



## A STUDY ON UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES BY THE EXTENSION PERSONNEL OF STATE DEPARTMENT OF AGRICULTURE IN TAMIL NADU

**M. Kavaskar\* and S. Sharmila**

Department of Agricultural Extension, Annamalai University, Tamil Nadu, India

E-mail: kavasag@yahoo.co.in

### Abstract

The traditional agriculture is transforming into hi-tech agriculture and also the need for updated (latest) information is essential for increased agricultural production and productivity, eventually giving a lucrative yield and income to the farming community. Indian agriculture is facing a multitude of problems to maximize the productivity. Due to several reasons, the majority of the farming community are not getting upper bound yield despite successful research on new agricultural practices. One of the reasons is that appropriate and timely advice about farming is not reaching the farmers. Several IT based interventions in agriculture and allied fields were taken up across the globe and were found to be successful. At present the extension personnel in department of agriculture has the major responsibility of transferring technologies to the farming community from time to time. But at this juncture the extension agents face number of problems in contacting farmers and the researchers due to physical distances and lack of transportation etc., Hence, the application of ICT offers excellent possibilities, for strengthening TOT between research and extension system and further onward transmission to the end-users. So there exist need to understand and measure the utilization of ICT tools by the extension personnel is highly needed. Hence, the present study was taken up to assess the utilization of ICT tools by the extension personnel of state department of agriculture in Tamil Nadu. This study was conducted in Cuddalore district of Tamil Nadu. The study revealed that around half (50.00 per cent) of the extension personnel had medium level of ICT utilization pattern followed by high (30.00 per cent) and low levels (20.00 per cent).

**Keywords:** Utilization, Information, Communication, Technologies, Extension Personnel.

### Introduction

Information and communication technology (ICT) in agriculture is emerging field focusing on the enhancement of agricultural and other development in India. The agriculture sector is gearing itself to make optimal use of the new information and communication technologies. The job of the extension personnel in the present day situation is complex and crucial for the acceleration of transfer of farm information. The use of modern ICTs in agricultural extension service delivery has enhanced the efficiency of Research-Extension-Farmer linkage system much greatly (Obinne, 1994). Omotayo (2005) observed that frontline extension workers who become the direct link between farmers and other actors in the extension of agricultural knowledge and information systems are well positioned to make use of ICT to access expert knowledge or other types of information that could facilitate the accomplishment of the farmers' routine activities. The traditional agriculture is transforming into hi-tech agriculture and also the need for updated information is essential for increased agricultural production and productivity. At present the extension personnel in department of agriculture has the major responsibility of transferring technologies to the farming community from time to time.

Sharmila and Kavaskar (2017) revealed that more than three-fifth of the respondents (60.83 per cent) had medium level of knowledge regarding ICT tools followed by high (30.00 per cent) and low level (9.17 per cent). It could be concluded that majority of the extension personnel were found to be medium level of knowledge regarding ICT tools. Sharmila and Kavaskar (2017) concluded that more than half of the extension personnel (56.67 per cent) had favourable attitude towards ICT followed by more favourable (25.00 per cent) and (18.33 per cent) of the extension personnel had less

favourable attitude towards ICT. Thus, for effective and efficient service delivery, the extension service and research organization need to be appropriately supported with the use of ICT tools. Hence, the present study was taken up to assess the attitude of extension personnel of the state department of agriculture towards ICT.

### Materials and Methodology

The study was conducted in Cuddalore district of Tamil Nadu state. A sample size of 120 was fixed for the study. The samples were selected by using simple random sampling technique for the study. The research design adopted for the present study was ex-post facto research design. A well structured and pre-tested questionnaire was used to collect data from the respondents. Thrustone (1946) defined attitude as the degree of positive or negative affect associated with some psychological object. The utilization pattern operationalised in terms of frequency and duration of usage of ICT tools. Based on the total scores the respondents were classified into three categories namely low, medium and high. The preference of utilization was categorized as clarity, easy to operate, need based, effective, attractive.

### Results and Discussion

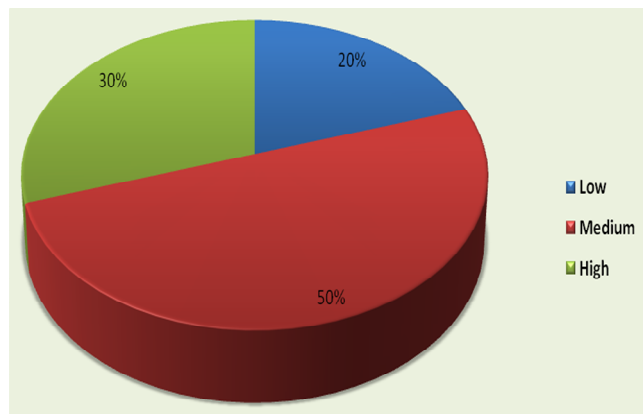
#### Overall utilization pattern of ICT tools

To know about the overall extent of utilization of ICT tools data are collected and presented in Table 1.

**Table 1 :** Distribution of extension personnel according to their overall extent of utilization of ICT tools (n=120)

S. No	Category	Number	Per cent
1.	Low	24	20.00
2.	Medium	60	50.00
3.	High	36	30.00
	<b>Total</b>	<b>120</b>	<b>100.00</b>

It could be noticed from the Table 1 that half (50.00 per cent) of the extension personnel had medium level of ICT utilization pattern followed by high (30.00 per cent) and low levels (20.00 per cent). It may be due to the fact that some of the ICT tools selected are not found to be popular among the extension personnel. They should also be sensitized on basic ICT technologies that they could easily utilize in their line of work. It is also proposed that agricultural Extension workers undertake training on ICT programs to provide them with appropriate skills in computer and internet for improved efficiency and service delivery. It is recommended that the state department of agriculture rolls out ICT infrastructures and supporting staff in the extension offices. This will go a long way in encouraging utilization of ICTs and encourage knowledge dissemination and sharing among all stakeholders.



**Fig. 1 :** Distribution of extension personnel according to their overall utilization level of ICT tools.

### Preference of utilization of ICT tools

This part highlights the preference of utilization of ICT tools by the extension personnel. The preference are

divided into five categories like clarity, easy to operate, need based, effective and attractive. The data are collected in these aspects and results are presented in Table 2.

It could be observed from the Table 2 indicate the preference of utilization of the ICT tools by the extension personnel the preference of MS word was more due to need based (65.83 per cent) followed by effective (15.00 per cent), easy to operate (14.17 per cent) attractive (12.50 per cent) and clarity (10.83 per cent). Whereas MS excel highly used by them due to need based (32.50 per cent) followed by effective (19.17 per cent), clarity (15.83 per cent) and easy to operate (4.17 per cent).

The need based preference of the tool like MS Power point (45.00 per cent) followed by clarity (15.00 per cent), effective (14.17 per cent) and easy to operate (2.50 per cent). Majority of the extension personnel (52.50 per cent) for need based utilize the ICT tool followed by effective (25.00 per cent) and easy to operate (16.67 per cent). A meager percentage (5.83 per cent) of the extension personnel utilized the ICT tool like analytic package SPSS for its need based and effective (0.83 per cent). The tools mobile map technology (MMT), geographical information system (GIS) were utilized by a less number of extension personnel for need based (22.50 per cent and 27.50 per cent), clarity (7.50 per cent and 10.00 per cent), effective (3.33 per cent and 6.67 per cent) and easy to operate (3.33 per cent).

The need based preference of the tool like web based search engines (48.30 per cent) followed by easy to operate (20.00 per cent) a same percentage of the extension personnel as clarity and attractive (10.83 per cent), effective (8.33 per cent). The preference of utilization of the ICT tools by the extension personnel the preference of agriportals was due to need based (40.83 per cent) followed by easy to operate (16.67 per cent), clarity (14.17 per cent), attractive (3.33 per cent) and effective (0.83 per cent).

**Table 2 :** Distribution of extension personnel according their preference of utilization of ICT tools .

S. No	ICT tools	Clarity		Easy to operate		Need based		Effective		Attractive	
		No	Per cent	No	Per cent	No	Per cent	No	Per cent	No	Per cent
1.	MS Word	13	10.83	17	14.17	79	65.83	18	15.00	15	12.5
2.	MS Excel	19	15.83	05	4.17	39	32.50	23	19.17	-	-
3.	MS Power point	18	15.00	03	2.50	54	45.00	17	14.17	-	-
4.	Internet/ web services	-	-	20	16.67	63	52.50	30	25.00	-	-
5.	Analytic package SPSS	-	-	-	-	07	5.83	01	0.83	-	-
6.	MMT	09	7.50	04	3.33	27	22.50	04	3.33	-	-
7.	GIS	12	10.00	-	-	33	27.50	08	6.67	-	-
8.	Web based search engines	13	10.83	24	20.00	58	48.30	10	8.33	13	10.83
9.	Agriportals	17	14.17	20	5.83	49	40.83	01	0.83	04	3.33
10.	IMCD	-	-	07	4.17	35	29.17	10	8.33	-	-
11.	DSS	-	-	05	4.17	24	20.00	04	3.33	-	-
12.	Expert system	14	11.67	29	24.17	38	31.67	04	3.33	06	5.00
13.	Social network	19	15.83	10	8.33	57	47.50	21	17.50	13	10.83
14.	FCMS	07	5.83	14	11.67	45	37.50	27	22.50	19	15.83
15.	Digital camera	55	45.83	12	10.00	33	27.50	06	5.00	04	3.33

\*- Multiple response

The tools, interactive multimedia compact disc (IMCD) and decision support system (DSS) were utilized by the extension personnel for their easy to operate (5.83 per cent and 4.17 per cent), need based (29.17 per cent and 20.00 per

cent), effective (8.33 per cent and 3.33 per cent). The tools expert system, social networks were utilized by the extension personnel for clarity (11.67 per cent and 15.83 per cent), easy to operate (24.17 per cent and 8.33 per cent), need based

(31.67 per cent and 47.50 per cent), effective (3.33 per cent and 17.50 per cent) and attractive (5.00 per cent and 10.83 per cent). The tools, farm crop management system (FCMS) and digital camera were utilized by the extension personnel for clarity (5.83 per cent and 45.83 per cent), easy to operate (11.67 per cent and 10.00 per cent), need based (37.50 per cent and 27.50 per cent), effective (22.50 per cent and 5.00 per cent) and attractive (15.83 per cent and 3.33 per cent).

### Conclusion

It is Concluded that half (50.00 per cent) of the extension personnel had medium level of ICT utilization pattern followed by high (30.00 per cent) and low levels (20.00 per cent). Majority of the extension personnel the preference of utilization was need based, clarity, effective, easy to operate and attractive. The reason behind this might that internet and other ICT tools have brought about a revolution of a different kind. It has brought the entire world at fingertips literally. It has not only made available an almost unlimited information resource at our disposal but has also facilitated several activities for which we had to venture out of our homes. It has also made instant communication across continents possible at negligible cost, which is a great boon to the extension personnel and the people who need to

communicate frequently. The sharing and searching of information has become easier than opening a book. One can send text, images even videos to any part of the world over internet.

### References

- Obinne, C.P.O. (1994). *Fundamentals of Agricultural Extension*. ABC Publishers, Enugu.
- Omotayo, A.M. (2005). *Information Communication Technology (ICT) and Agricultural Extension: Emergency Issues in Transferring Agricultural Technology in Developing Countries*. In: SF Adedoyin (Ed): *Agricultural Extension in Nigeria*. Ilorin: Agricultural Extension Society of Nigeria.
- Sharmila, A. and Kavaskar, M. (2017). Attitude of Extension Personnel towards Information and communication Technology (ICT), *Research Journal of Agricultural Sciences*, 8(6): 1455-1457.
- Sharmila, A. and Kavaskar, M. (2017). Knowledge Level of Extension Personnel on Information and communication Technology (ICT), *Journal of Global Communication*, 10(2): 91-95.
- Thurstone, L.L. (1946). Comment. *American Journal of Sociology*. 52(1): 39-50.