

ICT APPLICATION IN AGRICULTURAL EXTENSION DELIVERY IN RIVERS STATE: THE PROSPECT

Albert¹⁾ C. O., E. A. Onwubuya²⁾

*Department Of Agricultural & Applied Economics/Extension, Rivers State University Of Science
And Technology, Port Harcourt, Rivers State, Nigeria: carbinedo@yahoo.com*

²⁾Department Of Agricultural Extension, University Of Nigeria, Nsukka

Abstract. The broad objective of the study was to analyze the prospect of ICT application in agricultural extension delivery in Rivers State. Structured interview schedule was used to elicit information from 100 respondents. Eighty farmers and 20 extension workers were selected using the simple random sampling technique. Data collected were analyzed using descriptive statistics like frequency counts, percentage and mean statistics. The study revealed that the major ICT tool used for agricultural extension delivery was GSM phones (75%), television (55%) and CD/DVD player (53%). The approaches to the use of ICT in extension delivery were: mobile telephone (77%), illustrated printed materials (70%) and DVD/CD based books. Factors that determine the effective application of ICT in extension delivery are the use of data base driven websites to make information sharing and access easier, giving attention to ICT training for staff responsible for agricultural and rural development, creating agricultural websites, and creating zonal internet centres in communities. Finally, the study recommended computer literacy for both extension workers and farmers for effective application of ICT in extension education.

Keywords: tools, approaches, factors determinant effective

INTRODUCTION

Information Communication Technology (ICT) has inspired a revolution in scientific engineering, educational and economic approaches. It has created a digital divide among nations and people of the world today. ICT and agriculture are not fields that people would easily connect with each other as ICT involves computers, networks and information (Maximo & Braun, 2006), while the other involves man and animal, power, chemical and crops. However, the advancement in ICT can be utilized for providing accurate, timely, relevant information and services to farmers, thereby facilitating an environment for more remunerative agriculture (Meera, 2004).

ICT plays three major roles in enhancing agriculture by providing up-to-date information and services for increased production; improving market access, capacity building and empowerment and information for improvement of agricultural practices and methods emanating from extension education (Goldman, 2004; Rockwood, 2001). In education, ICT creates enabling learning process through multimedia approaches and multiple intelligence training which is active learning through all human senses (Greenidge, 2003). In other words, it facilitates the training of human senses as it involves visual and manipulative skills reasoning and calculation (Mueller, 2000). However, in the southern part of Nigeria, Rivers State in particular, there is no full application of ICT tools for the benefit of extension workers, farmers and society. ICT not fully utilized in this region is a setback. Professionals like the doctors and teachers are agitating for a ratio of one doctor to ten patients and one teacher to twenty students in a class, respectively. For an extension worker who oversees many communities in a local government area, and each

community has many farmers, this is a far cry. The ratio of extension workers to farmers is too high (1-30). This situation has adversely reduced direct contact between the extension worker and the farmer. But where ICT is fully deployed, it facilitates contact and a continuum of information flow to bridge the gap. It is on this premise that the study set out to find answers to the following research questions: Are there ICT equipment/ tools for extension delivery in the study area? Which ICT tool is applied in extension delivery? What ICT application would be effective to educate farmers in extension delivery?

MATERIAL AND METHOD

The study was carried out in Rivers State, Nigeria. Rivers State is one of the states in the Niger Delta Region. For agricultural purposes, Rivers State is divided into three zones; zone 1 (Isiokpo), zone 2 (Eleme), and zone 3 (Ahoada). Eighty (80) farmers and 20 extension workers were selected from the zones using the simple random sampling technique. A total of 100 respondents were surveyed. Data collected were analyzed using descriptive statistics like frequency counts, percentage and mean statistic. A Likert scale options of very effective (4), Effective (3) less effective (2) and Not Effective (1) was assigned. The mean was 2.50. Any variable with a mean score of 2.50 and above was regarded as effective application of ICT while those with mean score less than 2.50 were regarded as less effective.

RESULTS AND DISCUSSION

Table 1

ICT Equipment/ tools applied in Extension Education

ICT Tools	Frequency		Total No. of Respondents	%
	Extension Workers	Farmers		
. GSM phones	16	59	75	75.0
. Radio	7	-	7	7.0
. Television	7	48	55	55.0
. Internet	2	-	2	2.0
. Computer	3	-	3	3.0
. Video	2	-	-	-
. e-mail	-	-	-	-
.Projector	1	1	2	2.0
. Compact Disk CD rom	-	-	-	-
. Printers	2	-	-	-
. CD/DVD players	8	45	53	53.0
. Telephone landlines	1	-	1	1.0
. Media van	-	-	-	-

Source: field survey, 2010

Multiple Responses

Table 1 reveals that majority (75%) of the respondents(both extension workers and farmers) acknowledged GSM phones to be the major tool through which ICT is applied, followed by television and DVD/CD player with 55% and 53% respectively. This implies that the major ICT equipment/tool applied in extension education are GSM phones, television and DVD/CD player. This confirms Greenidge (2003), who defined ICT as an umbrella term that includes any communication device or application encompassing; Radio, television, cellular phones, computer and network hardware and software. Also, World Bank (2002) report on ICT application stated that ICT is hardware, software, networks and media for collection, storage, processing, transmission and presentation of information.

Table 2

Approaches in the use of ICT in Extension Education

Approaches	Frequency Extension workers	Farmers	Total No. of Respondents	%
. face-to-face video	4	5	9	9.0
. use of drama	1	1	2	2.0
. text based printed materials	2	3	5	5.0
. VHS and audiotapes	1	-	-	1.0
. DVD/CD based books, reports	11	42	53	53.0
. Multimedia materials including video broadcast and two-way radio	1	-	1	1.0
. television	1	-	1	1.0
. illustrated printed materials	14	56	70	70.0
. stand alone or locally-networked computer	1	1	2	2.0
. offline data based	1	-	1	1.0
. mobile telephone	17	60	77	77.0
- shard-web-based systems	-	-	-	-

Source: field survey, 2010

Multiple Responses

The result in Table 2 shows that the major approach used in ICT application in extension delivery is mobile phone as it recorded the highest percentage with 77%, followed by illustrated printed materials and DVD/CD based (books, reports) 70% and 53%, respectively. This implies that the approaches in the use of ICT in extension delivery are mobile phone, illustrated printed materials and DVD/CD based books and reports. This implies that there is no full utilization of ICT in extension technology in the state. ICT application is in the rudimentary stages or primary stages. Full deployment of ICT involves

an interaction of all the forms of ICT including all relevant tools/media for the purpose of extension delivery/communication including using radio, television, computer, internet and DVD.

Table 3

Mean Distribution of How ICT can be made Effective in the area

Application	Mean score		Average mean score
	Extension workers	Farmers	
. use of data base driven websites to make information sharing and access easier	2.60	2.40	2.60
-use streaming media to make non- text (video & audio) information more widely available to audience who may not be literate.	2.50	2.40	2.45
-use call centers telephone – based services (voice information services and text messaging content)	2.50	2.40	2.45
-use interactive applications over one way communication tool.	2.40	2.30	2,35
-giving attention to ICT training for staff responsible for agricultural and rural development.	2.50	2.50	2.50
-use of private sector cyber café and private sector telephone systems visa prophentary sites for information access.	2.30	2.20	2.25
- creating agricultural website	2.50	2.40	2.45
- introducing farmers to agricultural website	2.60	2.60	2.60
-training farmers on ICT	2.30	2.50	2.40
- creating zonal internet centres in communities	2.60	2,50	2.55
- increasing recognition of the internet as tool for supporting information learning	2.50	2.50	2.50

Source: field survey. 2011

Entries in Table 3 show how ICT can be made effective in extension education. This include, the use of data based driven websites to make information sharing and access easier (2.50) increasing the recognition of internet and intranet as a tool for supporting information learning (2.50) giving attention to ICT training for staff responsible for agricultural and rural development (2.50) and creating agricultural websites (2.50) introducing farmers to agricultural website (2.60) and creating zonal internet centers in communities or LGAs (2.55). This implies that the use of data based driven websites to make information sharing and access easier by creating agricultural websites, introducing farmers to agricultural websites and giving attention to ICT training for staff responsible for agricultural and rural development will make the application of ICT in extensive education effective.

CONCLUSIONS

Mobile phone usage has limitations and therefore inadequate to be relied on as the sole ICT tool to drive extension education. Therefore, the revelation of data giving mobile phone a leading position in ICT application denies the effective application and full deployment of ICT in extension education.

For effectiveness and considering our peculiarities, there is need for agricultural radio station and television station/channel. Extension communication centers should be established and equipped with internet facilities, audio visual, multimedia equipment including projectors should be established in the Local government Areas.

Secondly, farmers should be introduced and taught how to use and apply the ICT tools in their attachment areas.

Finally, computer literacy must be made compulsory for all staff involved in agricultural and rural development for effective use and application of ICT in the region.

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