descriptive statistics include frequency counts, percentages and mean statistics. Z – Test statistical tool was used to test the various hypotheses.

RESULTS AND DISCUSSION

Socio-Economic Character of Respondents in Public and Private Agricultural Extension Systems in Rivers State

Table 1 below representing the distribution of respondent according to gender indicates that there are equal number of respondents, 50% of the males and 50% of the females respondents were in public agricultural extension systems, while 46.1% of the males and 53.9% of the female’s respondent were in private agricultural extension systems. Gender mainstreaming has been a topical issue of development in recent time. Agricultural and rural development programmes in Nigeria have been design to benefit the general of farmer but have often result in unintended socio-economic inequalities along gender lines (Agbamu, 2007). The findings disconfirm the results of earlier studies that males were favored more in agricultural extension activities than their female’s counterparts (Ogbanga, 1998). With this development, very many women farmers were likely to be reached. Consequently the spread of improved agricultural technologies, technical and scientific Knowledge in farming would be evenly distributed.

The result in the table below indicated that 56.9% of the males that participated in public agricultural extension systems were within the age range of 41-50years, and 48.6% of the female respondent were within the age range of 41-50years, Also, 5.6%of the males and 25% of the females respondent were within the age of above 50years, Furthermore, 27.1% of the respondent were males and 19.5% were females that participated in private agricultural extension systems were within the age bracket of 31 – 40years. Finally, zero percent was recorded for below 21-30years and above 50years. And 72.9% of males and 80.5% of the females in private agricultural extension systems were within the age bracket of 41-50years. Generally the result showed that both males and females in public and private sectors, the farmers are between the age of 41-50years, having the highest respondents and majority of farmers are matured. Isife, (2004) remarks that age is very important variable because of its influence on people' action, attitude and aspirations. This confirmed Udoh (1999) finding that involvement in social activities tends to be influenced by age, hence matured men tend to be more actively involved in agricultural projects of their communities and other groups of people.

The table below showing marital status revealed that 73.6% of the males and 83.3% of females were married in public agricultural extensions systems while 11.1% of the males and 16.7% of the females respondents in public extension systems were single. But 11.1% and 4.2% of males divorced and widowed respectively. On the last two issues i.e, divorced and widowed females respondents were zero percent. Furthermore, those who participated in the private extension systems were 80% of the males and 92.7% of the females were married. Also, 20% males and 7.3% females were single, but zero response was recorded on divorced and widowed on both males and females. The observation is that the rural people tend to marry more and earlier life than those in urban centres who may wish to be economically strong before they venture into marriage. This finding also agreed with Imoh (2002), that from all indication early marriage was a common practice, and may have been the dominant factor for large family size which correspondingly hinders active participation of the public and private agric – extension systems in Rivers State.

The table below also indicates that 40.3% of the males and 41.7% of the females in the public agricultural extension system had been practicing farming for 16 – 20 years, the least experience was 1 – 5 years which was 5.6% of male and zero percent of females furthermore, 55.7% of the males and 70.7% females in the private agricultural extension systems had farming experiences of 16 – 20 years. The last period was 11 – 15 years for both males and females in private sectors. The table shows that in both public and private agricultural extension systems, the length of practicing farming had reached long periods of years. As such, they could understand their job description better and perform appreciably well. It has fostered a greater awareness and appreciation of value of women's labour between men and women. This also identified farming experience as among the influencing factors to increasing rate of adoption of agricultural technologies, (Emmah, 2005).

Table 3 below showing nature of farming, about 97.2% of the males and 75% of the female respondents were full time farmers, while 2.8% of males and 25% of the females were part – time farmers in public agricultural extension systems. Furthermore, 42.9% of the males and 40.2% of the females claimed they were part – time farmers, while, 57.1% of the males and 59.8% of females were full – time farmers in private extension systems. Based on this, one may be tempted to say that since majority of men and women both public and private agric – extension systems within this score were full – time farmers. It has offered them better opportunity to concentrate on their farm work.

The table also shows level of education qualifications, that 41.9% of the males and 45.9% of the females did not attain any form of formal education. About 16.4% of the males and 33.3% of the females obtained the primary school certificate. Almost 38.9% of the males and 9.7% of the females has obtained the secondary school certificate. Nearly 2.8% of the males and 11.1% of the females obtained higher education certificate in public agricultural extension system. Similarly,

55.7% of the males and 29.3% of females had primary school certificate and 44.3% of males, 70.7% of females had secondary education in private agricultural extension systems. The result show that majority of males and females in public agricultural extension systems were not educated enough understand scientific teachings compared with their counter part in private agricultural extension systems, while majority had secondary education, the extend of education received by farmer accounted for much in understanding and adopting recommended agricultural practice (Akpabio, 20005). It also enhances participation in rural development project. Amaza and Olayemi (2006) in their studies found out that education has the tendency to create awareness which also enhances participation. The results below indicated that 59.7% males and 76.4% of the females claimed that husband alone controlled the resources of the house, while 30.6% of the males and 23.6% of the females claimed that males and females jointly controlled the resources of the house. And 9.7% of the male only claim that resources are control by their wives in the public extension systems. Similarly, the result showed that 20% of the males and 7.3% of the females were of the opinion that females controlled the resources and 10% of the males and 26.8% of the females were of the opinion that males alone controlled the resources, while 70% of the males and 65.9% of the females believed that resources was jointly controlled by both husband and wives in the private extension systems.

The table also shows that 47.2% of the males and 58.3% of the female respondents had farm sizes of 3 – 6 hectares in public agricultural extension systems, while 62.8% males and 68.3% of the female's respondents in private agricultural extension systems also cultivated the same farm sizes of 3.6 hectares. About 44.5% of the males and 37.5% of the females in public extension systems respondents had 7 – 10 hectares of farm sizes, while 7.2% of the males and 11% of the female respondents in private extension systems had farm sizes. In view of these results, one could see the respondents cultivate the same farm sizes. The males and female both public and private extension systems had the same farm sizes. This goes to show that the production advantage which the private extension had over their public extension systems counterparts could therefore be as a result of the modern production techniques being used by the private extension participating farmers.

The table showing farmer's organization revealed that participation in public and private extension systems. About 84.7% of the males and 80.6% of the females in public extension systems claimed that they were for church union, and 69.4% of the males and 72.2% of the females also claimed to belong to farmer's cooperatives. While 31.9% of the males and 15.3% of the females claimed that they were for development associations in public extension systems. However, results in private extension systems shows that 100% of males and females respectively belong to a church union. While 52% of the males, and 56.1 of the females were for farmers corporative. Furthermore, 100% of males and 92.7% of the female also belong to development associations. The various percentages show that majority of the gender in public and private extension systems belong to church unions. Similarly, it could also mean that public and private extension systems, the male and female famers received better training in agricultural extension to form farmer's cooperatives which were expected to perform extension work more efficiently.

Also encouraging the formation of farmer's organization i.e., forming different interest groups, facilities easy contract with clients in public or private extension systems (FAO, 2006). Farm income is one of the variables often used to measure the impact of farmers support programmes about farmers such as the one under consideration. Even though a substantial portion of the farm harvest goes for home consumption, farm income data no doubt, provide a useful guide in programmes impact assessment. A cursory observation of data on table readily reveals the income advantage which the private extension participating farmers have over the public extension farmers. Whereas the model incomes group for the males and females participation in public and private extension systems were the same N20,001 – N30,000 naira which indicates 61.4% of the males and 50% for females respectively. The percentage for males and females in the public extension systems

was 38.9% males and females 66.7% respectively which is about N20,001 – N30,000 were the monthly income group for public and private farmers in Rivers State are the same.

The table also shows that 72.8% of the males and 51.4% of the females in public extension systems were not engaged in other sources of income apart from their farm business, while 90% of the males and 90.2% of the females in private sector also claimed not engaged in other sources of income. The finding reveals that most males and females in both public and private extension systems were not engaged but they depend on their farm income, because personal economic interest of the farmer mixed with their profession increase their involvement in extension activity thereby exhibiting their skills. The table also shows various types of secondary sources of income for males and females in public extension systems were fully engaged in almost all the secondary sources of income than their males and female counterparts in private extension systems.

Basically, the males and females in private extension systems engaged 100% in secondary sources that were not indicated in the table below. This could infer that the private extension farmers were not having enough time as their counter parts in public extension systems. This is in agreement with (Shekara, 2005). In private extension, clients are more committed and careful about extension services because they are paying for they are paying for the services; clients also make best use of private extension workers.

Table 3: Socio-Economic Characteristics of the Respondents

| Characteristics | Public Ext. System | | | | Private Ext. System | | | |
|---|--------------------|--------------|--------------|--------------|---------------------|--------------|-----------|--------------|
| | Male | % | Female | % | Male | % | Female | % |
| Gender | 72 | 50.0 | 72 | 50.0 | 70 | 46.1 | 82 | 53.9 |
| Total | 144 | | 100.0 | | | 152 | | 100.0 |
| Age: (years) | | | | | | | | |
| 21 -30 | 14 | 19.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 31 – 40 | 13 | 18.1 | 19 | 26.4 | 19 | 27.1 | 16 | 19.5 |
| 41 – 50 | 41 | 56.9 | 35 | 48.6 | 51 | 72.9 | 66 | 80.5 |
| Above 50 | 4 | 5.6 | 18 | 25.0 | 0 | 0 | 0 | 0 |
| Total | 72 | 100.0 | 72 | 100.0 | 70 | 100.0 | 82 | 100.0 |
| Marital Status | | | | | | | | |
| Single | 8 | 11.1 | 12 | 16.7 | 14 | 20 | 6 | 7.3 |
| Married | 53 | 73.6 | 60 | 83.3 | 56 | 80 | 76 | 92.7 |
| Divorced | 8 | 11.1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Widow | 3 | 4.2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 72 | 100.0 | 72 | 100.0 | 70 | 100.0 | 82 | 100.0 |
| Years of farming experience | | | | | | | | |
| 1 – 5 | 4 | 5.6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 – 10 | 9 | 2.5 | 9 | 12.5 | 0 | 0 | 0 | 0 |
| 11 – 15 | 27 | 25.5 | 6 | 8.3 | 31 | 44.3 | 24 | 29.3 |
| 16 – 20 | 29 | 40.3 | 30 | 41.7 | 39 | 55.7 | 58 | 70.7 |
| 21 and above | 3 | 4.1 | 27 | 37.5 | 0 | 0 | 0 | 0 |
| Total | 72 | 100.0 | 72 | 100.0 | 70 | 100.0 | 82 | 100.0 |
| Nature of Farming | | | | | | | | |
| Part time | 2 | 2.8 | 18 | 25.0 | 30 | 42.9 | 33 | 40.2 |
| Full time | 70 | 97.2 | 54 | 75.0 | 40 | 57.1 | 49 | 59.8 |
| Total | 72 | 100.0 | 72 | 100.0 | 70 | 100.0 | 82 | 100.0 |
| Level of Educational Qualification | | | | | | | | |
| No formal education | 30 | 41.9 | 33 | 45.4 | 0 | 0 | 0 | 0 |
| Primary school | 12 | 16.4 | 24 | 33.3 | 31 | 24 | 24 | 29.3 |
| Secondary education | 28 | 38.9 | 7 | 9.7 | 39 | 58 | 58 | 70.7 |

| | | | | | | | | |
|---|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|
| Higher education | 2 | 2.8 | 8 | 11.1 | 0 | 0 | 0 | 0 |
| Total | 72 | 100.0 | 72 | 100.0 | 70 | 80 | 80 | 100.0 |
| Farmers Organization | | | | | | | | |
| Farmer co – operative | 50 | 69.4 | 52 | 92.2 | 37 | 52 | 46 | 56.1 |
| Church union | 61 | 84.7 | 58 | 80.6 | 70 | 100 | 82 | 100 |
| Development association | 23 | 31.9 | 11 | 15.3 | 70 | 100 | 76 | 91.7 |
| Monthly farm income (₦) | | | | | | | | |
| Below 10,000 | 3 | 4.2 | 3 | 4.2 | 0 | 0 | 0 | 0 |
| 10,001 – 20,000 | 7 | 9.7 | 13 | 18.1 | 0 | 0 | 0 | 0 |
| 20,001 – 30,000 | 28 | 38.9 | 48 | 66.7 | 43 | 61.4 | 41 | 50 |
| 30,001 – 40,000 | 23 | 31.9 | 8 | 11.1 | 27 | 38.6 | 41 | 50 |
| Above 40,000 | 11 | 15.3 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total (i) | 72 | 100.0 | 72 | 100.0 | 70 | 100.0 | 82 | 100.0 |
| Not engaged in other sources of income | 56 | 77.8 | 37 | 51.4 | 63 | 90.0 | 73 | 90.2 |
| Secondary sources of income | | | | | | | | |
| Petty trading – craft | 52 | 72.2 | 27 | 37.5 | 27 | 38.6 | 6 | 7.3 |
| Shoe mending, weaving, carving etc. | 1 | 3 | 17 | 23.6 | 0 | 0 | 0 | 0 |
| Hunting | 8 | 11.1 | 48 | 66.7 | 0 | 0 | 0 | 0 |
| Technical (welding, block moulding) | 3 | 4.2 | 15 | 20.8 | 0 | 0 | 0 | 0 |
| Security service | 4 | 5.6 | 34 | 47.2 | 0 | 0 | 0 | 0 |
| Daily paid labour | 5 | 6.9 | 8 | 11.1 | 0 | 0 | 0 | 0 |
| Others | 52 | 72.2 | 24 | 33.3 | 70 | 100 | 82 | 100 |
| None – of – the above | 6 | 0 | 3 | 4.2 | 0 | 0 | 0 | 0 |

Comparative Analysis on the Level of Gender Participation in Public and Private Agricultural Extension Systems

To compare the level of gender participation between public and private agricultural extension systems, calculation of mean scores was carried out from table 4 shown below. It was observed that the mean score level of gender participation between public and private had a mean difference of (9.85 mean scores between males in private and public) and (9.15 mean score difference between females in private and public extension services).

With the result below, it is observed that the gender participation level in public agricultural extension system was low in all the various items.

This may be due to poorly motivated staff and poor coverage of the extension workers. While the gender participation level was high in all the various items of private agricultural extension systems. In recent past, many private extension agencies are entering in the agricultural sector to influence different categories of farmers, this existing climate will change the element of extension process such as; objectives, target group, offerings, organizations, methods, Epps (1988) and also redefines the roles of public and private extension systems.

Table 4: Distribution of Respondents according to Level of Gender Participation in Public/Private Agricultural Extension Systems

| Participation | Public Agricultural Ext. Systems | | | | Private Agricultural Ext. Systems | | | |
|-----------------------------|----------------------------------|--------|--------------|--------|-----------------------------------|--------|--------------|--------|
| | Male Means | Remark | Female Means | Remark | Male Means | Remark | Female Means | Remark |
| Training by extension agent | 1.70 | Low | 1.70 | Low | 2.74 | High | .68 | High |
| Famers workshop | 1.50 | Low | 1.59 | Low | 2.70 | High | 2.54 | High |

| | | | | | | | | |
|-------------------------------|----------------|-----|----------------|-----|---------------|------|----------------|------|
| Farmers field day | 1.31 | Low | 1.50 | Low | 2.54 | High | 2.48 | High |
| Exhibition by extension agent | 1.92 | Low | 1.81 | Low | 2.30 | High | 2.32 | High |
| Organizing other farmers | 1.70 | Low | 1.79 | Low | 2.60 | High | 2.68 | High |
| Given any assignment by agent | 1.73 | Low | 1.31 | Low | 2.60 | High | 2.43 | High |
| Consultation with the agent | 1.79 | Low | 1.70 | Low | 2.60 | High | 2.43 | High |
| Demonstration on the farm | 1.79 | Low | 1.81 | Low | 2.70 | High | 2.52 | High |
| Visited on the farm by agent | 1.50 | Low | 1.59 | Low | 2.70 | High | 2.54 | High |
| Visited the extension agent | 1.31 | Low | 1.09 | Low | 2.63 | High | 2.42 | High |
| Grand mean | (16.25) | | (15.89) | | (2611) | | (25.04) | |
| | 1.63 | | 1.59 | | 2.61 | | 2.50 | |

Effectiveness of Agricultural Extension Services in Public Organization

The results in table 5 below showed the percentages of the frequencies of ranks recorded on each of the 11 items of the questionnaire. The responses were ranked into "Very regular" (4) "Regular" (2), "Not Regular", (1) and "Not – at – all" (0) using the Likert – Type 4 Scales. Adding 3, 2, 1, 0 and dividing by 4 obtained a mean value of 1.50. Based on this mid – point of 1.50 was used to make decisions item. Any scores less than 1.50 implies ineffective, while any mean score greater than or equal to 1.50 implies very effective.

The table also shows that all the eleven (11) items provided by public agricultural extension organization that measured effectiveness index intended to serve public extension services indicated not regular in all the items. The mean score was ineffective because all the items were below 1.50 which is the cut – off – point. Furthermore, the grand mean for male was (0.85) and (0.76) female respectively. The findings show that the agencies were ineffective in their services they provided for the famers. These conditions could affect the overall effectiveness of the public firms as well as the performance of the farmers in the field.

Table 4: Effectiveness of Agricultural Extension Services in Public Organizations

NB: Very Regular – VR, Regular – R, Not Regular – NR, Not at All – NT, \bar{x} – Mean Score, Remark – RK, E – Effective and IE – In-effective

| Effectiveness Services | μ 72 Male | | | | | | μ 72 Female | | | | | |
|------------------------------------|---------------|----|----|----|-----------|----|-----------------|----|----|----|-----------|----|
| | VR | R | NR | NT | \bar{x} | Rk | VR | R | NR | NT | \bar{x} | Rk |
| Does the agent visit you regularly | 0 | 14 | 52 | 6 | 1.11 | IE | 0 | 15 | 51 | 6 | 1.12 | IE |
| Provide answers to your questions | 4 | 10 | 51 | 7 | 1.15 | IE | 0 | 15 | 44 | 13 | 1.03 | IE |
| Seek for your opinion | 7 | 7 | 52 | 6 | 1.20 | IE | 0 | 15 | 51 | 6 | 1.12 | IE |
| Provide inputs for you | 7 | 6 | 42 | 18 | 1.01 | IE | 0 | 8 | 49 | 15 | 0.90 | IE |
| Proved credit facilities | 7 | 1 | 25 | 39 | 0.67 | IE | 0 | 7 | 24 | 41 | 0.53 | IE |
| Teaches you new things | 0 | 11 | 54 | 7 | 1.06 | IE | 0 | 0 | 59 | 13 | 0.81 | IE |
| Punctual at meetings | 7 | 0 | 56 | 9 | 1.07 | IE | 0 | 0 | 50 | 22 | 0.69 | IE |
| Helps in your farming activities | 2 | 3 | 42 | 25 | 0.75 | IE | 8 | 27 | 15 | 22 | 1.29 | IE |

| | | | | | | | | | | | | |
|-----------------------------------|---|---|----|----|-------------|----|---|---|----|----|-------------|----|
| Helps in your social activities | 0 | 0 | 7 | 65 | 0.97 | IE | 0 | 0 | 14 | 58 | 0.19 | IE |
| Helps you market your produce | 0 | 0 | 3 | 69 | 0.04 | IE | 0 | 0 | 15 | 57 | 0.20 | IE |
| Provide enough facilities to work | 0 | 2 | 23 | 47 | 0.37 | IE | 0 | 7 | 24 | 41 | 0.53 | IE |
| Grand mean | | | | | 9.4 | | | | | | 8.41 | |
| | | | | | 0.85 | | | | | | 0.76 | |

Effectiveness of Agricultural Extension Services in Private Organizations

Table 5 below shows that majority of the services provided by private agricultural extension organizations mean across was effective and with a grand mean score of 1.65 male and 1.51 female respectively. However, there were some extension services mean scores that were in – effective in both gender and this was “provide credit facilities, helps in your social activities and helps you market your product”.

This cut - off – point was below 1.50 which indicated in – effective services. These results confirm with Shekara, (2003) that personnel in private organizations become more accountable to clients, and highly motivated because they are getting remuneration from their clients and they became professionally sound and will put efforts to upgrade their knowledge and technical know-how.

Table 5: Effectiveness of Agricultural Extension Services in Private Organizations

NB: Very Regular – VR, Regular – R, Not Regular – NR, Not at All – NT, \bar{x} – Mean Score, Remark – RK, E – Effective and IE – In-effective

| Services | μ 72 Male | | | | | μ 82 Female | | | | | | |
|------------------------------------|---------------|----|----|----|--------------|-----------------|----|----|----|----|--------------|----|
| | VR | R | NR | NT | \bar{x} | Rk | VR | R | NR | NT | \bar{x} | Rk |
| Does the agent visit you regularly | 13 | 28 | 29 | 0 | 1.77 | E | 6 | 31 | 45 | 0 | 1.52 | E |
| Provide answers to your questions | 0 | 53 | 17 | 0 | 1.76 | E | 0 | 42 | 40 | 0 | 1.51 | E |
| Seek for your opinion | 14 | 33 | 23 | 0 | 1.87 | E | 0 | 46 | 36 | 0 | 1.56 | E |
| Provide inputs for you | 2 | 36 | 32 | 0 | 1.57 | E | 6 | 58 | 18 | 0 | 1.85 | E |
| Provided credit facilities | 13 | 5 | 40 | 12 | 1.27 | IE | 0 | 16 | 50 | 16 | 1.00 | IE |
| Teaches you new things | 27 | 33 | 10 | 0 | 2.24 | E | 6 | 58 | 18 | 0 | 1.85 | E |
| Punctual at meetings | 27 | 19 | 24 | 0 | 2.04 | E | 6 | 41 | 35 | 0 | 1.64 | E |
| Helps in your farming activities | 0 | 53 | 17 | 0 | 1.76 | E | 6 | 58 | 18 | 0 | 1.85 | E |
| Helps in your social activities | 0 | 29 | 12 | 29 | 1.00 | IE | 0 | 16 | 50 | 16 | 1.00 | IE |
| Helps you market your produce | 0 | 29 | 22 | 19 | 1.14 | IE | 0 | 16 | 50 | 16 | 1.00 | IE |
| Provide enough facilities to work | 0 | 53 | 17 | 0 | 1.76 | E | 6 | 58 | 18 | 0 | 1.85 | E |
| Grand mean | | | | | 18.18 | | | | | | 16.63 | |
| | | | | | 1.65 | | | | | | 1.51 | |

Hypotheses Testing

The hypotheses formulated for the study were tested and presented thus:

Hypotheses One

Difference in Gender participation in Public and Private Agricultural Extension Systems

Hypothesis one states that there is statistically positive difference in participation of males and females respondents in public agricultural extension services

The result of the T – test in Table 6 shows that male respondents recorded a mean score 19.63 (SD = 5.66) while female respondents recorded a mean score of 15.58 (SD = 2.38). The t – calculated value of 5.23 which is greater than the t – tabulated value of 1.98 suggests that significant difference exists between male and female respondents in public agricultural extension services. The implication of this finding is that male respondents participated more in public extension services than their female counterparts. This finding has implications for extension work as more males are involved in extension services such as exhibitions by extension agents, giving of assignments by the agent and consultation with the agent.

The study has already identified that both categories of respondents participated low in the extension programme though males participated more than females.

Table 6: Participation of Male and Female Respondents in Public Agricultural Extension Services

| Variable | N | Mean | SD | Df | T-cal | T-tab | Remark |
|----------|----|-------|------|-----|-------|-------|-------------|
| Male | 72 | 19.63 | 5.66 | 142 | 5.23 | 1.98 | Significant |
| Female | 72 | 15.89 | 2.38 | | | | |

If t – cal > t – tab reject null hypothesis

Hypothesis states that there is significant Positive Difference in Participation of Males and Females respondents in Private Agricultural Extension Services

The result of the t – test in table 7 shows that male respondents recorded a mean score of 25.77 (S = 3.21) while female respondents recorded a mean score of 24.52 (SD = 3.16). The t – calculated value of 2.40 which is greater than the t – tabulated value of 1.98 suggests that significant difference exists between male and female respondents in public agricultural extension services. The implication of this finding is that male respondents participated more in private extension services than their female counterparts. The finding has implication for extension work as more males are involved in extension services such as training by extension agents, farmers workshop and farmers field day.

Private Company officials use remunerative methods as incentives with strict supervision and during field investigation; this may hinder the female farmers. Male farmers may adapt to this conditions more than their female colleagues because of this strategy by the private company officials.

Table 7: Participation of Male and Female Respondents in Private Agricultural Extension Services

| Variable | N | Mean | SD | Df | T-cal | T-tab | Remark |
|----------|----|-------|------|-----|-------|-------|-------------|
| Male | 70 | 25.77 | 5.66 | 142 | 5.23 | 1.98 | Significant |
| Female | 82 | 24.52 | 2.38 | | | | |

If t – cal > t – tab reject null hypothesis

Hypotheses Two

Difference in Gender Perceived Effectiveness both in Public and Private Agricultural Extension Services

States that there is no significant positive difference in perceived effectiveness between male and female respondents in public agricultural extension services

The result of the t – test in table 8 below shows that the male respondents recorded a mean score of 8.17 (SD = 4.48) while the female respondents recorded a mean score of 7.92 (SD = 3.34). The T – calculated value of 0.37 is less than the T – tabulated value of 1.98 suggesting that no significant difference exists between male and female respondents in public agricultural extension services.

The implication of this finding is that male and female respondents participated effectively in equal number in public extension services. This finding disconfirms the result of earlier studies that males were favored more in agricultural extension activities than their female counterparts (Ogbanga, 1998).

Table 8: Perceived Effectiveness between Male and Female Respondents in Public Agricultural Extension Services

| Variable | N | Mean | SD | Df | T-cal | T-tab | Remark |
|----------|----|------|------|-----|-------|-------|-------------|
| Male | 72 | 8.17 | 4.48 | 142 | 0.37 | 1.98 | No |
| Female | 72 | 7.92 | 3.34 | | | | Significant |

If $t - cal < t - tab$ accept null hypothesis NS

Hypotheses Two ^(B): States that there is no significant positive difference in perceived effectiveness between male and female respondents in Private Agricultural Extension Services

The result of the t – test in table 9 below shows that male respondents recorded a mean score of 16.06 (SD = 5.88) while female respondents recorded a mean score of 13.24 (SD = 4.48). The t – calculated value of 3.27 which is greater than the t – tabulated value of 1.98 suggesting that significant difference exists between male and female respondent sin private agricultural extension services.

The implication of the finding is that male respondents participated more effectively in private extension services than their female counterpart. This finding has implication for extension work as more male are involved in extension services such as training by extension agents, farmers workshop and demonstration on the farm. The finding suggests that private extension services were more profit – oriented and were interested in providing things that would benefit the generality of people in their area of operation.

Table 9: Perceived Effectiveness between Male and Female Respondents in Private Agricultural Extension Services

| Variable | N | Mean | SD | Df | T-cal | T-tab | Remark |
|----------|----|-------|------|-----|-------|-------|-------------|
| Male | 70 | 16.06 | 5.88 | 150 | 3.27 | 1.98 | Significant |
| Female | 82 | 13.24 | 4.48 | | | | |

If $t - cal > t - tab$ reject $H_0 = significant$

CONCLUSION

The following conclusions have emerged from the study:

- i. The socio-economic characteristic revealed that both male and females in public and private agricultural extension systems were matured in age and marriages are done early with many children and had been practicing farming for many years, and also engaged in full-time farming, a larger number of males and females in public agricultural extension systems were not educated enough to understand scientific teaching compare with their counterparts in private agricultural extension systems. Male respondent in public sector, claimed to control the resource of their family. Furthermore, male and females respondent in both public and private agricultural extension systems had the same farm size of 3-6 hectares and finally majority of the farmers both public and private agricultural extension systems belong to church union than other organizations.
- ii. Majority of the respondents in public agricultural extension services had a low level of gender participation in the study areas.
- iii. There was the need to compare the level of gender participation in public agricultural extension systems because the average grand mean scores was 2.00, while grand mean

- score for males 1.54 and females 1.51 which was regarded as low level of gender participation.
- iv. The perception of the gender participation in public agricultural extension organization generally was regarded as low in most of the items indicated.
 - v. Majority of the respondents in private agricultural extension service have high level of gender participation in the study areas.
 - vi. The result showed that comparing the level of gender participation in private agricultural extension systems, the grand mean scores for males were 2.61 and females 2.50 which is regarded as high level of gender participation as most recommended.
 - vii. The perception of the gender participation in private agricultural extension organization were regarded as high level of perception because the mean scores of all the items were regard as cut off point.
 - viii. Gender participation response on effectiveness of public agricultural extension indicates, ineffectiveness on the organization, this may be that government did not have much influence on profit-oriented operations and services to the people.
 - ix. The effectiveness of agricultural extension in private organizations shows that majority of the services provided as effective because the mean scores for males and females were above 1.50 which was the mid-point and is regarded as effective.

RECOMMENDATIONS

Based on the conclusion of this study, the following recommendations were made:

- i. Gender in public and private agriculture extension systems should be given equal participation. The social economic imbalance such as marital status, level of education qualification and full-time farmers should not be yard stick for selection process for public and private sectors, but should focus on the youth within the age 18 through 40 years so that they will be effective participation.
- ii. The public agricultural extension systems need to adopt a new strategy to improve the level of gender participation.
- iii. Gender participation should be made a policy issue among public extension service.
- iv. For effective gender participation including the agencies needs a new branding, orientation, in identifying, project design, competence record keeping and financial management.

REFERENCES

- Adesina, A. A. & Chianu, J. (2002). Determinants of Farmers Adoption and Adaptation of Alley Farming Technology in Nigeria, pp. 55 – 59.
- Agbamu, J. U. (2007). Gender Issues and Indigenous Technology. THE CASE OF NIGERIAN WOMEN IN AGRICULTURAL DEVELOPMENT IN: Contemporary Issues in Agricultural Extension Development Studies. Series 1. MOLSUFEM United Services, p. 37.
- Akpabio, I. A. (2005). Human Agricultural, Social Themes, In Agricultural Development published by Abam publishing Co. p. 101.
- Amaza, P. S. & Olayemi, J. K. (2006). The influence of Education and Extension contact of food Crop Production in Gombe State, *Nigeria Journal of Agribusiness and Rural Development*, (1) 80 – 84.
- Ani, A. O. (2007). Agricultural Extension. A Pathway for Sustainable Agricultural Development. pp. 79 -92.

- Anwanane, E. B. (1990). Strengthening Research and Extension Linkages through monthly Technology Review meeting Akwa Ibom State ADP Experience. Proceeding of 5th annual farming system research and extension workshop in south eastern, Nigeria Umuidike, Enele press, pp. 8 – 10.
- Arnon, I. (1989). Agricultural Research and Technology Transfer. New York E/Servier applied science publishers, p. 63.
- Common Wealth Secretariat (2001). Women's Roles in Economic Development: Eartyscan publication ltd London, pp. 12 – 15.
- Common Wealth Secretariat (2003). Gender Mainstreaming in Agriculture and Rural Development. A Reference Manual for Government and other Stakeholders. Common Wealth Secretariat.
- DFID (2007). Department for International Development: We need to talk to achieve MDGs. www.panos.org/uk.
- Ekong, E. E. (2003). An Introduction to Rural Sociology Dove Educational Publisher Uyo, Nigeria.
- Emmah, G. N. (2005). Objectives of Agriculture extension Department of Agricultural Economics and Extension, Nigeria (Tide Newspaper) and Technology, Port Harcourt, pp. 6 – 8.
- Epps, J. (1988). 'Towards a Theology of Development' In: Approaches that work in Rural Development. (ed) Burbidge, J. New York, London, 132 – 137 (1st Edition).
- FAO (2004). Capacity Strengthening in National Project Execution Statewide Training Background Documentation, p. 8.
- FAO (2006). Gender and Agricultural Support Systems. Sustainable Development (SD) Food and Agricultural Organization of the United Nation (FAO): <https://www.fao.org/sd/wpdirect/4/15/2006>
- Gold Lash, A. (1981). Agreement for and Against Participation in Spellgo Urban Renerial No. 27. p. 49.
- Harry, A. T. (2003). An Assessment of Agricultural Extension Methods of Rivers State ADP (RISADEP) Unpublished M.Sc thesis, University of Uyo.
- Hartmut, A., Herbet, B., George, D., Eberhard, G., Volker, H., Peter, K., Gerhard, P. & Rolf S. (1989). Rural Development Series. Agricultural Extension Vol. 1. Basic Concept and Methods Technical Co – operation – Federal – Republic of Germany.
- Imoh, A. N. (2002). A study of family size and participation of women in the socio – economic development of Mbaise, Imo State, Nigeria.
- Isife, B. I. (2004). An Analysis of Non – Governmental Agricultural Extension System in South – Eastern Nigeria. Unpublished Ph.D. Dissertation University of Nigeria, Nsukka.
- Jiggins, J. R., Samanta, K. & Olawuye, J. E. (2006). Proceeding of the 40th Annual Conference of Agricultural society of Nigeria (ASN) held at National Root Crops Research Institute Umudike, Abia State, Nigeria.

- Obibuaku, L. O. (1983). *Agricultural Extension as a Strategy for Agricultural Transformation*. Nsukka, University of Nigeria press, p. 14.
- Ogbanga, U. (1998). *A study of an Agricultural Support Service System in Ogba – Egbema – Ndoni Local Government Area of Rivers State*. M.Sc. Project report, Dept. of Agricultural Economic and Extension, Rivers State University of Science and Technology, Port Harcourt.
- Oladele, O. I., Adesicope, O. M. & Chiamka, N. A. (2007). *Contemporary Issues in Agricultural Extension and Development Studies Series*, 1. pp. 83 – 84.
- Oluwatayo, I. B. & Ahmed, A. (2007). Gender Differentials in Information Communication Technologies (ICTs) Usage in Rural Nigeria: *Nigerian Journal of Rural Sociology*, Vol. 7 No. 1 & 2. pp. 59 – 61.
- Perumal, G. (2004). Former Director of Extension, Tami Naidu Agricultural University, Workshop Coimbatore – India.
- Pini, B. (2002). Focus Group, Feminist Research and Farm Women: Opportunities for Empowerment in Rural Social Research. *A Journal of rural studies*, pp. 339 – 351.
- Prasad, R. M. (2001). Private Extension System Options and Issues. *Paper Presented on National institute of Agricultural extension management*. Rajendranoger. India.
- Shekara, P. C. (2005). Private Extension in India; Myths, Realities, Apprehension Approaches.
- Udoh, A. J. (1999). Person, Socio – economic and infrastructural indices for poverty Alleviation, in Akwa – Ibom State of Nigeria, p. 113.
- Unamma, R. P. A. (2006). "Farming System Research and Development in Nigeria. Published by Ben – EL. Marygold Communication pp. 207 – 210.
- UNDP (2002). Capacity Strengthening in National Project execution, State.
- UNDP (2006). Niger Delta Human Development Report.
- World Bank (2001). Accelerated Development in Sub – Saharan Africa: An Agenda for Action, Washington, D. C. The World Bank.