 

# Use of Information and Communication Technologies among Women Farmers in Kogi State, Nigeria

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**Abstract**

The study investigated the Information and Communication Technologies (ICTs) use among women farmers in Kogi State, Nigeria. A sample of 60 women farmers participated in the study. Interview schedule was used to elicit information. Data generated was analyzed with descriptive statistic including percentage and mean score. Statistical analysis shows that majority (45%) of the women farmers were within the age bracket of 40-49 years. Majority (75%) were married, a good number (40%) had primary school education, half (50%) of the respondents had a household size of 5-8 persons, majority (40%) had a farming experience of between 16-21 years, many (60%) practiced mixed farming whereas 50% cultivated less than one hectare of farmland. It equally reveals that radio (65%) was the major ICTs used by the respondents. High cost of ICTs facilities (M=3.0), high charges for electricity bills (M=2.5), poor supply of electricity (M=2.5), poor connectivity and accessibility (M=3.0) and illiteracy (M=3.0) among others were the constraints to the use of ICTs among the women farmers. Based on the findings, the following recommendations were made: (1) The government should encourage service providers/telecom operators to ensure that they increase network coverage to the communities by building more infrastructure (2) Government should provide electricity or other alternatives such as solar-powered facilities for farmers so that they can power their radios and other ICTs facilities (3) Reduction in electricity tariffs/bills and (4) subsidizing the prices of cellular phones in other to actualize the Growth Enhancement Support Scheme (GES) which is designed to deliver government subsidized farm inputs directly to farmers via GSM phones.

**Keywords:** Information and Communication Technologies, women farmers, Growth Enhancement Support Scheme

## 1. Introduction

Information and Communications Technology (ICT) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning (search.techtarget.com). It also encompass diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. These technologies include computers, the internet, broadcasting technologies (radio and television), and telephony (en.wikibooks.org/wiki/ICT).

The use of ICT has been significant in enhancing agricultural production by providing information about pest and disease control, especially early warning systems, new varieties, new ways to optimize production and regulations for quality control. Application of ICTs in agriculture covers areas like education and awareness, commodity prices and market information, data collection and pest and disease outbreak warning and tracking. In education and awareness, information are provided via mobile phones etc to farmers and extension agents about good practices, improved animal breeds /crop varieties and pest and disease management (Hellstrom, 2010). With respect to commodity prices and market information, information on prices in regional markets to inform decision throughout the entire agricultural process could be passed via ICTs. Data collection and monitoring and evaluation (M&E) are vital part of development work, as the results determine where public services are most needed, and what approaches prove effective. Traditionally, pen and paper have been used to collect data in the field and for monitoring and evaluation of projects in rural areas. However, this approach is time consuming and susceptible to human error that may affect productivity and accuracy. ICTs are now being used widely with remarkable positive results to perform these tasks in agricultural development projects (Cespedes, 2013). ICTs are also used in sending and receiving warning or data on outbreak of diseases and pests.

In Nigeria, agriculture is predominantly practiced in the rural areas of the country; hence, the need to ensure that farmers in the rural areas get access to farm input such as fertilizers, seeds and information to enhance their productivity. In view of this, in July 2012 the Federal Government introduced the Growth Enhancement Support Scheme (GES) which is designed to deliver government subsidized farm inputs directly to farmers via GSM phones (Businessday News January 21, 2013). The GES scheme is powered by eWallet, an electronic distribution channel which provides an efficient and transparent system for the purchase and distribution of agricultural inputs based on a voucher system. The scheme guarantees registered farmers eWallet vouchers with which they can redeem fertilizers, seeds and other agricultural inputs from agro-dealers at half the

 

cost, the other half being borne by the Federal Government and State government in equal proportions. The project links farmers directly to government and vice-versa so that government will be able to monitor the progress of farmers as well as disseminate valuable information to them (Vanguard Newspaper, January 15, 2013). The eWallet project also serve as an avenue to educate, inform and communicate with farmers in rural areas across the country on the latest and best agricultural practices, as well as the current prices of commodities in the market. The connectivity between GES and ICTs demands that farmers should have access to ICTs especially mobile phones. It becomes imperative to address the following questions: which ICTs facilities are available and accessible to farmers especially the women farmers in Kogi State of Nigeria? What is the level of use of these facilities by these women farmers? What are the constraints to the use of these ICTs facilities? To provide answers to these questions, the study aims at:
(1) describe the socio-economic profile of the women farmers;
(2) ascertain the ICTs available to the respondents;
(3) investigate the constraints to the use of these ICTs

## 2. Methodology

The study was conducted in Kogi State of Nigeria. The coordinates of the State are 7°45'0" N and 6°45'0" E (www.getmap.net/maps). The State has 21 Local Government Areas. Agriculturally, it is divided into four agricultural zones namely zones A, B, C and D. Simple random sampling was used to select Zone B out of the four zones. Zone B is made up of six extension blocks namely Dekina, Ejume, Odenyi, Gboloko, Abejukolo and Ankpa. There are a total of 35 circles in the Zone. Ten circles were randomly selected. In each of the circles selected, 6 women farmers were randomly selected, thus, giving a sample of 60 respondents. Interview schedule was used for data collection. Data analysis was performed using descriptive analysis including percentage and mean score. Objective 1 was achieved by asking the respondents to react to questions like age, education, farm size etc. To achieve objective 2, the respondents were to select from options available the ICTs facilities available to them. In accomplishing objective 3, the respondents reacted to option provided using a 3-point Likert rating scale of “to large extent = 3”; “to small extent = 2” and “to no extent = 1”. A cut off point of 2.0 was used to determine the constraints to the use of these ICTs.

## 3. Results and Discussion

### 3.1 Socio-economic profile of the respondents

Entries in Table 1 reveal that majority (75%) were married, 5% were divorced while 20% were widowed. Majority (45%) of the respondents were within the age bracket of 40-49 years, 15% 20-29, 20% 30-39 whereas 20% were 50 years and above (Table 1). The Table equally shows that a good number (40%) had primary education, 30% had no formal education, 20% had secondary education whereas a minute proportion (10%) had tertiary education. Half (50%) of the respondents had a household size of 5-8 persons, 30% had 1-4 persons while 20% had 9 persons and above (Table 1). Majority (40%) of the respondents had been in farming business for a period of between 16-21 years, 5% had less than 10 years of farming experience, 35% had 10-15 years, 15% had 22-27 years while 5% had over 28 years farming experience. The Table also shows that majority (60%) practiced mixed farming, 25% practiced crop farming whereas 15% practiced animal husbandry. Half (50%) of the respondents cultivated less than one hectare, 40% cultivated 1-2 hectares while 10% cultivated 3 hectares and above.

The findings imply that the respondents were married, still in their productive age and have a large household to cater for. The findings also show that the respondents could read and write since they had passed through primary school training. The findings also reveal that the respondents were indeed small scale farmers since they cultivated less than a hectare of farmland. The women farmers have also been involved in farming for a long period of time.

 

Table 1. Percentage distribution of respondents based on socio- economic profile (n=60)

| Variables | Percentage |
|---|---|
| **Marital status** | |
| **Married** | 75.0 |
| **Divorce** | 05.0 |
| **Widowed** | 20.0 |
| **Age (years)** | |
| **20-29** | 15.0 |
| **30-39** | 20.0 |
| **40-49** | 45.0 |
| **50 and above** | 20.0 |
| **Educational qualification** | |
| **No formal education** | 30.0 |
| **Primary education** | 40.0 |
| **Secondary education** | 20.0 |
| **Tertiary education** | 10.0 |
| **Household size (persons)** | |
| **1-4** | 30.0 |
| **5-8** | 50.0 |
| **9 and above** | 20.0 |
| **Farming experience (years)** | |
| **<10** | 05.0 |
| **10-15** | 35.0 |
| **16-21** | 40.0 |
| **22-27** | 15.0 |
| **28 and above** | 05.0 |
| **Type of farming** | |
| **Crop farming** | 25.0 |
| **Animal husbandry** | 15.0 |
| **Mixed farming** | 60.0 |
| **Farm size (hectares)** | |
| **<1** | 50.0 |
| **1-2** | 40.0 |
| **3 and above** | 10.0 |

Source: Field survey, 2013

### 3.2 ICTs available to the women farmers

The data in Table 2 indicate that radio (65%) as an ICT was readily available to the respondents. It further shows that Television (40%), cellular phones (30%), internet (5%) and Computer and its accessories e. g. printer, scanner (10%) were available to the women farmers. This result implies that notwithstanding this era of Internet and cellular phones, the women farmers are still dependent on radio. This was confirmed by www.farmradio.org/pubs/farmraio-ictreport2011 who noted that radio programs have long proved useful in informing populations in remote locations, and in some cases, this was the only way to connect rural communities to information on health, agriculture, and other services.

The use of mobile phones, the internet, and other modern hardware is common in many development projects today while one of the oldest technologies—radio—is sometimes unnecessarily neglected though on it has its peculiar challenges e.g. the timing of programs is critical, the ability to listen to programs is closely tied to ownership, and women typically have less access. The GES aims that reaching the farmers individually using cellular phones; the findings of this study should serve as an eye opener to tell the providers of GES that these women do not have access to phones and that necessary arrangement should be made to provide phones to the women so that they can be carried along in the GES programme.

 

Table 2. Percentage distribution of respondents on ICTs available to the women farmers (n=60)

| Variables | Percentage |
|---|---|
| **Radio** | 65.0* |
| **Television** | 40.0* |
| **Cellular phones** | 30.0* |
| **Internet** | 05.0* |
| **Computer and its accessories e. g. printer, scanner etc** | 10.0* |

*Multiple responses
Source: Field survey, 2013

### 3.3 Constraints to the use of ICTs

Table 3 reveals the constraints to the use of ICTs as perceived by the women farmers. High charges for electricity bills (M=2.5), poor ICT infrastructure development (M=2.5), poor connectivity (M=3.0), high cost of ICTs facilities (M=3.0), high charges for ICTs facilities e. g. airtime for cellular phones (M=3.0), poor knowledge on ICTs usage especially internet and computer (M=2.7), poor supply of electricity (M=2.5), illiteracy (M=3.0) and lack of training on ICTs use (M=3.5). It is observed that ICTs facilities are electricity driven/dependent; therefore, there should be regular supply of electricity. The billings for the electricity used should also be subsidized. Alternately, is to provide solar facilities. With these in place, these constraints could be tackled.

Table 3. Mean score distribution of respondents based on constraints to the use of ICTs (n=60)

| Constraints | Mean (M) |
|---|---|
| **High charges for electricity bills** | 2.5 |
| **Poor ICT infrastructure development** | 2.5 |
| **Poor connectivity and accessibility for internet, TV, radio etc** | 3.0 |
| **High cost of ICTs facilities** | 3.0 |
| **High charges for ICTs facilities e. g. airtime for cellular phones** | 3.0 |
| **Poor knowledge on ICTs usage especially internet and computer** | 2.7 |
| **Poor supply of electricity** | 2.5 |
| **Illiteracy** | 3.0 |
| **Lack of training on ICTs use** | 3.0 |

Mean=2.0
Source: Field survey, 2013

## 4. Conclusion and Recommendations

The study investigated the Information and Communication Technologies (ICTs) use among women farmers in Kogi State, Nigeria. Result reveals that majority (45%) of the respondents were within the age bracket of 40-49 years. Many (75%) were married, 50% had primary school education, 50% had household of 5-8 persons, 40% had between 16-21 years of farming experience while 50% cultivated less than one hectare. It equally revealed that the ICTs available to the women farmers were radio (65%), implying that Radio as one of the oldest ICTs still remain relevant among the women. High cost of ICTs facilities (M=3.0), high charges for electricity bills (M=2.5), poor supply of electricity (M=2.50), poor connectivity and accessibility (M=3.0) and illiteracy (M=3.0) among others were the constraints to the use of ICTs among the women farmers.

The study recommends that the: (1) service providers/telecom operators should be encouraged by the government to ensure that they increase network coverage to the communities by building more infrastructure (2) government should provide access to electricity in rural areas or other alternatives such as solar-powered facilities for farmers to power their radios and other ICTs facilities (3) reduction in charging electricity bills and (4) subsidizing the prices of cellular phones in other to actualize the GES which is designed to deliver government subsidized farm inputs directly to farmers via phones.

 

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