

## Use of ICT Among Rural People in Oyo State, Nigeria

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**Abstract:** Information Communication Technology (ICT) is being used in different parts of the world to bridge the gap between the rich and the poor in terms of technology change and development initiatives. Provision of ICT for people's use has been through public and private commercial centers where various facilities and infrastructure are available for different purposes. Respondents in the study were mostly in late thirties and had formal education although very few had higher education. ICT usage was mainly for popular facilities like radio, television, telephone, video player and computer. Very few of the respondents were in the high user category although most fell in the medium perception class. Majority perceived the benefit from ICT as being moderate. Age and constraints had significant negative relationships with ICT use while perception and perceived benefit had positive significant relationships. Constraints experienced by respondents to use of ICT ranged from infrastructural to financial handicap. Many could not afford the use and some did not have the required education to handle the facilities.

**Key words:** Technology, development, education

### INTRODUCTION

Information has been identified worldwide as a veritable tool for development and good governance. In fact, in many situations, it can be utilized as means of gathering policy alternatives for running governments, organizations and even small communities. This is so in that it enhances individual participation in activities that can translate into expressions of preferences, intentions and even dislikes, all of which are potential guides in policy formulation. Information as a tool for development positions individuals such that they possess the capacity to take right decisions to foster well being of persons and the community at large. Thus from the late nineties, efforts have been geared up internationally to enhance information reach for individuals in areas of education, commerce, technology and governance.

ICTs are basically information-handling tools-a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information. They include the old ICTs of radio, television and telephone and the new ICTs of computers, satellite and wireless technology and the Internet (UNDP,<sup>[1]</sup>). The ICT is a veritable source of knowledge for all people and it also bridges the distance between any pair of persons, groups or nations. ICT can be regarded as both a driver and an enabler. In many of the other NRF focus areas, ICT is treated as an

enabler-influencing how things are done-but this focus area considers the aspects of ICT as the driving force for current or future change<sup>[2]</sup>. In this way, it is a means of enhancing technological development by providing scientific knowledge as a turnaround from local knowledge. ICT heralds the formation of knowledge societies in the rural areas of the developing world. However, this can only be realised when knowledge and information are effectively harvested for overall agricultural and rural development<sup>[3]</sup>. The importance of ICT becomes very important as a means of getting information on local knowledge and practices as a baseline for generating appropriate development content and approaches. This is only possible when networks are efficiently established that enable communication cycles within and among different levels communities.

**Community telecenters:** The definition of a telecenter is as varied as the activities that such a center can offer. Smaller telecenters usually include basic Internet service and may also include access to fax, phone and photocopying. Others may include targeted activities in education and training, health, e-commerce, e-government services and more. The physical composition of telecenters also varies widely. Common models include kiosks, school computer labs made available to the public after h, multipurpose community telecenters and

mobile telecenters. Regardless of the different configurations, telecenters all have one common feature: they use IT to provide a range of services using a shared access model. Generally, the telecenters are established to provide the following:

- link online services for information, education and training,
- utilize e-commerce for direct linkages between local producers, traders, retailers and suppliers;
- enjoy interaction among researchers, extension (knowledge) workers and farmers;
- participate in question-and-answer services where experts respond to queries on specialised subjects;
- have up-to-date information, about various subjects of interest including governance and international issues;
- browsing websites established by agricultural research institutes, making the latest information available to extension (knowledge) workers and obtaining their feedback.

**The study:** In Nigeria, activities relating to information provision have been stepped up by utilizing IT, most especially the internet. This has been led by assistance from donor organizations and institutions both internationally and locally (International Institute of Tropical Agriculture (IITA), Commonwealth of Learning (COL), Oke-Ogun Community Development Network (OCDN), Total Development International Foundation (TODEV), Bowen University, University of Ibadan and Oyo State Agricultural Development Project (OYSADEP). Areas of assistance have been in providing computers, internet connectivity via V-sat, photocopiers, video players, televisions and other hardware. In some studies, these equipment are installed in strategic locations in communities where the populace can utilize them. Therefore, what is provided is similar to the Community Access Programme in Canada or the Multipurpose Community Telecentres<sup>[4]</sup>. Emphasis, as in the cited example, is on internet access by community members but in this study, more assistance is provided to facilitate the services of the center through training of users of the facilities and also provide other information access services.

The study is focused on ICT projects in two localities (Ago-Are and Eruwa communities) in Oyo state of Nigeria. The projects are similar in nature and are directed essentially towards providing basic training in multimedia usage, computer operation, accessing the internet, sending and accessing e-mail, browsing the web and posting questions to the agricultural help-desk. In the

study which are located at vantage points in each community to facilitate easy access by members, necessary equipment including electricity generators (as backup) are installed in the building which also serves as a community hall for meetings.

The Multipurpose Community Telecentres in Agoare and Eruwa communities are sited in central locations in the communities, in buildings which have been serving as community halls for meetings and other ceremonies. The telecenters are open to the general public for commercial activities which help generate the income to run the place like paying connectivity charges, electricity bills and other maintenance charges. They are equipped to provide the following services: internet services including e-mail utility, browsing the web and software training; photocopying, telephony, word processing, notice boards with charts and posters of interest to farmers and television viewing including video watching. Since its inception in 2004, the center has also been serving as a meeting place for farmers and resource persons.

## MATERIALS AND METHODS

Respondents were drawn from the two communities (Ago-Are and Eruwa) where the telecenters are located. Sampling was through stratification of each community into 8 sections and randomly selecting 15 respondents from each section. Data was then collected through the use of questionnaire, the contents of which were then analysed.

## RESULTS AND DISCUSSION

With a mean age of 37.6 years, it is obvious the respondents are still capable of learning and if the center intensifies the training aspect, many of them can easily acquire proficiency in ICT usage. However, there are more males than females among the respondents which indicates that women in the area give little concern to ICT usage. This may be because of the predilection of female which is more focused on income generating activities and to which they are not yet able to integrate with ICT as an enhancement. In the same vein, most are unmarried among which the lowest category of the age groups will predominate.

The educational status shows that more than half have up to secondary education. This is an encouraging scenario that provides the right pedestal for modern technology training that ICT encompasses. It will make it easy to pass instruction and expect understanding from the respondents in a training session since they are expected to be able to communicate efficiently. Thus the

**Table 1: Personal characteristics of respondents**

	Frequency	Percentage
Age (Mean = 37.6 years)		
Below 25 years	25	20.8
26-40	44	36.7
41-55	40	33.3
Above 55	11	9.2
Religion		
Christianity	73	60.8
Islam	44	36.6
No response	3	2.6
Gender		
Male	77	65.3
Female	43	34.7
Marital status		
Married	72	60.0
Single	48	40.0
Educational status		
No formal education	19	15.8
Primary school certificate	32	26.7
Secondary school certificate	42	35.0
Higher education	27	22.5
Main occupation		
Agricultural based	40	33.3
Civil service	1	0.8
Others.	79	65.9

high proportion of those with formal education presupposes higher usage of ICT.

The main occupation of the respondents is non-agricultural which is a pointer to the fact that the level of urbanization of the study area is high. However, a substantial proportion (33%) is still in agriculture with farms located in short distances from the village and on undeveloped plots. The bulk of the respondents are into artisanship and trading because public employment is not that available in the area.

It is obvious from Table 2 that all the listed ICT hardware are used by some of the respondents to some extent, this presents a situation where the possibility exists for any of this media to be established in the area. However, telephone, video player, radio, television and to some extent, computer, dominate the hardware used by the respondents. This is similar to the exposition of Farrell<sup>[5]</sup> that the older technologies are still the mainstay of educational outreach in many parts of the world because the state of infrastructure development has not allowed the same degree of adoption as has taken place in more developed countries. It is particularly interesting to note that the respondents make more use of electronic hardware than even books. This is in line with the UN ICT Task Force where it was discovered that the availability of basic ICT indicators is high for the following indicators: presence of electricity, radio, fixed telephone and TV (between 74 and 89% of the countries, representing 74 to 81% of the population of the responding countries). Less coverage is shown for the following basic indicators: presence of mobile telephone and presence of Internet access (United Nations ICT Task Force,<sup>[6]</sup>).

The number and level of usage of each ICT facility was determined and a composite score generated for the respondents. This is shown in Table 3. With a maximum score of 15 the mean ICT use score is 11. Very few respondents (15%) fell in the high use category while the majority are within the medium use category. This finding indicates a high potential for ICT as a means of information dissemination especially in agriculture which is the predominant occupation of the respondents and other development initiatives. This will definitely provide an alternative means for agricultural extension work although it will have to be organized and monitored.

The mean perception score of the usefulness of ICT is 92 and majority of the respondents fall within the medium category. This also implies that the respondents see ICT as a veritable means of information exchange and further indicates that given the opportunity, many of them will fully utilize the technologies in their quest for information. The table above presents a very low figure (8.3%) for those with poor perception. Thus, given appropriate sensitization of what to seek, the respondents will develop the right drive towards utilizing the versatility of ICT to acquire the needed information.

The availability and use of ICT is expected to be beneficial to the users especially in satisfying their purposes for using ICT. The extent to which the respondents felt they have benefited was scored through 5-point Likert type questions and the points summed. The mean score is 65.3 with only 12.5% being in the high score category and majority (75%) being of medium perception. The situation therefore is such that the respondents have so far felt satisfied with the services they have enjoyed from ICT at least to the extent of their desires. Thus if they are educated on how they can utilize ICT in other areas of their livelihood, they will certainly be open to the challenge.

Constraints to use of ICT ranged between poor infrastructure and financial capacity of respondents. It is obvious that the ICT situation in the study area is hampered mostly by electricity which culminates in non-functional equipment thus reducing the time when ICT can be accessed. This therefore limits the proficiency of users which is to be acquired after several usage. The result is that many cannot access information as desired and sources of information are also limited. The level of education of the users is also important here as the illiterates may not be able to follow the user prompts available with use of most hardware and software. Of lesser concern is proximity to ICT centres and this may be because they are usually located in easily accessible areas.

Table 2: Usage of ICT facilities among respondents

	Always		Sometimes		Never	
	Freq	%	Freq	%	Freq	%
ICT hardware						
Computer	34	28.3	42	35.0	44	36.7
Telephone	74	61.7	33	27.5	13	10.8
Video player	70	58.3	24	20.0	26	21.7
Radio	96	80.0	5	4.2	19	15.8
Digital receivers	16	13.3	10	8.3	94	78.4
Television	67	55.8	29	24.2	24	20.0
Multimedia hardware	6	5.0	13	10.8	101	84.2
Cable television	3	2.5	19	15.8	98	81.7
World wide web (internet)	16	13.3	28	23.3	76	63.4
E-mail	29	24.2	31	25.8	60	50.0
Film strips	21	17.5	26	21.7	73	60.8
Books	37	30.8	23	19.2	60	50.0
Newspapers	28	23.3	17	14.2	75	62.5
CD Rom /VCD	6	5.0	11	9.2	103	85.8
Fax machine	4	3.3	5	4.2	111	92.5

Table 3: Distribution of ICT use score (mean = 11)

Low (Below 6)	50	41.7
Average (6-11)	52	43.3
High (Above 11)	18	15.0

Table 4: Respondents' perception of ICT (mean = 92)

Low (Below 70)	10	8.3
Medium (71-110)	89	74.2
High (Above 111)	21	17.5

Table 5: Respondents' perceived benefit from use of ICT (mean = 65.3)

Below 65	15	12.5
65-76	90	75
Above 76	15	12.5

Table 6: Constraints experienced in the use of ICT

Unstable connectivity	70	58.3
Inadequate source of information	46	38.3
Lack of ability to use	39	32.5
Affordability	39	32.5
Level of education	31	25.8
Lack of time	30	25.0
Proximity to ICT	12	10.0

All the variables correlated with ICT use had significant relationships with it. Perception and perceived benefit had positive correlation values with ICT use, indicating that as the latter increases, the former (perception and perceived benefit) is enhanced. However, the age of the respondents and the constraints experienced are negatively correlated with ICT use, which implies that older people may be expected to make less use of ICT. This is of a particular challenge to development and change agents who often have to work with older people. Thus use of ICT by older people may have to be supplemented with other interpersonal approaches.

Chi-square values for crosstabs between ICT use and some variables

Variables	df	$\chi^2$	Significance	Decision
Gender	2	5.041	0.08	Not Significant
Marital status	2	10.497	0.05	Significant
Educational status	6	56.801	0.00	Significant

Variable predictors of ICT use (Regression analysis)

Model summary			
R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
0.701	0.49	0.47	2.75

a Predictors: (Constant), educational qua, constraints, perceived benefits, age, perception of ict

Model	Unstandardized coefficients		Standardized Beta	t	Sig.
	B	Standard error			
Constant	2.278	1.722		1.323	.189
Perception of ICT	.0393	.022	.210	1.804	.034
Perceived benefits	.00342	.037	.011	.091	.927
Constraints	-.131	.096	-.099	-1.361	.176
Age	-.0581	.022	-.195	-2.646	.009
Educational qualification	1.823	.290	.478	6.283	
	.000				

The crosstab result reveals that marital status and educational status have significant relationships with ICT use while gender does not. Education might be a limiting factor to ICT use in that illiterates may have less demand for information while married people may be much occupied and have less time for ICT use. Thus it is likely that singles and people of higher education will make more use of ICT. On the other hand being a male or female is of no consequence to ICT use.

With the coefficient of regression being 0.47, this implies that the variables included in the equation account for up to 47% of respondents use of ICT. And among the variable included, educational qualification is the strongest significant predictor of ICT use while perception of ICT and age are also significant variables, however, age is a negative predictor. It should be noted that the constraints identified in the study did not constitute significant problems to ICT use.

Table 7: Correlation of ICT use with other variable

Variables	Correlation coefficient	Significance	Decision
Age	-0.39	.00	Significantly correlated
Perception of ICT	0.42	.00	Significantly correlated
Perceived benefits from ICT	0.34	.00	Significantly correlated
Constraints experienced	-0.32	.00	Significantly correlated

Education has therefore been identified as a singular variable that can heavily influence use of ICT among people. This is coupled with the need to focus on the youths as older folks make less use of ICT. Thus these pair of variables constitute a veritable focus that can enhance use of ICT and therefore provide direction for development oriented governments intending to use ICT.

### CONCLUSION

The use of ICT by the respondents is still at low level considering the available facilities and the ones used. This situation is related to the level of technological development of the country, the state of the economy and what infrastructure the system can support. However, the current state of the use of ICT will gradually improve judging from the time the center was established and what it has achieved in a short time in terms of patronage.

There may be a need for the government to actively participate in enhancing ICT use by improving on the available infrastructure, providing ICT education and facilitating establishment of more ICT centers across the country. All these will be in line with the “Valencia Declaration” of February 4th 2003. Another potential issue is poor access for rural businesses to IT training and support services. As the UNDP<sup>[1]</sup> emphasised harnessing ICTs for human development requires awareness-raising and constituency-building across all levels of society.

### REFERENCES

1. United Nation Development Programme, 2001. Information communications technology for development. Essentials ICTD. UNDP, Evaluation Office, pp: 31.
2. Herselman, M.E., 2003. ICT in Rural Areas in South Africa: Various Case Studies: Informing Science InSITE - Where Parallels Intersect. Technikon Pretoria, Pretoria, South Africa.
3. Shaik N. Meera, Anita Jhamtani and D.U.M. Rao, 2004. Information and communication technology in agricultural development: A comparative analysis of three projects from India, Agricultural Research and Extension Network, pp: 135.
4. Paul, J., R. Katz and S. Gallagher, 2004. Lessons from the Field: An Overview of the current uses of information and communication technologies for development. Report by The World Resources Institute, pp: 18.
5. Glen M. Farrell, 2003. An Overview of Developments and Trends in the Application of Information and Communication Technologies in Education in Meta-survey on the Use of Technologies in Education in Asia and the Pacific 2003-2004 Edited by Glen Farrell, Ph.D. and Cédric Wachholz, UNESCO pp: 272.
6. United Nations ICT Task Force, 2005. Measuring ICT: The Global Status of ICT Indicators United Nations ICT Task Force, pp: 57.