

## **THE IMPACT OF THE GROWTH ENHANCEMENT SUPPORT SCHEME ON LOCAL FARMERS IN NIGERIA**

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### **Abstract**

Agriculture in Nigeria has been facing a lot of challenges for a long period of time. These challenges include: sheer neglect by successive administrations after the discovery of crude oil, low productivity occasioned by traditional methods of farming, negative mindset towards farming by many citizens and over-dependence on imported foods to mention a few. However, in recent years, dramatic effort has been made by the government to improve productivity in agriculture, guarantee food security and set the stage for mass export of farm produce. This study involves descriptive survey of farmers in the federal capital territory (FCT) and a case analysis of growth enhancement support scheme (GESS) of the government. The study was set out to explore the role the facilities in place especially in the area of information and communications Technology has played in enhancing food production. A qualitative approach was adopted in this research. A total of 52 local farmers in Bwari Area Council of FCT were randomly selected. Primary data were collected using semi-structured questionnaire. Descriptive statistics and likert scale were used to analyze the data. The study shows that majority of the farmers used and benefitted from ICT facilities such as radio, television, mobile phone and internet. The research showed that ICT positive impact in agriculture among respondents is 76.92% as against non-impact of 15.38%. The breakdown of the figure indicates that 54% of the respondents had improved yield, 18% had increased income and 14% had better standard of living.

**Keywords:** Information and communication technology; Food production; Growth enhancement; Agriculture.

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## **1. Introduction**

### **1.1 Background of the study**

Information and communication technology (ICT) is an umbrella term that includes any communication device or application encompassing radio, television, cellular phone, computers as well as the various services and applications associated with them such as video conferencing and distance learning. ICT has played a great role in our society. Its' revolution has brought huge implications in both social and economic development in our world.

Agriculture, just like other sectors, has benefited from ICT revolution and latest innovations in ICT have expanded the development of Agricultural sector in different forms. The use of ICT in Agriculture ranges from advanced modern technologies such as global positioning system (GPS), navigation satellite communication and wireless connectivity, to older technologies such as radio and television. However the rural dwellers still lack basic communication infrastructure for accessing crucial information in order to make timely decision. The application of ICT in agriculture generates possibilities to solve problems of rural inhabitant and to promote the agricultural productivities by providing scientific information timely and directly to farmers. Introduction of mobile phones has brought about a tremendous change in the agricultural sector, resulting into dramatic improvement in efficiency and profitability in agriculture industry. Fortunately, Nigeria has the largest mobile market in Africa with more than 184 million subscribers and a penetration of about 10% and teledensity of 107.67.

ICT can improve incomes of farmers in rural areas by increasing productivity and introducing income channels other than traditional farm jobs [12]. The spread of mobile phone services allow farmers to land their products timely in the market where whole sellers are ready to purchase them without presence of middlemen.

"Food is life", it is the fundamental connection between people and the planet. To feed about 7 billion people in the world today requires a dramatic improvement in the quantity and quality of food produced globally. This increase in food production can be anchored in the concept of sustainable agriculture which addresses many environmental and social concerns as well as offers innovative and economically viable opportunities for growers, laborers, consumers, policy makers and many others in the entire food system. Three main goals of

sustainable agriculture are environmental health, economic profitability, social and economic equity. The overall effect of the foregoing concept is food security. Food security exists when all people at all times have physical, social and economic access to sufficient, safe and nutritious food which meet their dietary needs and food preferences for an active and healthy life. Nutrition can be a driver of change or a barrier to progress. A healthy mind in a healthy body generates productive ideas which are instrumental to bringing solution to the numerous challenges of mankind.

To enhance food production, farmers' motivation is essential, which drive the desired impact down the agricultural value chain. The existence of effective value chain depends on the efficient and systematic flow of relevant information which in turn depends on the existence of an efficient and reliable ICT infrastructure and the associate services to connect to a diverse range of stakeholders along the agricultural value chain [6]. To meet the ever rising food demand of nations especially in Nigeria, there should be a paradigm shift from the traditional way of food production to innovative and modern technological methods. It is worthy of note that the success and pervasive nature of modern technology especially in agriculture is propelled by effective information management system.

Agricultural productivity is directly proportional to agricultural knowledge and useful information available to farmers. Agricultural knowledge and information system (AKIS) involve persons, network, institutions and interfaces between them, which engage in or manage the generation, diffusion and utilization of knowledge and information and which potentially work synergistically to improve the goodness of fit between knowledge and environment and the technology used in agriculture. We are in a generation when information is power. Information in essence, is data that have a particular meaning within a specific context [8]. To guarantee enhanced food production, information communicated to famers is a key resource. .

The knowledge base of an individual is dependent on the amount and quality of information obtained. Agricultural communication is the effective transfer of agricultural technological innovation from technology developers (e.g. research institutes, universities, private organizations etc.) to the technology users such as farmers. High quality information should be made available to farmers. The following attributes defines the quality of

information:Timeliness: which answers the question, do you have access to information when you need it. Does the information describe the time period you are considering.Location: information is of no value to you if you cannot access it your location or the information location should not matter.Information technology can create information quality with technologies that support workplace virtualization, mobile e-commerce, etc. so that you can access it from any source. One most effective means of making information available to the users (farmers) is the adoption of management information system (MIS). This entails the design and implementation of procedures, processes and routines that provide suitably detailed report in an accurate, consistent and timely manner. Management information system is an organized approach to the study of the information needs of an organization management at every level in making operational, tactical and strategic decisions.

Information exhibits high quality only if it is pertinent, relevant and useful.Bradford in 1930s and 40s used the term relevance to characterize articles relevant to a subject [7]. B.C Vickrey made the concept of relevance explicit in an address at the international conference on scientific information [11].Relevance in information science and information retrieval denotes how well a retrieved document or set of documents meet the information need of the users. Lechie et al [10] stated that the accessibility of an information source is the most prominent factor affecting its use, while Gerstberger et al [5] examined the cost associated with using certain information source, that is, the effort involved. Based on previous studies, they made a distinction between two kinds of effort: psychological and physical.To access the psychological effort they measured the caseof use of information source and to access the physical effort they measured the accessibility. The available information must be useful and meets the socio-economic and ecological needs of the farmer.The presentation or delivery of the information can be in any of these format audio, text or sms, video or graphics. The quality of information is defined by its form and one's ability to make use of it. Data integrity or freedom from error must be ensured by the relevant authority to shield the information or data users from accessing adulterated messages especially in this era of information explosion. Relevant information becomes useful when it is effectively diffused.

Diffusion of innovation is a theory that seeks to explain how, why and at what rate new ideas and technology spread through cultures. Everett Rogers in his book 'Diffusion of innovation' [3] argues that diffusion is the process by which an innovation is communicated through certain channels over time among the participants in a social system. He proposed that four main element influence the spread of a new idea: the innovation itself, communication channels, time and a social system. For effective diffusion of improved agricultural technology, efficient link must be established between the experts and the farmers. ICT literate extension agents make up the link.. As vital as information is among scientists, research institutes and other Stakeholders, more pertinent is agricultural technology information disseminated to the farmers. Agricultural communication focuses on passing agricultural related information among agricultural stakeholders and between agricultural and non-agricultural stakeholders. Agricultural extension entails the application of scientific research and new knowledge to agricultural practice through farmer education. It has been described as a system of out-of-school education for rural people [13]. Extension worker or agent facilitates this farmer education and serve as a link between the information source (research institutes) and the information users (the farmers).

### **1.2 Growth enhancement support scheme (GESS) and agriculture productivity**

To ensure food security and increase productivity and yield of small holder farmers in Nigeria, the federal government in 2012 launched an Agricultural Transformation Agenda (ATA). At the nucleus of this program is the growth enhancement support scheme. GESS is a well co-ordinated program which focused on giving necessary support to farmers to enhance their productivity. Information and communication technology facilities were deployed and used extensively in GESS program. The facilities include: (i) text message (SMS) to pass information to farmers (ii) capturing farmers bio-data in a database across the country (iii) use of electronic wallet (e-wallet) system (iv) distribution of farm inputs via mobile phone communication (v) issuance of identity electronic card to registered farmers. GESS represents a policy and pragmatic shift within the existing fertilizer market stabilization program which puts the resource-constrained farmer at its center through the provision of series of incentives to encourage the critical actors in the fertilizer value chain to work together to improve

productivity, household food security and income of the farmers. Four cardinal Goals of GESS include:

1. Target 5 million farmers in each year for 4 years that will receive enhancement support in mobile phones directly, totally 20 million at the end of 4 years.
2. To provide support directly to farmers to enable them procure agriculture inputs at affordable prices, at the right time and place.
3. To increase productivity of farmers across the length and breadth of the country through increased use of fertilizer (that is 50kg/ha from 13/ha).
4. Change the role of government from direct procurement and distribution of fertilizer to a facilitator of procurement regulator of fertilizer quality and catalyst of active private sector participation in the fertilizer value chain

The GESS external monitoring report 2014 stated that 97% of Nigerian farmers said they had increase crop yield and 95% attested they had improvement in their income (appendix).

### 1.3 Statement of problem.

The indispensable and the most essential commodity to life is food. However, as important as food is, it is relatively in short supply to meet the need of rapidly increasing world population. Food and Agricultural Organization (FAO) of the United Nations (UN) stated that some 795 million people in the world, 10.9% of the world population suffers from hunger [7]. Majority of these persons are from sub-Saharan Africa.

**Table 1.0 poverty and hunger indicator**

|  |      |
|--|------|
| Rural poor as a % of the total poor population (2012)      | 70.3 |
| Rural hungry as a % of the total hungry population (2012)  | 65.5 |
| Rural extreme poor as a % of the total extreme poor (2012) | 74.1 |
| Under-nourished people on total population %               | 24.2 |

**Source: country STAT (Nigeria)**

Table 1.0 indicated that majority of the Nigerian population are poor and hungry and they reside in rural areas. No meaningful development will take place in a country where the majority of the population does not have food security. There is urgent need, therefore, to

boost food production and create employment for the teeming population. The traditional method of the food production, storage and processing incurs a lot of waste, low yield and frustration.

#### 1.4 Objective of the study

The main objective of the study is to evaluate the impact of ICT in agriculture in Nigeria.

Specific objectives include the evaluation of:

- i. the existing ICT facilities available and accessible to farmers
- ii. the extent to which ICT facilities have benefited the farmers
- iii. the impacts of ICT facilities in agriculture
- iv. farmers' access to relevant agriculture-inputs and information

## 2. Methodology

This study encompasses the nation of Nigeria, the most populous country on the continent of Africa.

**Table 2.1: Socio-demographic indicators of Nigeria**

|   |             |
|---|-------------|
| Total population (number of inhabitants, 2014)          | 181,403,148 |
| Population growth (2013)                                | 3.2%        |
| Agricultural population (number of inhabitants, 2011)   | 98,073,024  |
| Agricultural population (annual growth rate, 1998-2008) | 0.43%       |
| Rural population (% in total population, 2008)          | 51.6%       |
| Unemployed rate (2014)                                  | 25.1%       |
| Ratio of economically active male to female population  | 1:58        |

In agriculture

**Source: Country Stat (Nigeria)**

Table 2.1 indicates that more than half of the total population in Nigeria engages in agriculture. The table also shows that large percentage of farming population resides in rural areas. Hence, this study was undertaken in a rural community where the majority of the targeted population resides. There are two sides to this study: a descriptive survey of local farmers in Bwari Area Council of FCT, Abuja, where primary data were generated and a case

analysis based on summary secondary data culled from the growth enhancement support scheme (GESS) field report, 2014.

## **2.1 Population of the study**

Agricultural population which is made up of 98,073,024 farmers was targeted, out of 36 states plus (FCT) Abuja, a choice of FCT was made. This location truly represents the country not only because it is the capital territory but also its population comprises of almost all the ethnic localities in Nigeria. FCT is located in the North Central Geo-Political zone of Nigeria. It has an estimated population of about three million. It is located at latitude 9° 4' N and Longitude 7° 29' E. FCT Abuja has a land area of 7,753.9 square kilometers 2,824 square miles. Bordering the FCT are the States of Kaduna to the North-East, Plateau to the East and South, Kogi to the South-West and Niger to the West and North-West. The largest indigenous groups in Abuja are the Gbagyi (also known as Gwari). The next largest indigenous group is the Koro. Small indigenous groups such as the Gade, Egbura, Gwandara, Bassa and Ganagana also inhabit the territory. FCT is blessed with a mix of agricultural produce such as root and tuber crops (yam, maize, cassava and plantain) of the south and grains (Sorghum, Guinea corn, Rice) of the north. Mineral deposits in FCT include: Marble, Tin, Mica, Clay, Wolframite, Tantalite and Talc.

FCT, Abuja is made up of six Area Councils. These are: Abaji, Abuja Municipal, Bwari, Gwagwalada, Kuje and Kwali Area Councils. Bwari Area Council was selected among the 6 Area councils in FCT. This location is predominantly rural, where a large percentage of the inhabitants are farmers. Bwari Area Council has an estimated population of 365,010 with land area of 914 square kilometers. The original inhabitants of Bwari Area Council are the Gbagyi speaking people. The Paramount ruler is the Esu who is otherwise known as Sa-bwaya.

## **2.2 Sampling Procedure**

A total of 54 respondents were randomly selected from three locations in Bwari Area Council. These locations are: Sabon-gari, Kuduru, and Barangoni. The respondents were farmers living in the Area Council. Out of 54 questionnaires administered, 52 were returned. The respondents comprised 44 male and 8 females. One-on-one interaction with the farmers using questionnaire was undertaken. The literate respondents answered the questions by themselves



while illiterate one (though very few) responded through interpreters. More than half of the respondents were met in their farm location. This study was carried out in December, 2015.

### **2.3 Instrumentation**

A semi-structured questionnaire was designed for the study. The content of this instrument reflects the objective of the study. Essentially, the questionnaire contains 13 items as well as 16 items in likert scale questions. 10 out of the 13 items in the questionnaire relate to the ownership, use and benefit of communication equipment whereas the remaining 3 items relate to bio data of the respondents. Bio data of respondents was placed below because of the conservative nature of some respondents who would have felt embarrassed if personal details were demanded first. The likert items relate to the respondents awareness and benefit from agricultural facilities as well as the availability of such facilities (Table 3.4). The response pattern of the likert scale items was based on 4 points: Strongly agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD), with weight of: SA=4, A=3, D=2, SD=1.

### **2.4 Data Collection**

This Study made use of survey and questionnaire research method. Data for the study were collected using questionnaire. A total of 54 questionnaires were distributed to randomly selected respondents who were all farmers. The study was carried out with the help of a trusted research assistant. This approach was to guarantee the authenticity of the data. Out of 54 copies of the instrument distributed, 52 were found useful. This made up 96.3% of the total number of the questionnaires. The figure was found sufficient for the research work. Statistical method used in this study include: percentage, pie chart, bar chart, mean and ratio.

## **3. Results presentation**

The demographic profile in table 3.1 provides information on farmers' gender level of education and age bracket.

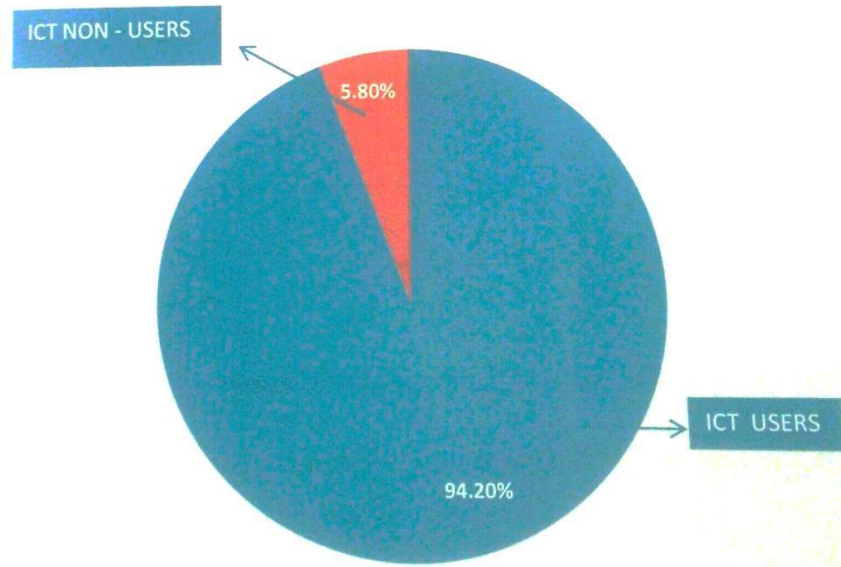
**Table 3.1 Respondents Demographic Profile**

| Items              | Frequency<br>(n=52) | Percentage<br>(%) | Ratio<br>Male: Female |
|--------------------|---------------------|-------------------|-----------------------|
| (Gender)           |                     |                   |                       |
| Male               | 44                  | 84.62             | 5:1                   |
| Female             | 8                   | 15.38             |                       |
| Total              | 52                  | 100               |                       |
| Level of Education |                     |                   |                       |
| None               | 2                   | 3.85              |                       |
| Primary/Basic      | 17                  | 32.69             |                       |
| Secondary          | 19                  | 36.54             |                       |
| Tertiary           | 14                  | 26.92             |                       |
| Total              | 52                  | 100               |                       |
| Age (years)        |                     |                   |                       |
| 20 & below         | 6                   | 11.54             | Mean (x)              |
| 21-30              | 4                   | 7.69              | 38.38                 |
| 31-40              | 21                  | 40.38             |                       |
| 41-50              | 15                  | 28.85             |                       |
| 51-60              | 5                   | 9.62              |                       |
| Above 60           | 1                   | 1.92              |                       |
| Total              | 52                  | 100               |                       |

A total of 52 respondents took part in the study. Out of the total number, 84.62% were males while 15.38% were females. Their level of education shows that 3.85% did not have formal primary/ basic education, 32.69% had basic education, 36.54% attended secondary education While 26.92% passed through higher institutions. Age bracket of the respondents indicates that 11.54% were below 20years, 7.69% were between 21 to 30 years old, 40.38% were between 31 to 40 years old, 28.85% were between 41 to 50 years old while 9.62% were between 51 to 60 years old and 1.92% was over 60 years.

### 3.1. Users and ICT Types in Use

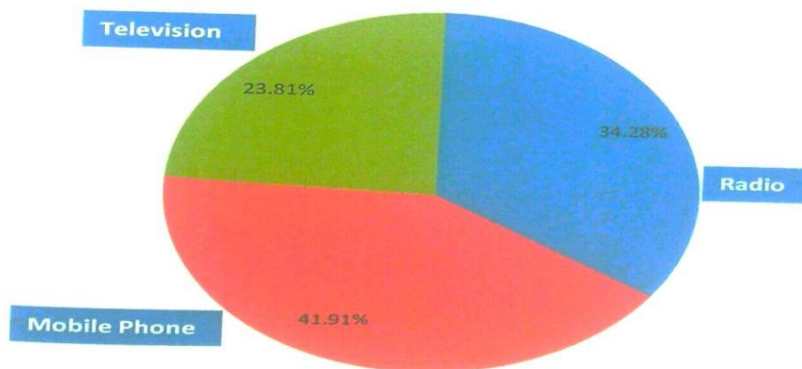
The respondent's distribution based on users and non-users of ICT is shown in fig.3.1.



**Fig. 3.1** Users and non-users of ICT

Majority of the respondents stated that they use one ICT gadget or another.

Fig. 3.2 shows ICT type in use. Mobile phone users have the highest percentage, followed by radio and television in that order.



**Fig. 3.2:** ICT types in use

### 3.1.1 Benefit from ICT

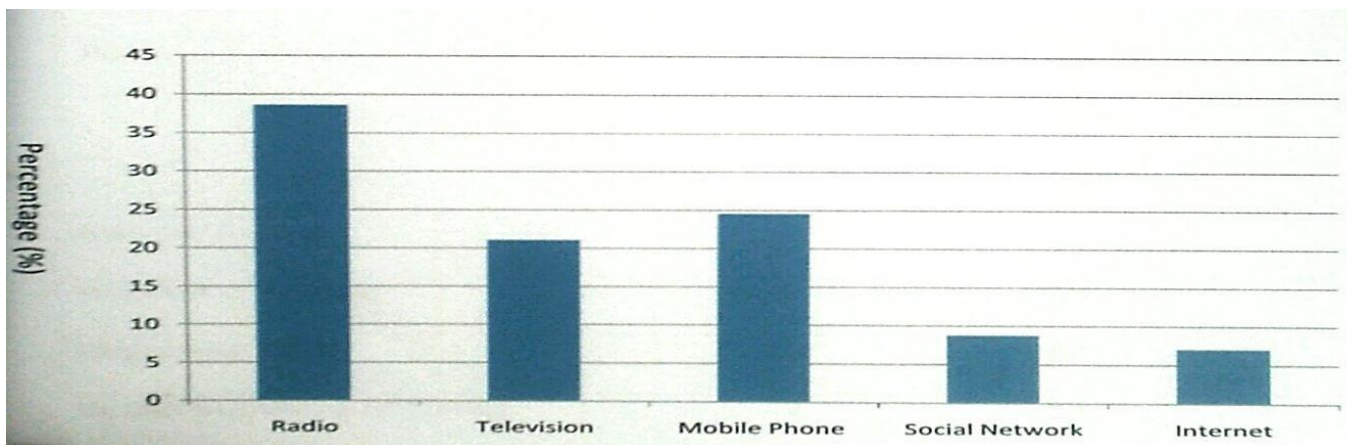
Table 3.2 shows the number of respondents who benefited from the information obtained from ICT as well as the nature of the benefit.

**Table 3.2 ICT Users Benefit**

| Items                                  | Frequency (n=50) | Percentage (%) |
|--|------------------|----------------|
| Persons with ICT benefit               | 41               | 82             |
| Persons without ICT benefit            | 9                | 18             |
| Total                                  | 50               | 100            |
| Nature of ICT benefit (awareness) n=63 |                  |                |
| Commodity price                        | 18               | 28.57          |
| Farm inputs (fertilizer/seeds)         | 26               | 41.27          |
| Harvest time                           | 9                | 14.29          |
| Planting time                          | 10               | 15.87          |
| Total                                  | 63               | 100            |

### 3.1.2 Source of Latest Information

Latest information source among the respondents is shown in fig. 3.3. The statistics indicate that radio communication is the largest information source of the respondents (38.60%), this is followed by mobile phone 24.56%, television 21.05%, social network 8.77% and internet 7.02%



**Fig. 3.3: Source of latest information**

### 3.1.3 ICT Impact on Farming

Table 3.3 indicates that greater percentage of the respondents had improved Yield whereas others confirmed having increased income as well as better standard of living from using one form of information technology or the other.

**Table 3.3 ICT Impact on farming**

| Items                      | Frequency (n=52) | Percentage (%) |
|----------------------------|------------------|----------------|
| Persons with ICT impact    | 40               | 76.92          |
| Persons without ICT impact | 8                | 15.38          |
| Neutral                    | 4                | 7.69           |
| Total                      | 52               | 100            |
| Area of Impact             | n=50             |                |
| Increased income           | 9                | 18             |
| Improved yield             | 27               | 54             |
| Better standard of living  | 7                | 14             |
| Neutral                    | 7                | 14             |
| Total                      | 50               | 100            |

Table 3.3 shows that 76.92% of the farmers attested to the fact that ICT have made positive impact in their farm work as against 15.38% who have a contrary view. Among the total number of 50 farmer sampled, 18% have increase income, 54% had improved yield, 14% had better standard of living whereas 14% were neutral. This indicate that majority of the farmers are well off in their farm work by use of ICT

### 3.1.4 Respondents access to information and agricultural facilities.

The level of awareness and access to relevant information and agricultural facilities is depicted in the likertscale shown in table 3.4. Total number of respondents that participated was 47. Mean(x) was computed for each item as shown in table 4.4 with likert mean=2.50.

**Table 3.4 Respondents Access to information and Agricultural Facilities**

| S/n | Item  | views (n=47) | mean=2.50 | Mean (x) |
|-----|---|--------------|-----------|----------|
| 1   | Access to information on new varieties of seeds           |              |           | 2.81     |
| 2   | Knowledge of Agriculture chemicals and uses <sup>**</sup> |              |           | 3.04     |
| 3   | Information on market situation                           |              |           | 2.72     |
| 4   | Knowledge of best planting techniques                     |              |           | 2.82     |
| 5   | Knowledge of methods of disease prevention and control    |              |           | 2.31     |
| 6   | Best processing method information                        |              |           | 2.31     |
| 7   | Storage information                                       |              |           | 2.67     |
| 8   | Knowledge of record keeping and management                |              |           | 2.23     |
| 9   | Knowledge of fertilizer types and uses                    |              |           | 2.76     |
| 10  | Access to credit facilities <sup>*</sup>                  |              |           | 1.47     |
| 11  | Knowledge of improved breed of animals (birds and fishes) |              |           | 1.94     |
| 12  | Information on credit facilities                          |              |           | 2.19     |
| 13  | Information on best feeding method                        |              |           | 2.04     |
| 14  | Information from research institutes                      |              |           | 1.68     |
| 15  | Information on weather forecast                           |              |           | 2.40     |
| 16  | Information from extension agents                         |              |           | 1.94     |

\* Least mean score

\*\* Highest mean score

### 3.2 Discussion of Results.

The result of the survey indicated that there are more males than females involved in agriculture with regard to gender (Table 3.1). In fact, the ratio of males to females is 5:1. This implies that for every female farmer, there are 5 male farmers. This disparity is much, going by the trend that the ratio of male to female population under the ages of 24 - 54 years in Nigeria is 1:1.05 [2]. The research reveals that the average age of the farmers is 38 years. This shows

that most farmers in the FCT are young and are still within their productive age. Table 3.1 also shows that the most common age bracket is between 31-40 years, which is 40.38%. This figure is significant as only 1.92% of the population is above 60 years and 17.54% are 20 years and below. It was also discovered that majority of the farmers in the sample area were educated. 36.54% finished secondary school, 32.69% had basic education and 26.92% had tertiary education. Only 3.85% of the farmers had no formal education. This agrees with CIA world fact book [2] report that more than half of The Nigerian population was literate (61.3%).

Fig. 3.1 shows that greater number of respondents uses ICT: 94.2% use ICT while 5.8% do not. For ICT types in use (fig. 3.2), mobile phone has the highest percentage (41.9%) followed by radio 34.28% and television 23.81%. This agrees with the fact that mobile penetration in Nigeria is about 10%, teledensity stood at 107.3%. Most Nigerians are information literate, this fact enabled the federal government reach a wide population of farmers (about 14,719,283 million) through ICT in 2012 - 2014 growth enhancement support scheme.

Table 3.2 indicates that 82% the respondents benefited from ICT while non-benefit stood at 18%. This clearly shows that many farmers have access to information through mobile phones, radio and television. Fig. 3.2 shows that most farmers got latest information through radio communication (38.60%) and least number of farmers from internet (7.02%). Table 3.2 also reveals that greater number of farmers 41.27% affirmed that they had access to information on farm inputs such as fertilizer and improved seed. As a result of this awareness, the Federal Ministry of Agriculture was able to distribute 29,438,010 (50 kg) bags of fertilizer to farmers from 2012 to 2014 (appendix). Remarkable impact has been felt in agriculture as a result of the use of ICT.

Table 3.4 shows that majority of the farmers have access to information on new variety of seeds, storage information, fertilizer types and uses, best planting techniques (mean >2.50) and highest mean score on knowledge of agricultural chemicals and uses (mean=3.04). This implies that the farmers are well informed on basic agriculture techniques. In contrast, it is obvious that most farmers do not have access to credit facility (least mean score of 1.47). This explains the reason majority of the farmers remain at subsistent level in food production. Moreover, information from research institutes and extension agents (mean<2.50) rarely gets

to peasant farmers in the field. This predicated farmers' reluctance to adapt to modern, highly productive farm techniques that would improve their capacity.

#### **4. Conclusion and Recommendation**

##### **4.1 Conclusion**

Nigeria with agricultural land area of 78,500,000 (ha) presents a viable opportunity to explore various forms of agriculture for enhanced production. This opportunity can be grossly underutilized if the age-long traditional ways of farming with its attendant low productivity is not done away with. To produce an enlightened generation of farmers who will tap into great technological innovations for higher food yield, information and communications technology is a key resource. The study shows that availability and access to basic information and communication technologies have great impact in agriculture. Remarkable impact has been made in agriculture as a result of the use of ICT. The figure stood at 76.92% impact as against 15.38% non-impact. The breakdown of this figure indicates that 54% of the respondents had improved yield, 18% had increased income and 14% had better standard of living.

It is on record that the productivity of most of the farmers has been appreciably improved as a result of using communication equipment; this implies that improvement on number of available infrastructures in ICTs as well as effective dissemination of agriculture-related information will inadvertently give a boost to food production in the country. This would certainly make Nigeria a net exporter of agricultural produce in the nearest future.

##### **4.2 Recommendations**

The following items are recommended from the research findings;

1. More women should be encouraged and motivated to participate in profit oriented agriculture beyond subsistence.
2. Better incentives should be made available to real farmers to attract greater percentage of youths and unemployed graduates to agriculture.
3. ICT literate extension agents should be trained and deployed to farmers in the field for effective farmer education.



4. The extension agents or workers must be fluent in the local dialects in their coverage area for effective communication and instruction.
5. Multimedia message service (MMS) and simple text messages (sms) integrating voice (preferably in local dialects) and data could be sent to farmers periodically to enable them adapt to modern way of farming.
6. Credit facilities should be made available to farmers at grassroots (not political farmers) which can easily be accessible without impediment of collateral security.
7. Modern technological approach developed by research institutes in agriculture should be communicated to farmers on routine basis.
8. Agricultural intervention program such as GESS should be harnessed and revived for greater productivity.
9. Higher budgetary allocation should be given to agriculture research institutes and agencies as well as thorough supervision for improved research findings and implementation.
10. High powered monitoring and implementation team should be setup by the ministry of agriculture for effective monitoring and implementation of projects at all levels of agricultural value chain.

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APPENDIX I  
**FEDERAL MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT**  
**FARM INPUT SUPPORT SERVICE DEPARTMENT**

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November 17, 2015

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 Abuja.

Attention: Oradilo Emeka G.

RE: APPLICATION FOR STATISTICAL DATA ON GROWTH ENHANCEMENT SUPPORT SCHEME (GESS)

Further to our letter no. FFD/MGT/524/VOL. III/283 dated 4<sup>th</sup> November, 2015 on the above subject matter, I am directed to inform you that we have received the information from your university accordingly.

2. Consequent to the above, I am to forward to you the data requested as shown in the table below:

| Parameter                           | Season 2012  | Season 2013   | Season 2014   | Total         | Remarks   |
|-------------------------------------|--------------|---------------|---------------|---------------|---|
| Total no. of farmers captured       | 1,215,228    | 5,525,494     | 7,978,283     | 14,719,005    | Total number of farmers targeted over 4years periods is 20million at 5million per year. |
| Quantity of fertilizers distributed | 2,430,456.00 | 11,050,988.70 | 15,956,565.98 | 29,438,010.68 | Each year each farmer in the programme is entitled to                                   |

|   |   |  |  |  |  |
|---|---|--|--|--|--|
|   |   |  |  |  | two 50kg bags of fertilizer in the wet season and three 50kg bags in the dry season.   |
| No. agro-dealers involved                           | 1665  |  |  |  | Number of agro-dealers increases on year by year basis based on increasing number of farmers.<br><br>However, the disaggregated figure on yearly basis was not available, only the total number. |
| Impact of GESS on food production within the period | It contributed in increase in production as 97% of farmers surveyed from the report of 2014 GES External Monitoring stated that the inputs they received led to increase crop yields and 95% stated that GESS had improved their incomes. |  |  |  | -  |
| Level of target achievement                         | The level of target achievement stood at 98.1% because out of 15million farmers targeted between 2012 to 2014, a total of 14.72million were registered.   |  |  |  | -  |

3. It is hoped that the above meets your need in carrying out the research project.

4. Please accept the best regards of the Honourable Minister.



**SALE ADAMU**

Assistant Director (FRIM)

For: Honourable Minister.