ASSESMENT OF THE RELEVANCE AND UTILIZATION OF ICT IN INCREASING PRODUCTION AMONG COCOA FARMERS IN ONDO STATE NIGERIA

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Abstract: Information technology is a key to agricultural development and helps to increase production. Consequently cocoa farmers and the rural household in Ondo state need to have easy and uninterrupted access to ICT facilities in their immediate environment. This study was conducted in 3 villages in Ondo state to determine the accessibility and level of utilization of ICTs by cocoa farmers in Ondo State. A sample of 200 cocoa farmers was randomly selected for the study using a set of questionnaire. Data analysis was through the use of descriptive statistics, likert type scale and correlation analysis. The findings revealed that the cocoa farmers in the study area had 28.67% access to ICT facilities. The correlation analysis further revealed that age influence the level of utilization of ICT negatively, level of education positively influenced the level of utilization of ICTs while years of farming experience had negative influence. The key problems militating against the use of ICTs in the area were illiteracy level, inadequate access to ICT facilities, lack of ICT skills, Unavailability of infrastructure, high poverty rate among the cocoa farmers and poor power supply. It was recommended that agricultural organizations should install all necessary ICT facilities in their establishments and provide training opportunities for their staff. Constant power supply to the area, the cocoa farmers association should sensitise the farmers on the usage of ICT.

Keywords: Assessment, Relevance and Utilization, ICT, Cocoa Production

INTRODUCTION

The world today is an information society. Information is increasingly used in all aspects of human activities and many technologies assist in providing information in a timely manner. Yet while information has always been indispensable in processes of political, economic and social development, the way that information is accessed, used and controlled today by information users are highly debated and extent of use among farmers in Nigeria is not known. In Nigeria, the information technology approach is gradually spreading and obviously will take time to be fully integrated into the agricultural systems, (Adesope et al., 2007). Information and communication technologies (ICTs) are new technologies that cannot be ignored in Africa especially for development in all sector agriculture inclusive. This is because, ICT is one of the main driving forces that can bring about development and change

in this present digital age (Olaniyi et al., 2013) There is much discussion about the digital divide; in which some members of society, or areas of world are left behind others who have ready access to advanced ICTs. ICTs are foundation of the new global information-based economy. These dramatic changes have reached a new level in the 1990s. Of particular importance is the mass popularization of the internet, which has a worldwide user population estimated at many tens of millions (58 million in United States and Canada alone) and is growing fast. At the end of 1999, all African countries were connected to the internet except for Eritrea. Public information campaigns about using the technology have multiplied, and national chapters of the Internet Society, a global organization concerned with evolution of communication protocols, have been established around the continent (Vittin, 2000).

The desire to promote better information access to improve the socio-economic condition of the farmers has always been the top priority of agricultural extensionists and rural advisory service providers. According to FAO (2011), exchanging information is critical for the stakeholders in agriculture value chain in order to reduce the asymmetries in information and communication as well as to reduce the vicious circle of poverty. Further, the role of ICTs in accessing more information in order to enhance food security and support rural livelihoods has also been increasingly recognised and officially endorsed at the World Summit on the Information Society (WSIS) 2003-2005 (IICD, 2007). With agriculture being regarded as the backbone of the Indian economy, having a marked increase of 56.6 per cent of the Indian population dependent on agriculture (GoI, 2011), agricultural growth is, therefore, essential for fostering economic development and feeding the growing population (Datt and Ravallion, 1996).

However, one component which can boost agricultural production is the contribution of information and knowledge. Since agricultural extension depends to a large extent on information exchange on the one hand and a broad range of other actors on the other (Mabe and Oladele, 2012), ICTs therefore can be used as a medium in bridging the information gap. There is also a growing recognition of farmers and members of rural communities realising the importance of knowledge, information and appropriate learning methods (Greenridge 2003, Lightfoot 2003) in order to move towards development. Therefore, in order to benefit the rural people, extensionists are grappling with the question of how to harness ICTs to improve rural livelihoods in order to contribute towards better information exchange and

access. In this regard, extension practitioners are also interested in experimenting with innovative e-extension initiatives (Saravanan, 2010).

RESEARCH QUESTIONS

The questions to be addressed in this study therefore are:

I. -What are the socio-economic characteristics of cocoa farmers in the study area?
II. What are the ICTs infrastructures accessible for cocoa farmers in Ondo State?
III. What is the level of utilization of these facilities by cocoa farmers in the state?
IV. What are the constraints of the usage of ICT in the study area?
V. What are the effects of selected socioeconomic characteristics of the respondents on their level of utilization of ICTs?

OBJECTIVES OF THE STUDY

The overall purpose of the study was to examine the accessibility and relevance of ICTs among cocoa farmers in Ondo State. The specific objectives were to:

(i) Describe the socio-economic characteristics of the respondents;
(ii) Identify the types of ICT infrastructure accessible to the farmers in the study area;
(iii) Determine the level of utilization of ICTs by cocoa farmers;
(iv) Identify the constraints to effective use of ICTs by the respondents
(v) Determine the effects of selected socio-economic characteristics of the respondents on their level of utilization of ICT

Methodology

Study Area

The study was conducted in Ondo State of South West Nigeria. Ondo State is the Major cocoa producing area in Nigeria. Ondo State is an oil producing area with an average temperature of 28oC and annual rainfall 1200-1500mm. major crops grown in the state include cocoa, cassava, yam, maize, and a variety of tree crops (Ondo State, 2000). In Ondo State there are three major cocoa producing area which include Ile-Oluji, Idanre and Ondo town. There is also a cocoa producing company in Ile-Oluji, Ondo State.

METHOD OF DATA COLLECTION

This study uses a survey. The instrument for collecting data is a questionnaire that has two parts. The first part collected data on personal characteristics of respondents, while the second collected data on ICTs in the study area. The data were analysed using frequency counts and simple percentages. The sample for this study was a two stage sampling technique first by purposive selection of the three villages involved in cocoa production in the study area and second random selection of 200 farmers to complete the questionnaires of whom 148 completed the questionnaires. The respondents were drawn from the three villages. The communities are Idanre, Ile-Oluji and Ondo town.

Analytical techniques

Descriptive statistics

Likert type scale

Correlation analysis

RESULTS AND DISCUSSION

Table1: Distribution of Socio-economic characteristics of the respondents

Socioeconomic Characteristics	Frequency	Percentage
Age		
30-40	33	22.67
41-50	60	40
51-60	45	30
Above 60	9	0.0006
Sex		
Male	111	74
Female	39	26
Educational Level		
No Formal education	11	7.33
Primary Education	24	16

Secondary Education	79	52.67
Tertiary Education	36	24
Computer Literacy Level		
Yes	43	28.67
No	107	71.33

Age: The mean age for the cocoa farmers were 40 and 45 years respectively. This implies that cocoa farmers are in their middle ages. This trend has significant implication for ICTs utilization as elderly people might be less interested in the use of hi-tech innovations.

Sex: Majority of the respondents (74%) were males and (26)% were females. This means that males dominated cocoa farming in Ondo State.

Educational level: (24%) of the cocoa farmers have tertiary education, while (52.67%) have Secondary education and the rest (16%) have primary education while 7.33% have no formal education. This implies that they have moderate literacy level and majority should be able to appreciate the use of ICTs in their farming as high level of illiteracy has a serious constraint to ICT utilization by farmers.

Working experience: Majority (66%) of the farmers had 1 – 15 years cocoa farming while the rest 34% have more than 15years of experience. This means that majority of the farmers had long working experience. Younger experienced farmers are expected to have higher level of ICT awareness and utilization.

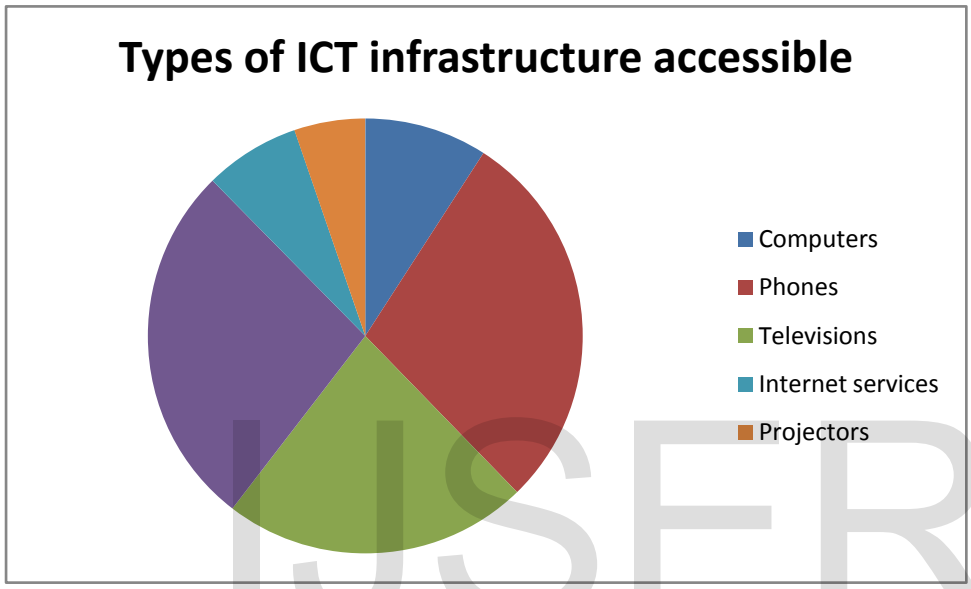
Computer literacy: Few (28.67%) of the farmers had computer education, while majority (71.33%) of the cocoa farmers were not computer literate. It implies that majority of the farmers would not be able to use ICTs. Arokoyo (2005) also listed poverty as a major constraint to ICT utilization. Accessibility to Modern ICTs

Accessibility of Cocoa Farmers in Ondo State to ICT

The study Identify the types of ICT infrastructure accessible to the farmers in the study area as shown in Table 2 and Figure one below:

Table 2: Distribution of the types of ICT infrastructure accessible to Cocoa Farmers in Ondo State

Types of ICT infrastructure accessible	Frequency	Percentage
Computers	45	30
Phones	141	94
Televisions	112	74.66
Radios	144	96
Internet services	35	23.33



Level of Utilization of ICT

A computer is regarded as key to all ICT facilities. Level of utilization of ICTs shows that an average of (54.77%) of the sampled cocoa farmers used ICT items such as telephones, internet, Radio, Television, Video films/Camera for their farming activities. More education and awareness is required to improve the level of utilization of ICTs by the cocoa farmers in the study area.

Constraints to the Utilization of ICT

Using likert type scale the study identifies some major constraints to the utilization of ICT in the study area as indicated in Table 3 below:

Table 3: Constraints to the use of ICTs by cocoa farmers in Ondo State

Constraints to ICT Utilization	Frequency	Percentage	Rank
High Poverty rate	21	14	6th
High illiteracy level	26	17.3	5th
Lack of technological knowhow	89	59.33	2nd
Poor electricity supply	78	52	3rd
lack of interest	17	11.33	7th
inadequate access to ICT facilities	67	44.67	4th
lack of ICT skills	103	68.67	1st

Effects of selected socio-economic characteristics of the respondents on their level of utilization of ICT

Correlation analysis indicated that the socioeconomic characteristics of the respondents significantly affect the utilization of ICT by cocoa farmers in the study area as this could result from the effect of the age, sex, educational level, farming experience, computer literacy level which majorly affects the farmers and indirectly cocoa production. Correlation analysis estimates suggest that the more farming experience the lesser the utilisation of ICT among farmers. Farming experience will decrease the utilisation of ICT by 28%.

Further analysis was carried out to determine the relationship between Educational Level and ICT Utilisation. There is a positive and significant relationship between education level and the utilization of ICT. This implies the higher the educational level the higher the level of utilisation of ICT. Age of the respondent had a negative relationship. This implies that the higher the age the lower the level of ICT utilization and vice versa. On the other hand, the higher the years of farming experience the lower the level of ICT utilization.

The relationship between the socio economic characteristics and the utilisation of ICT for better cocoa production is 18% which implies that 100% increase improvement in the socioeconomic characteristics will increase the utilisation of ICT by 18%. As shown in the Table 4

Table 4: Relationship between the Socioeconomic characteristics and ICT utilization

Variable	Coeff	t	sig
Constant	54.67	327.18	0

Output	6.71E-05*	3.139	0.025

$R^2 = 0.036$

Variables sig at 1%

Conclusion

The study reveals that a majority of the respondents are illiterate and this affects the accessibility and use of modern ICTs, the study further investigated the accessibility and relevance of ICTs among cocoa farmers in Ondo State. It was discovered that the average level of utilization of ICTs among cocoa farmers was 28.67% among the main constraints affecting the utilization of ICTs by the respondents include: High illiteracy level, Lack of technological knowhow, poor electricity supply, poor accessibility to ICT facilities and high poverty rate, high cost of ICT facilities and limited access.

Recommendations

Agricultural organizations should install all necessary ICT facilities in their establishments

Government should provide training opportunities for cocoa farmers in the study area Constant power supply to the area is very important to be implemented by government

The cocoa farmers association should sensitise the farmers on the usage of ICT

Economic empowerment of cocoa farmers in Ondo State

Educational empowerment of cocoa farmers in Ondo State: Efforts should be made to educate the farmers, computers and other ICTs should be used in adult education programmes.

Computer education has not been introduced in schools in the rural areas. Computer exposure should start from primary schools in the rural areas where pupils learn to use them as an intelligent toy

Agricultural institutions must establish their websites and link up with others for sharing of information.

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