# PERCEPTION ON THE USE OF ICT IN THE DISSEMINATION OF INFORMATION AMONG SMALL HOLDER FARMERS IN IDO LOCAL GOVERNMENT AREA, IBADAN, OYO STATE.

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**Abstract**
This study focused on the perception on the use of ICT in the dissemination of information among small holder farmers in Ido local government area, Ibadan, Oyo state. Primary data needed for the study were collected through theadministration of questionnaires. One hundred and ten farmers in the Ido local government were sampled. Both descriptive and inferential statistics were used in the analysis of the data. The result showed that 54.1% of respondents fall between the ages of 31-40 years alsomajority of the respondents (83.5%) are married, 98.2% of the respondents were educated of which 52.3% have senior secondarycertificate.The study revealed that majority(96.3%) of the respondents have access to information through radio, little access to extension services and information sharing among farmer is low.The result of the analysis shows that farmers' income and amount earned will increase access to information through ICT. It is therefore recommended that more agricultural programmes should be aired on radio and extension services should be increased or deploy and that farmers should be encourageto shared inform through the use of ICT for easy accessibility to information and agricultural innovations.

**Keywords: Perception, ICT, Dissemination, Information, Smallholder**

## Introduction

Information and communications technology or technologies 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. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries, (Margaret Rouse 2005).Munyua, (2000) said that rural communities require information on supply of inputs, new technologies, early warning systems (on drought, pests, climate change and diseases), credit, market prices and their competition. Given the fact that knowledge and information are basic ingredients for food security.ICTs if properly harnessed, offer the potential to store and transmit needed information for agricultural and rural development. The old ICTs of radio, television and wireless technology as well as the internet are important tools for meeting the information needs of small scale farmers. The information needs of farmers cut across extension education, agricultural technology, agricultural credit and marketing.The role of ICTs toward securing improvement of the resource-poor farmers through a synergy of access to telecommunications and socio economic development has been emphasized (Kiplang'at, 2003). The contemporary agricultural practices can yield significant result and attain sustainability through effective use of information exchange mechanisms like ICTs.Faced with so many challenges, there is need for the smallholder farmers to get the right information on how to tackle and surmount these challenges. As opined by, Adio et al, (2016), the major function of information is to increase the knowledge of the user, or reduce his level of uncertainty or reduce the varieties of choices available to users of information. For information to be effective, it must be accurate, timely and relevant. And one of the ways to achieve this is through the use of information communication technologies (ICTs), because ICT will help in empowering the smallholder farmer by providing better access to natural resources, improved agricultural technologies, effective production strategies, markets, banking and financial services, information on climate change and mitigation etc. Small holder farmers are defined in various ways depending on context, country and ecological zone, this explains why it is often interchange with the terms "small scale", "resource poor" and "peasant farmers.Smallholder farmers are the key to food security in Africa. Not only do they hold large swaths of arable land, but they also constitute about 70% of the workforce on the continent, (Osayi, 2021). These farmers rely solely on family labour for farm work and production, and they produce only for self-subsistence and market sales. As a result of climate change and other environmental problems, smallholder farmers are constantly faced with many challenges, such as, low yield, post-harvest losses, lack of finance, low mechanization and poor access to market and guaranteed access is vital for profitable success.There can never be any notable development in agriculture without the use of ICT. Agricultural information and latest innovations are better transferred from the government to the farmers through the use of ICTs. In most developing countries like Nigeria, opportunities offered by ICT can be exploited by enhancing the income of farmers and other rural

dwellers through improved knowledge about new ways of farming, fishing, animal production and home management. Similarly, rural farmers in particular in many regions of the world find radio as a veritable source of deriving extension related information. Radio has been found to be an effective means of disseminating agricultural information to farmers. It is widely used as a means of communication - sending and receiving information by people. Some studies have shown some significant roles radio has played in sourcing agricultural information. There is also expansion in both fixed lines and mobile networks in recent time with the latter growing in a phenomenal rate in some countries in Africa.,

The important role of ICTs has been well documented illustrating its importance to both advanced and developing countries like Chile, Peru, South Africa, India, Mexico, Bangladesh and Uganda, particularly in terms of information exchange in rural communities(Munyua,2000).The world today is still confronted with the problems of illiteracy and ignorance coupled with inadequate flow of information. The importance of information on research and development cannot be over-emphasized. Indeed, the usefulness of information and credibility of information source have been found to be positively and significantly related to adoption of improved c technologies.(Matthews Njoku, 2003).Almost all countries in Africa lack adequate agricultural information dissemination policies, and where this is available, governments pay lip service to its implementation.Ozowa (2008). Oladele (2011) observed that lack of agricultural information is a key factor that has greatly limited agricultural advancement in developing countries. Thus, agricultural information interacts with, and influences, agricultural activities in a variety of ways. This implies that agricultural information can help inform decision-making regarding land, labour, livestock, capital and management.ICTs, at a minimum, can enhance the livelihoods of small-scale farmers and improve market efficiency., ICTs as a development tools can help lead to higher literacy rates through distance learning, gender equality through the empowerment of women who gain greater access to economic opportunities and civil society, and sustainable development through easier dissemination of appropriate information (Mohan, 2001).Marketing information is also made easy for producers to be linked directly with consumers this will enhance better pricing.This study is geared to assess the perception of smallholder farmers on the use of ICT on the dissemination of information in Ido local government in dissemination of information in the study area.

## METHODOGY

### Study Area

The study area is Ido local government area in Oyo state, Nigeria. It lies between latitude 6.05°N and latitude 3.02°E, it is bounded to the north by Ibadan north local government, to the east by Ibarapa south west and Akinyele local government respectively and to the west by Oluyole local government to the south of Ogun state.Ido local government area of Oyo state is one of the eleven local government areas that make up Ibadan metropolis. It occurs a total land mass of 986km/square and a population of 103,261 at the 2006 census. Using 3.2% growth rate from 2006 census figure, the 2010 estimated population for the local government area is 2937,745(NBS,2009). The economy of Ido revolves around 25% agriculture. The seasons in this area are distinct and the climate distribution allow the practice of both dry season and rain fed-farming. Therefore, crops majorly grown in this area include food crops, cash crops etc. at various time of the year.

### Method of data collection

The study made use of both primary and secondary data .Primary data was collected through the administration of structured questionnaire to hundred and ten respondents. Five wards out of the ten wards in Ido local government area were purposively selected due to the concentration of farmers. Twenty-five (25) copies of questionnaire was administered to farmers in Omi-Adio, thirty (30) copies in Akufo, twenty (20) copies in Apata, seventeen (17) copies in Elenusonso and eighteen (18) copies in Apete.

### Method of data analysis

Descriptive statistics such as frequency distribution, tables, percentage were used to examine, the socio-economic characteristics, sources of information available, farmer's perception of the effectiveness and use of ICTs in dissemination of information while regression analysis was used to determine factors influencing farmers access to information through ICT.

$Y= \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3+ \beta_4X_4 + \beta_5X_5 + \beta_6X_6$

Where

Y= Access to information (dependent variables)

$\alpha$ = Intercept

$\beta$ = slope

X = independent variables

X1= Age
X2=Gender
X3=Marital status
X4= Education
X5=Occupation
X6=Household size
X7=Farm size
X8=Income

X9=Amount earned
X10=Access to ICTs gadgets.

## RESULTS AND DISCUSSION

### Table 4.1 socio economic characteristics of the respondent

Table 4:1 shows that most of the respondents (54.1%) are between the age range of (31-40) years, this indicate that most of the respondents are in their active age and are expected to be more vibrant and open to new information this will help immensely to productive farming.The result also reveals that females are more (51.4%) this is in line with Oladele (2003) who opined that gender poses no barrier to the active involvement in farming activities.The study also shows that majority of the respondents (83.5%) are married, this will create in them a sense of responsibility of catering for their family which is capable of prompting them to be more committed to productive farming. This correlates with the finding of Atibioke*et. Al.* (2012) who affirmed that smallholder farmers are mostly married. Also the result shows that 98.2% of the respondents are educated and 52.3% of them went up to the secondary level. It also shows that 78.9% of the respondents have 1-4 household size. 41.4% of the respondents receive their income from their product daily, while 65.1% of the respondents receive lesser or equal to 10000 weekly.

**Table, 4.1 socio economic characteristics of the Respondents**

| VARIABLES | FREQUENCY | PERCENTAGE |
|---|---|---|
| **Gender** | | |
| Male | 53 | 48.6 |
| Female | 56 | 51.4 |
| Total | 109 | 100.0 |
| **Age** | | |
| 20-30 | 7 | 6.4 |
| 31-40 | 59 | 54.1 |
| Others | 43 | 39.4 |
| Total | 109 | 100.0 |
| **Marital status** | | |
| Married | 91 | 83.5 |
| Single | 7 | 6.4 |
| Divorced | 2 | 1.8 |
| Widow/widower | 9 | 8.3 |
| Total | 109 | 100.0 |
| **Education** | | |
| Nil | 3 | 2.8 |
| Primary | 39 | 35.8 |
| Secondary | 57 | 52.3 |
| Advanced | 6 | 5.5 |
| Tertiary | 4 | 3.7 |
| Total | 109 | 100.0 |
| **Occupation** | | |
| Farming | 108 | 99.1 |
| Others | 1 | 0.9 |
| Total | 109 | 100.0 |
| **Household size group** | | |
| 1-4 | 86 | 78.9 |
| Greater or equal to 5 | 23 | 21.1 |
| Total | 109 | 100.0 |
| **Farm size** | | |
| 1-4 | 99 | 90.8 |
| Greater or equal to 5 | 10 | 9.2 |
| Total | 109 | 100.0 |
| **Income** | | |
| Daily | 28 | 25.7 |
| Weekly | 45 | 41.3 |

| | | |
|---|---|---|
| Monthly | 31 | 28.4 |
| Quarterly | 4 | 3.7 |
| Yearly | 1 | 9 |
| Total | 109 | 100.0 |
| **Earning** | | |
| Lesser or equal to 10000 | 71 | 65.1 |
| 11000-50000 | 32 | 29.4 |
| 51000-100000 | 3 | 2.8 |
| 110000-150000 | 2 | 1.8 |
| Greater or equal to 210000 | 1 | 9 |
| Total | 109 | 100.0 |

FIELD SURVEY 2021.

**Table 4.2**: **Sources of information**

Table 4.2 shows that majority of the respondents 96.3% receive information through radio, 3.7% receive information do not receive information through radio. This means that most of the respondents get agricultural information through radio. 85.3% of the respondents do not receive information through television, while 14.7% of the respondents receive agricultural information through television. This means that the percentage of the respondents receiving information from television is low maybe due to the availability of fund to buy these gadgets. 78.0% of the respondents do not receive agricultural information through mobile phone, while 22.0 % receive agricultural information through mobile phone. This means that 78.0 of the respondents do not receive Information through mobile phone due to illiteracy or lack of fund. 50.5% of the respondents receive information through social media platform, while 49.5% do not receive information through social media platform. This shows that 50.5% of the respondents receive information mostly on the social media platform. 67.7% of the respondent do not receive information through extension services, while 33.7% of the respondent receive information through extension services. This shows that 67.0% of the respondent do not receive information through extension services. 72.5% of the respondents do not receive information through advertisements while 27.5% of the respondent receive information through advertisements. This shows that most of the respondents do not have access to advertisements e.g. bill boards, hand bills etc. 86.2% of the respondents do not receive information through individual communication, while 13.8% of the respondents receive information through individual communication. 56.9% of the respondents do not receive information through news, while 43.1% of the respondent receive information through newspaper.

**Sources of information**

| VARIABLES | FREQUENCY | PERCENT |
|---|---|---|
| **Radio** | | |
| Yes | 105 | 96.7 |
| No | 4 | .3.7 |
| **Television** | | |
| Yes | 16 | 14.7 |
| No | 93 | 85.3 |
| **Mobile phone** | | |
| Yes | 24 | 22.0 |
| No | 85 | 78.0 |
| **Socialmedia** | | |
| Yes | 55 | 50.5 |
| No | 54 | 49.5 |
| **Extension services** | | |
| Yes | 36 | 33.0 |
| No | 73 | 67.0 |
| **Advertisements** | | |
| Yes | 30 | 27.5 |
| No | 79 | 72.5 |

| | | |
|---|---|---|
| **Individual communication** | | |
| Yes | 15 | 13.8 |
| N**o** | 94 | 86.2 |
| **Newspaper** | | |
| Yes | 47 | 43.1 |
| No | 62 | 56.9 |

FIELD SURVEY, 2021

**Table 4.3 Farmers perception of the effectiveness and use of ICTs**

Table 4.3shows that 46.8% of the respondent uses mobile phone for aired information, which is suitable in their farming context. 55% of the respondent uses television to always access information through ICT. 38.5% of the respondent uses radio to make a choice on the type of information accessed. This means that most of the respondent in the study area have easy access to radio and radio is mostly used to make a choice on the type of agricultural information accessed. 48.6% of the respondent uses mobile phone to provide feedback to the make a choice on the type of Information accessed through the ICT tool. 34.9% of the respondent uses television to comprehend the information provided by the ICT. 40.4% of the respondent uses television mostly intime allocation for broadcasting the program. 56.9% 0f the respondent uses television to watch and listen to agricultural information. 99.1% of the respondent use television to receive a particular package of agricultural information at the right time.

**Table 4.3 Farmers perception of the effectiveness and use of ICTs**

| VARIABLE | FREQUENCY | PERCENT |
|---|---|---|
| **The aired information is suitable For my context.** | | |
| Radio | 29 | 26.6 |
| Television | 29 | 26.6 |
| Mobile phone | 51 | 46.8 |
| **I have always used the information Accessed through the ICT.** | | |
| Radio | 35 | 32.1 |
| Television | 60 | 55.0 |
| Mobile phone | 14 | 12.8 |
| **I can make a choice on the Type of Information accessed Through the ICT tool.** | | |
| Radio | 42 | 38.5 |
| Television | 32 | 29.4 |
| Mobile phone | 35 | 32.1 |
| **I can provide feedback to the source Regarding the Relevance of information.** | | |
| Radio | 16 | 14.7 |
| Television | 40 | 36.7 |
| Mobile phone | 53 | 48.6 |
| **I comprehend the information Provided By the ICT.** | | |
| Radio | 35 | 32.1 |
| Television | 36 | 34.9 |
| Mobile phone | 36 | 33.0 |
| **Time allocated for broadcasting the program Is enough to grasp the content.** | | |
| Radio | 22 | 20.2 |
| Television | 44 | 40.4 |
| Mobile phone | 43 | 39.4 |

| | | |
|---|---|---|
| **The time is convenient for Me to listen/watch.** | | |
| Radio | 16 | 14.7 |
| Television | 62 | 56.9 |
| Mobile phone | 31 | 28.4 |
| **I have been receiving a Particular package of Agricultural information At the right time.** | | |
| Radio | 1 | 0.9 |
| Television | 108 | 99.1 |
| Mobile phone | ------ | |

FIELD SURVEY, 2021

**Table 4.5 Factors influencing farmer's access to information through ICT in the study area.**

The table analyze factors influencing farmers access to ICT, it was revealed that gender, farmers income and amount earned by the farmers were significant at 5%, 1% and 1% respectively, coefficient of gender was negative showing that this will likely to reduce the farmers access to information through ICT through significant at 5% level, while the variable of farmers' income and amount earned has positive relationship to the farmers access to information through ICT, This shows that the more the farmers income increases, the more the farmers will have access to information through ICT. Therefore, it was deduced that gender, farmer's income and amount earned were the variables influencing farmers access to information through ICT in the study area.

**ANOVA**

| **Model** | **Sum of squares** | **Df** | **Mean square** | **F** | **Sig** |
|---|---|---|---|---|---|
| Regression | 6.512 | 5 | 1.302 | 2.894 | .017 |
| Residual | 46.350 | 103 | .450 | | |
| Total | 52.862 | 108 | | | |

**Coefficients**

| Variable | Unstandardized coefficients | | | |
|---|---|---|---|---|
| | B | Std. error | T | Sig |
| (constant) | 1.222 | 0.138 | 3.849 | 0.000 |
| Gender | -.233 | 0.126 | -1.856 | 0.066 |
| Education | -.036 | 0.085 | -.429 | 0.669 |
| Marital status | 0.076 | 0.074 | 1.018 | 0.311 |
| Income | 0.270 | 0.094 | 2.875 | 0.005 |
| Amount earned | -6.040E-6 | 0.000 | -.2661 | 0.009 |

FIELD SURVEY, 2021

## CONCLUSION AND RECOMMENDATION

The study revealed that majority of the respondents have access to information through radio, little access to extension services and information among farmer is low. The result of the analysis also shows that farmers income and amount earned will increase access to information through ICT. It is therefore recommended that more agricultural programmes should be aired on radio and extension services should be increased or deploy and that farmers should be encouraged to shared informationthrough the use of ICT for easy accessibility to information and agricultural innovations.Also various sources of information should be utilized to reach targeted beneficiaries for dissemination of information bearing in mind that it will impact both understanding and use of information to enhance productivity.

## REFERENCES:

Aderinto, A, Adedoyin, S.F, Awotide, D.O, Adamu, C.O., (2008) Use of information and Communication Technologies (ICTs) among Extension Personnel in Ondo State. Nigerian Journal of Rural Sociology 8 (1): 66-70.

Arokoyo, .T., (2005) ICTs Application in Agricultural Extension Service Delivery, In: Adedoyin .S.F. (ed). Agricultural Extension and Rural Management Training P.245-251

Atibioke, .O.A, Ogunlade, I., Abiodun, A.A, Ogundele, A.A, Omodara, M.A, Ade, A.R., (2012) Effects of Farmers, Demographic Factors on the Adoption of Grain Storage Technologies Developed by Nigerian Stored Product Research Institute (NSPRI): A case study of selected villages in Ilorin west LGA of Kwara State. Research on Humanities and Social Sciences. ISSN 2224-5766 (paper) ISSN 2225-0484 (online) Vol 2, No 6,2012

Adio, E.O, Abu,Y., Yusuf,S.K., Nansoh,S.,(2016) "Use of Agricultural Information Services by Farmers for Improved Productivity in Kwara State". Library Philosophy and Practice (e-journal). 1456.http://digitalcommons.unl.edu/libphilprac/1456

National Population Commission (NPC) (2006), National Population Commission Census Report. NPC Publication Report.

Munyua,H., (2000) Application of Information Technologies in the Agricultural sector in Africa: A Gender Perspective. In: Rathgeber, E, and Adera, E.O., Eds., Gender and Information Revolution in Africa, IDRC/ECA, 85-123

Matthew-Njoku, E.C., (2003) Farmers Personal and Farm Enterprise Characteristics and their Adoptionof improved cassava production technologies in Imo State, Nigeria. JASR Vol 14, 3(1): 90-104

Akinwande, .A., (1998) Mass Media strategies for Rural Development and local Administration. Proceedings of Seminar on Rural Development and local Administration, Ogun State University, Ago Iwoye Pp 129-146

Kiplang'at, J.,(2003) "Does Agricultural Extension have a new beginning because of ICTs? Reflections on Experiences in Sub-saharan Africa". A keynote paper presented at the 6th Consultative Expert Meeting on CTA's Observatory on ICTs Wageningen, Sep, 23-25, 2003

Ladele, A.A., (2005) Rural Development Process and Practice. In; Agricultural Extension in Nigeria: A publication of Agricultural Extension Society of Nigeria (AESON) Edited by.S. FolaAdedoyin Pp. 139-144

Fadiji, T.O, (2000) Sources and Utilization of Extension Information Among farmers of improved Maize in Two villages of Kaduna State. Unpublished M.sc Thesis of AgriculturalEconomics and Rural Sociology, Ahmadu Bello University (ABU), Zaria, Nigeria.

Fadiji, T.O., (2005) Effectiveness of Radio in Dissemination of Agricultural Information to Farmers in Rural settings of Nigeria. Global Journal of Social Sciences Vol. 4. No 1&2, 2005:33-36. ISSN1596-6216.

Meyers, 2008b "Local Radio: Fostering Community Development or ethnic hatred? Donor dilemas and perspectives from Rwanda, D.R Congo and Kenya' paper contributed to conference: The Media and Development in Africa, 27-28 March 2008, CAMRI, University of Westminister: London.

Mohan, Uday (2001) "Bridging the Digital Divide" in Pinstrup Anderson, P. and Pandya-Lorch, R. (Eds) The Unfinished Agenda. International Food Policy Research Institute, Washington, Dc. Pp. 257-265

Osayi, .O., (2021) Smallholder Farmers need to deploy Technology to tackle Wastage https://nairametrics.com/2021/04/14/smallholder-farmers-to-deploy-technology-to-tackle-wastage-farmforte-ceo/

Oladele, O.I., (2011), Effects of Information Technology on agricultural information access among research Extension agents and farmers' information access among researchers, Extension agents and farmers in Southwestern Nigeria. Journal of Agriculture and Food Information, 12, 167-176.

Ozowa, V.N., (2008) Information needs of Small scale farmers in Africa, the Nigerian example. Quarterly Bulletin of the International Association of Agricultural Information Specialists, 40 (1), 1-6.

Tap Bin Sallah,.D., (2004) Rural Development in Malaysia Achievements and Challenges. Journal of Rural Development 37 (2): 29-47