

## INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN RURAL AREAS IN KOGI STATE

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### ABSTRACT

This study examined people's access to Information and Communication Technology (ICT) in rural areas in Kogi State. The specific objective of the study was to examine the access to, ownership and utilization of ICT in the State. Primary data were collected through household survey using structured questionnaire. The structured questionnaire was validated in a departmental seminar where the proposal and draft of the instrument were presented. Multi-stage sampling method was adopted to select 10 households each from 120 rural communities that were earlier randomly selected from the 21 Local Government Areas (LGAs) of the State. This makes a total sample of 1,200 households used in the survey. The data collected were analyzed through the use of descriptive statistics. The finding of this study was that on the average, 51.4%, 49.1% and 57.2% of rural households in Kogi State have access to, own and utilize at least one form of ICT respectively. The study recommended that Kogi State government, Non-Governmental Organizations and individual philanthropists should establish more ICT training centres and Community Internet Service Centres (CISC) in rural areas. Also, rural dwellers in Kogi State should make themselves available for ICT training.

**Keywords:** Information, Communication, Technology, Rural Area.

**JEL:** O33, O18.

### INTRODUCTION

Information and Communication Technologies (ICTs) are changing the world at an unprecedented rate. The information age has opened up the entire world and has turned it into a global village. The lives of people, how they live, the type of jobs they do, the way they communicate, and the way they travel are being affected almost day-to-day by the introduction of new technological and scientific inventions. The rapid evolution and accessibility to electronic devices like mobile phones, laptops, tablets and the rapid expansion of the telecommunications industry in Nigeria have greatly influenced and facilitated easy access to ICT and awareness of its potential benefits (Kogi State Government, 2012).

ICT is understood to offer people new opportunities as well as new challenges (Postman, 1998). According to Adigwe (2012), ICT is perceived to be a force to be reckoned with in the 21st century because it has caused and continues to cause major changes in the way we live. In the electronic media, ICT has ignited and provoked radical and drastic changes that have affected and revolutionized the broadcast industry, most especially in immediacy and timeliness of news. According to him, ICTs play a pivotal role in the world economy and the ICT sector is increasing its trend share of economic activity. ICTs are an important input for economic performance. Information is critical to the social and economic activities that comprise the development process. Telecommunications, as a means of sharing information, is not simply a

connection between people, but a link in the chain of the development process itself (Hudson, 1995).

The main objective of this paper is to examine the access to, ownership and utilization of ICT in rural areas in Kogi State. The study covers 120 rural communities selected across all the Local Government Areas in Kogi State. The survey was carried out during the months of March and May, 2016 before the onset of the farming season to allow for high rate of return of the questionnaires that were administered. Following the introduction; section two is the conceptual review on rural area and ICT; section three is the methodology; discussion of results is presented in section four while section five contains the conclusion and recommendations.

## **Conceptual Clarifications**

### **Rural Area**

The American Bureau of Census (2000) classifies a group of people living in a community having a population of not more than 2,500 as rural. Whereas in Nigeria, the National Bureau of Statistics defined a community with less than 20,000 people rural (Ocheni & Nwankwo, 2012). Ashley & Maxwell (2001) defined rural area as constituting a space where human settlement and infrastructure occupy only small patches of the landscape, most of which is dominated by fields, pastures, woods, water, mountains and deserts.

### **Information and Communication Technology (ICT)**

ICTs are those technologies that can be used to interlink information technology devices such as personal computers with communication technologies such as telephones and their telecommunication networks. Michiels and Van Crowder (2001) defined ICTs as a range of electronic technologies which when converged in new configurations are flexible, adaptable, enabling and capable of transforming organizations and redefining social relations. The range of technologies is increasing all the time and there is a convergence between the new technologies and conventional media. According to Rodriguez and Wilson (2000), ICT is a set of activities which facilitate and enhance the processing, transmission and dissemination of information by electronic means.

## **METHODOLOGY**

### **Study Area**

The study area was the rural areas in Kogi State. Kogi State came into being as a result of the state creation exercise on 27th of August, 1991 with the administrative headquarters in Lokoja. The creation of the state was indeed a significant development for its citizens. This was because it brought about the reunion of a people who had shared historical roots and co-existed peacefully in the defunct Northern Region for more than 80 years. The state which was structured into twenty one (21) Local Government Areas comprises of three major ethnic groups i.e. Igala, Ebira and Okun (Yoruba). The minor ethnic groups include – Bassa Komo, Bassa Nge, Kakanda, Kupa, Ogori-Magongo, Nupe, Oworo, Gwari etc. (Kogi State Government, 2012).

### **Instrument for Data Collection**

Copies of a structured questionnaire were used for data collection in this study. The questionnaire sought information about households' characteristics, households' access, ownership and utilization of ICT.

### Method of Analysis

The analysis of data in this study was done based on the research objectives of the study. Descriptive statistics such as percentages and means were used to analyze data on households' access, ownership and utilization of ICT in rural areas in Kogi State.

## RESULTS

### Community Characteristics of Households' Heads in Rural Areas of Kogi State

As shown in table 4.1, the results show that 73 percent of the households live in villages, 78 percent of the rural communities have electricity and 86 percent opined that their roads are bad. Regarding households' access to Internet services, the survey indicated that 62 percent of the households do not have access to the Internet.

It is evident that most rural people in Kogi State live in villages that have electricity and other social amenities. The availability of social amenities serves as a pull factor to an average rural dweller. This is one of the plausible reasons why there are more people in villages than hamlet and farm settlements in Kogi State. Also, most rural dwellers in Kogi State do not have access to the Internet. This may be due to ICT illiteracy, low income and inadequate Internet coverage. The few rural dwellers in Kogi State that have access to the Internet make use of their GSM phones.

**Table 4.1:** Results of Community Characteristics of the Households' Heads in Rural Areas of Kogi State

Socio-economic Characteristics of Rural Communities	Percentage (%)
Type of Rural Community of Respondents	
Hamlet	25.0
Village	73.0
Farm Settlement	2.0
Availability of Electricity in Rural Community of Respondents	
There is Electricity	78.0
No Electricity	22.0
State of Roads in Rural Community of Respondents	
Good Roads	14.0
Bad Roads	86.0
Access to Internet Services of Respondents	
Personal MODEM	6.0
Internet Facility at the Office	1.0
Mobile Phone	31.0
No Internet Access	62.0
Source: Author's computation (2016)	

#### 4.2 Socio-demographic Characteristics of the Households' Heads in Rural Areas of Kogi State

Table 4.2: Socio-demographic Characteristics of the Households' Heads in Rural Areas of Kogi State

General Characteristics of Respondents	Percentage (%)
<b>Gender of the Respondents</b>	
Male	72.0
Female	28.0
<b>Age Group of the Respondents</b>	
(18 - 30yrs)	13.0
(31 - 40yrs)	28.0
(41 - 50yrs)	36.0
(51 - 60yrs)	17.0
(61 - 70yrs)	4.0
71yrs & Above	2.0
<b>Marital Status of the Respondents</b>	
Single	20.0
Married	75.0
Divorced	5.0
<b>Household Size of the Respondents</b>	
(1 - 4)	45.3
(5 - 8)	35.2
9 & Above	19.5
<b>Educational Attainment of the Respondents</b>	
No Formal School	8.0
Primary School Leaving Certificate (Complete)	7.0
Primary School Leaving Certificate (Incomplete)	1.0
Senior Secondary School Certificate (Complete)	29.0
Senior Secondary School Certificate (Incomplete)	2.0
NCE/OND/A' Level	33.0
B.Ed/B.Sc./HND	20.0
<b>Occupation of the Respondents</b>	
Civil Servants	16.0
Traders	11.0
Farmers	28.0
Transporters	3.0
Artisans	7.0
Unemployed	35.0
<b>Employment Status of the Respondents</b>	
Employed	65.0
Unemployed	35.0
<b>House Ownership Status of Respondents</b>	
Tenant	52.0
House Owner	48.0
Source: Author's computation (2016)	

As shown in table 4.2 overleaf, the results show that about 72 percent of the household heads were males, 36 percent falls within the 41 – 50 years age bracket, 75 percent were married, 45.3 percent of these household heads had a household size of 1 – 4 and 33 percent completed their NCE/OND/A' Level programmes. In addition, results show that 30 percent of the household heads are civil servants, 65 percent were employed and about 52 percent of the households were tenants.

The above general characteristics of households in rural areas in Kogi State show that majority of the households are headed by males who are expected to fend for their households. The employment status and income levels of these household heads to a large extent determined

the standard of living of household members and their access to, ownership and utilisation of ICT.

Majority (75 percent) of the household heads are married. Marriage offers both parties concerned economic support. This is one of the reasons people desire it. Together, the couple could raise the standard of living of their household members. Also, since majority of the people in rural areas in Kogi State are within the child bearing age bracket (18 years – 50 years), they are in a position to further increase their household sizes i.e. give birth to more children except they consciously embrace family planning. This may further worsen the economic status of these households. Also, majority of the household heads (65 percent) are employed. This means that they are in a position to provide for the needs of their households while the 35 percent of the household heads that are unemployed may not be in a position to fend for their households.

### **Access to ICT in Rural Communities in Kogi State**

Table 4.3: Access to Radio, Television, GSM Phone, Personal Computer, the Internet & ICT Knowledge in Rural Communities in Kogi State

Access to ICT in Rural Communities in Kogi State		
Household Access to Radio	Has Access to Radio (%)	No Access to Radio (%)
Civil Servants	56.7	43.3
Traders	60.1	39.9
Farmers	85.7	14.3
Transporters	80.4	19.6
Artisans	69.6	30.4
Unemployed	71.8	28.2
Average	70.7	29.3
Household Access to Television (TV)	Has Access to TV (%)	No Access to TV (%)
Civil Servants	49.9	50.1
Traders	35.1	64.9
Farmers	85.7	14.3
Transporters	39.3	60.7
Artisans	90.2	9.8
Unemployed	71.8	28.2
Average	62.0	38.0
Household Access to GSM	Has Access to GSM (%)	No Access to GSM (%)
Civil Servants	86.6	13.4
Traders	84.9	15.1
Farmers	96.5	3.5
Transporters	80.4	19.6
Artisans	97.2	2.8
Unemployed	71.8	28.2
Average	86.2	13.8
Household Access to Personal Computer (PC)	Has Access to PC (%)	No Access to PC (%)
Civil Servants	36.6	63.4
Traders	15.2	84.8
Farmers	17.9	82.1
Transporters	19.6	80.4
Artisans	20.4	79.6
Unemployed	14.1	85.9
Average	20.6	79.4
Household Access to the Internet	Has Access to the Internet (%)	No Access to the Internet (%)
Civil Servants	19.9	80.1
Traders	15.2	84.8
Farmers	24.9	75.1
Transporters	0	100
Artisans	30.1	65.9
Unemployed	14.1	85.9
Average	17.4	82.0
Household ICT Knowledge	Has ICT Knowledge (%)	No ICT Knowledge (%)
Civil Servants	26.8	73.2
Traders	9.9	90.1
Farmers	39.3	60.7
Transporters	21.1	78.9
Artisans	19.6	80.4
Unemployed	29.1	70.9
Average	24.3	75.7
Source: Author's computation (2016)		

As shown in Table 4.3 overleaf, the results indicate that on the average, 70.7 percent of the households had access to radio, 62 percent had access to television, 86.2 percent had access to GSM phone, 20.6 percent had access to personal computer and 17.4 percent had access to the Internet. With regard to ICT knowledge, 24.3 percent of the household heads have ICT knowledge.

The reasons for the above results may not be far-fetched. The low cost of radio and GSM phone made them affordable to most people in the rural areas of Kogi State. The relatively high cost of personal computer coupled with the rural people's inadequate or lack of ICT knowledge accounted for their poor access to personal computer and the Internet.

In the light of the foregoing therefore, majority (70.7 percent) of the people in rural areas in Kogi State have access to the radio, it means that they can be reached with developmental programmes through the radio. Also, majority (62.0 percent) of people in the rural areas in Kogi State have access to the television which implies that developmental programmes can be channelled to the people through the television. Most rural people (86.2 percent) have access to GSM phone. The GSM phone therefore provides a veritable platform for the government and development partners to channel development programmes to the people in rural areas in Kogi State.

In contrast, most people (79.4 percent and 82.0 percent) in the rural areas in Kogi State do not have access to personal computer and the Internet respectively. Also, most of them (75.7 percent) do not have ICT knowledge. These mean that the people in the rural areas in Kogi State cannot be adequately reached with developmental programmes via the Internet and they may not be in a position to generate income through the use of personal computers or take advantage of the opportunities which the Internet may offer. Also, due to inadequate ICT knowledge rural dwellers in Kogi State may not be able to optimally utilise their ICT gadgets in ways that will help them overcome poverty, create employment opportunities or increase their agricultural output.

### Ownership of ICT Gadgets in Rural Communities in Kogi State

Table 4.4: Ownership of Radio, Television, GSM Phone, Personal Computer, Internet MODEM in Rural Communities in Kogi State

Ownership of ICT in Rural Communities in Kogi State		
Household Ownership of Radio	Owens Radio (%)	Does Not Own Radio (%)
Civil Servants	50.0	50.0
Traders	59.8	40.2
Farmers	85.7	14.3
Transporters	60.7	39.3
Artisans	69.6	30.4
Unemployed	71.8	28.2
Average	66.3	33.7
Household Ownership of Television (TV)	Owens TV (%)	Does Not Own TV (%)
Civil Servants	53.0	47.0
Traders	29.9	70.1
Farmers	85.7	14.3
Transporters	60.7	39.3
Artisans	90.2	9.8
Unemployed	70.5	29.5
Average	65.0	35.0
Household Ownership of GSM Phone	Owens GSM Phone (%)	Does Not Own GSM Phone
Civil Servants	80.1	19.9
Traders	79.9	20.1
Farmers	96.5	3.5
Transporters	80.4	19.6
Artisans	100.0	0.0
Unemployed	71.8	28.2
Average	84.8	15.2
Household Ownership of Personal Computer (PC)	Owens PC (%)	Does Not Own PC (%)
Civil Servants	33.3	66.7
Traders	9.8	90.2
Farmers	17.9	82.1
Transporters	19.6	80.4
Artisans	20.4	79.6
Unemployed	0.0	100.0
Average	16.8	83.2
Household Ownership of Internet MODEM	Owens Internet MODEM (%)	Does Not Own Internet MO
Civil Servants	19.9	80.1
Traders	15.2	84.8
Farmers	21.4	78.6
Transporters	0.0	100.0
Artisans	20.4	79.6
Unemployed	0.0	100.0
Average	12.8	87.2

Source: Author's computation (2016)

As shown in Table 4.4, the results indicate that on the average, 66.3 percent of the households own a radio, 65 percent owns television, 84.8 percent owns a GSM phone, 16.8 percent owns personal computer and 12.8 percent owns Internet MODEM. On the other hand, 33.7 percent do not own a radio, 35 percent do not own a television, 15.2 percent do not own a GSM phone, 83.2 percent do not own a personal computer and 87.2 percent do not own an Internet MODEM (see Table 4.4). All these implied that majority of the households in rural communities in Kogi State owned radio, television and GSM phone while minority owned personal computer and Internet MODEM. The aforementioned results have serious implications for rural development policies and programmes, especially if policy makers want to use ICT as a tool to bring about rural development in Kogi State. Majority of the people (66.3 percent, 66.0 percent and 84.8 percent) own radio, television and GSM phone respectively. This implies that the people in rural areas in Kogi State can be reached with development programmes via the radio, television and GSM phone.

In contrast, most people (83.2 percent and 87.2 percent) in the rural areas in Kogi State do not own a personal computer and Internet MODEM respectively. These mean that the people in the rural areas in Kogi State cannot be adequately reached with developmental programmes via the Internet and they may not be in a position to use personal computers to generate income or take advantage of the opportunities the Internet has to offer.

#### 4.5 Utilization of ICT in Rural Communities in Kogi State

Table 4.5: Utilization of Radio, Television, GSM Phone, Personal Computer, Internet MODEM in Rural Communities in Kogi State

Utilisation of ICT in Rural Communities in Kogi State				
Household Utilisation of Radio	Uses Radio Very Often (%)	Uses Radio Often (%)	Uses Radio Rarely (%)	Does Not Use Radio (%)
Civil Servants	23.3	16.7	16.4	43.6
Traders	15.2	9.8	35.3	39.7
Farmers	24.8	46.5	14.3	14.3
Transporters	0.0	39.3	41.1	19.6
Artisans	19.6	30.4	19.6	30.4
Unemployed	15.2	57.0	0.0	27.8
Average	16.4	33.3	21.1	29.2
Household Utilisation of Television (TV)				
Uses TV Very Often (%)	Uses TV Often (%)	Uses TV Rarely (%)	Does Not Use TV (%)	
Civil Servants	6.5	13.4	30.3	49.9
Traders	9.8	15.2	9.8	65.2
Farmers	3.5	64.2	17.9	14.4
Transporters	0.0	19.6	19.6	60.7
Artisans	9.8	30.4	50.0	9.8
Unemployed	14.1	43.6	14.1	28.2
Average	7.3	31.1	23.6	38.0
Household Utilisation of GSM Phone				
Uses GSM Very Often (%)	Uses GSM Often (%)	Uses GSM Rarely (%)	Does Not Use GSM (%)	
Civil Servants	69.9	13.4	3.3	13.4
Traders	70.0	4.9	9.9	15.2
Farmers	50.0	42.7	3.8	3.5
Transporters	60.7	0.0	19.6	19.6
Artisans	100.0	0.0	0.0	0.0
Unemployed	15.2	43.0	13.9	27.8
Average	61.0	17.3	8.4	13.3
Household Utilisation of Personal Computer				
Uses PC Very Often (%)	Uses PC Often (%)	Uses PC Rarely (%)	Does Not Use PC (%)	
Civil Servants	19.8	10.1	7.4	62.7
Traders	9.9	0.0	0.0	90.1
Farmers	7.0	10.9	0.0	82.1
Transporters	0.0	19.6	0.0	80.4
Artisans	30.4	0.0	0.0	69.6
Unemployed	0.0	0.0	0.0	100.0
Average	11.2	6.8	1.2	80.8
Household Utilisation of the Internet				
Uses the Internet Very Often	Uses the Internet Often	Uses the Internet Rarely (%)	Does Not Use the Internet (%)	
Civil Servants	39.9	10.1	13.4	36.6
Traders	20.1	0.0	0.0	79.9
Farmers	17.9	39.3	17.9	24.9
Transporters	19.6	0.0	0.0	80.4
Artisans	30.4	0.0	19.6	50.0
Unemployed	0.0	57.0	0.0	43.0
Average	21.3	17.7	8.5	52.5

Source: Author's computation (2016)



As shown in Table 4.5 overleaf, the results indicate that on the average, 16.4 percent, 7.3 percent, 61 percent, 11.2 percent and 21.3 percent of the households use the radio, television, GSM phone, personal computer and the Internet very often respectively; about 33.3 percent, 31.1 percent, 17.3 percent, 6.8 percent and 17.7 percent of the households use the radio, television, GSM phone, personal computer and the Internet often respectively.

On the average, about 21.1 percent, 23.6 percent, 8.4 percent, 1.2 percent and 8.5 percent of the households rarely use the radio, television, GSM phone, personal computer and the Internet respectively; about 29.2 percent, 38 percent, 13.3 percent, 80.8 percent and 52.5 percent of the households do not use the radio, television, GSM phone, personal computer and the Internet respectively.

The results above have serious implications for rural development policies and programmes, especially if policy makers want to use ICT as a tool to bring about rural development in Kogi State. Majority of the people, on the average (70.8 percent, 62.0 percent and 86.7 percent) use radio, television and GSM phone respectively. This implies that the people in rural areas in Kogi State can be reached with development programmes via the radio, television and GSM phone.

In contrast, few people, on the average (19.2 percent and 47.5 percent) in the rural areas in Kogi State do not use a personal computer and Internet MODEM respectively. These mean that the people in the rural areas in Kogi State cannot be adequately reached with developmental programmes via the Internet and they may not be in a position to use personal computers to generate income or take advantage of the opportunities the Internet has to offer.

The results of the analyses show the following:

- rural dwellers in Kogi State are facing epileptic supply of electricity. This has impeded their utilization of ICT gadgets since most of them do not have alternative source of electricity.
- roads in rural areas in Kogi State are in a bad condition. This has made it difficult for farmers to move their farm produce to the market for sale.
- most of the rural dwellers in Kogi State do not have access to the Internet. Most rural communities in the State do not have a single public cyber café.
- rural dwellers in Kogi State generally have access to and own radio. This implies that they can be reached with educational, political, social etc. programmes through the radio.
- rural dwellers in Kogi State generally have access to and own television. This implies that they can be reached with educational, political, social etc. programmes through the television.
- most of the people in rural areas in Kogi State have access to, own and actively utilise their GSM phones. GSM phone is therefore an effective medium through which the government and non-governmental development partners can reach the people in rural areas with information that would empower the people to overcome poverty, secure employment and improve their standard of living.
- most people in rural areas in Kogi State do not have access to, own or use personal computer. Therefore, they may not be able to take advantage of income generating opportunities that would require the use of personal computers.

## Conclusion and Recommendations

The potentials and opportunities offered by ICT have not been fully exploited in rural areas in Kogi State due to ICT illiteracy, epileptic and lack of electricity, lack of access, ownership and utilization of ICT gadgets. Kogi State Government, Non-Governmental organizations and individuals should establish ICT training centres across the State to provide technical training for the unemployed people. This will not only result in reduction in unemployment in the State but also it will provide the much needed ICT technicians that will provide ICT gadget repair/maintenance services to the people in rural areas in Kogi State.

Establishment of Community Internet Service Centres (CISC) across rural areas in Kogi State to provide easy access to the Internet for the people in rural areas. The cost of such services should be subsidized by the government or development partners. Financial institutions in rural areas in Kogi State should be encouraged by governments at different levels to give interest-free loans to rural dwellers to acquire ICT gadgets.

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