

Original Research Article

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## Knowledge Level of Farmers Regarding Information and Communication Technology Services

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### ABSTRACT

#### Keywords

Information and Communication Technology, Knowledge and Farmers

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Information and Communication Technology (ICT) is broad term that includes computer hardware and software, digital broadcast and telecommunication technologies as well as digital information sources online or offline. Traditional ICT tools *e.g.* TV, radio and telephone have already established their credibility and effectiveness in promoting the developmental schemes in rural and marginalized areas. The study was conducted in three districts viz., Junagadh, Rajkot and Amreli of Saurashtra region of Gujarat state. Two talukas were selected from each district. Total twenty-four villages from six talukas were selected randomly and ten farmers from each village were selected as respondents. Thus, a sample of total 240 farmers was considered for the study. The dependent variable undertaken in this study was knowledge regarding ICT services. About one-third (64.17 per cent) of respondents had medium level of knowledge about Information and Communication Technology services followed by 21.25 per cent and 14.58 per cent respondents had high and low level of knowledge, respectively.

### Introduction

The agricultural information is vast, interdisciplinary and specific to different agro-climatic zones and needs a proper information dissemination system for its effective use. Hence, agriculture information resources should be significantly organized and processed to disseminate right information to the right users at the right time. Communication is recognized as an important input for development to disseminate and create dialogue among different stakeholders about the technologies and issues of agriculture, environment and sustainable development. The farmers become more

sophisticated and more dependent on others for goods and services with the mobilization of agriculture from traditional to modern pattern. Their needs become more complex and diversified. The advancements in ICT can be utilized for providing accurate, timely, relevant information and services to the farmers, thereby facilitating better adoption of these technologies to make agriculture profitable.

The main objectives of this study include to study the knowledge level of farmers regarding Information and Communication Technology services.

## **Materials and Methods**

A study was conducted in Junagadh, Rajkot and Amreli districts of Gujarat state. Two talukas were selected from each district. From each selected taluka, four villages were selected randomly. Total twenty-four villages from six talukas were selected randomly and ten farmers from each village were selected as respondents. Thus, a sample of total 240 farmers was considered for the study.

The teacher made structured schedule was used to assess the knowledge about Information Communication Technology services. Number of statements were listed. For 'known' statements score one was given and for 'unknown' statements score zero was given. The maximum possible score was number of statements (32) and minimum possible score was zero. The respondents were grouped into three categories based on their knowledge about Information Communication Technology services by taking mean and standard deviation as a measure of check.

## **Results and Discussion**

It is clear from Table 1 that the farmers had different level of knowledge about different ICT services and usage level were also different for each of them. Details regarding this is presented below:

It was interesting to denote that cent per cent farmers had knowledge about the WhatsApp is useful for getting agricultural information with the first rank among the thirty-two statements. Majority (95.00 per cent) of the farmers had knowledge about I-Khedut as a web portal of Government of Gujarat where the farmers can apply to get benefits of the Government schemes and subsidies with the second rank. The most (92.92 per cent) of the respondents found TV as an important ICT

tool for the farmers with the third rank. The most (91.25 per cent) of farmers found radio is useful in creating awareness about Agricultural information with the fourth rank. Majority (90.83 per cent) of the farmers had knowledge that information delivery through ICTs is dependent on network connectivity with the fifth rank. The most (88.33 per cent) of respondents found Facebook as a useful ICT tool for obtaining the latest information of agriculture and allied sectors with the sixth rank. The most (87.92 per cent) of farmers found computer/laptop are useful for increasing the utilization of ICT services with the seventh rank. The most (85.83 per cent) of farmers had knowledge about YouTube which provides videos for carrying out different activities on the field with the eighth rank among all the statements.

Majority (80.42 per cent) of respondents had knowledge about the smart phone/tablet is a personalized ICT tools with the ninth rank. About three-fourth (74.17 per cent) of the farmers had knowledge about the websites of JAU, AAU, NAU and SDAU as an important source of the agricultural information with the tenth rank. The respondents (71.25 per cent) had knowledge about the internet facilitates are useful for the farmers to buy/sell farm produce inputs/outputs with the eleventh rank. Majority (70.00 per cent) of farmers had knowledge that information can be stored and can be accessed repeatedly through the use of pen drives and data cards with rank twelfth. More than two-third (68.75 per cent) of farmers had knowledge about the video conference that face to face conversation is possible through it to get solution of the problems faced in the farming with the thirteenth rank. More than two-third (67.92 per cent) of the respondents had knowledge that they can get the solution of problems in agriculture through Kisan Call Centre with the fourteenth rank. More than three-fifth (61.67 per cent) of respondents had

knowledge about IFFCO Kisan App as an application for the information dissemination to the farmers with the fifteenth rank.

More than half (55.00 per cent) of the farmers found Agri Media App useful application for them with the sixteenth rank among all the statements.

**Table.1** Analysis of knowledge level of respondents regarding Information and Communication Technology services n=240)

Sr. No.	Statements	Frequency	Percentage	Rank
1	Radio is useful in creating awareness about Agricultural information.	219	91.25	4
2	Community radio is a regional radio service where farmers can get the agricultural information and can participate too.	79	32.92	26
3	TV is an important ICT tool for the farmers.	223	92.92	3
4	Smart phone/Tablet is a personalized ICT tool.	193	80.42	9
5	Computer/ Laptop are useful for increasing the ICT utilization.	211	87.92	7
6	Internet facilitates are useful for the farmers to buy/sell farm inputs/outputs.	171	71.25	11
7	E-mail is an important tool for the farmers to communicate with different people all round the World.	78	32.50	28
8	Web is the largest and richest information system for the agricultural information in the World.	105	43.75	20
9	Farmers can check/send the location of/to the extension functionaries with the help of ICT.	117	48.75	18
10	e-books related to agriculture are available on the internet for the ease of the farmers.	39	16.25	31
11	Information can be stored and can be accessed repeatedly through the use of Pen Drives and Data Cards.	168	70.00	12
12	WhatsApp is useful for getting agricultural information.	240	100.00	1
13	Facebook is a useful ICT tool for obtaining the latest information of agriculture and allied sectors.	212	88.33	6
14	YouTube provides videos for carrying out different activities on the field.	206	85.83	8
15	Information Kiosks is an effective tool for agricultural technology dissemination.	49	20.42	30
16	Face to face conversation is possible through Video conference to get the solution of the problems faced in the farming.	165	68.75	13
17	IFFCO Kisan App is an application for the information dissemination to the farmers.	148	61.67	15
18	Agri Media App is a new and useful application for the farmers.	132	55.00	16
19	KisanSuvidha App is an application for the ease of farmers	109	45.42	19

	for getting the information of agriculture.			
20	KisanMitra is an application which provides complete information about the regional crop production.	99	41.25	22
21	E-choupal is useful ICT tool for the farmers.	38	15.83	32
22	The websites of JAU, AAU, NAU and SDAU are important sources of the agricultural information.	178	74.17	10
23	Agriwatch website provides useful information about the prices of agricultural crops.	73	30.42	29
24	Marketing is possible through e-NAM Web Portal.	88	36.67	24
25	AGMARKNET Web Portal provides the complete information about all the APMCs.	84	35.00	25
26	I-Khedut is a web portal of Government of Gujarat where the farmers can apply to get benefits of the Government schemes and subsidies.	228	95.00	2
27	agricoop.nic.in is a website of Government of India for the benefits of the farmers.	79	32.92	27
28	agri.gujarat.gov.in is Web Portal is a website of Gujarat Government for the access of information related to agriculture and allied sectors.	131	54.58	17
29	Farmers can get the solution of problems in agriculture through Kisan Call Centre.	163	67.92	14
30	Storing of data is possible through ICTs.	95	39.58	23
31	Instantaneous feedback is possible by using ICTs.	105	43.75	21
32	Information delivery through ICTs is dependent on network connectivity.	218	90.83	5

**Table.2** Distribution of farmers according to their overall knowledge regarding Information and Communication Technology services (n = 240)

Sr. No.	Category	Frequency	Percentage
1	Low Level of Knowledge (Up to 47.27 score)	35	14.58
2	Medium Level of Knowledge (47.28 to 68.45 score)	154	64.17
3	High level of Knowledge (Above 68.45 score)	51	21.25
<b>Total</b>		<b>240</b>	<b>100.00</b>
<b>Mean = 57.86</b>		<b>S.D. = 10.59</b>	

More than half (54.58 per cent) of the farmers had knowledge about agri.gujarat.gov.in is Web Portal of Gujarat Government for the access of information related to agriculture and allied sectors with the seventeenth rank. About half (48.75 per cent) of the farmers had

knowledge about ICT through which they can check sent the location of/to the extension functionaries with the eighteenth rank. The respondents (45.42 per cent) had knowledge about the Kisan Suvidha application for getting the information of agriculture with the

nineteenth rank. More than two-fifth (43.75 per cent) of respondents had knowledge about web as the largest and richest information system for the agricultural information in the world with the twentieth rank. More than two-fifth (43.75 per cent) of the respondents had knowledge that instantaneous feedback is possible by using ICTs with the twenty-first rank.

More than two-third (41.25 per cent) of farmers had knowledge about Kisan Mitra as an application which provides complete information about the regional crop production with the twenty-second rank. About two-fourth (39.58 per cent) of the farmers had knowledge that storing of data is possible through ICTs with the twenty-third rank. More than one-third (36.67 per cent) of the farmers had knowledge that marketing is possible through e-NAM Web Portal with the twenty-fourth rank among all the statements.

More than one-third (35.00 per cent) of respondents had knowledge about AGMARKNET Web Portal as it provides the complete information about all the APMCs with the twenty-fifth rank. About one-third (32.92 per cent) of respondents had knowledge about the community radio services for getting the agricultural information with the twenty-sixth rank. About one-third (32.92 per cent) of the respondents had knowledge about [agricoop.nic.in](http://agricoop.nic.in) is website of Government of India for the benefits of the Government schemes and subsidies with the twenty-seventh rank. About one-third (32.50 per cent) of farmers had knowledge that e-mail as an important tool for them to communicate with different people all round the World with the twenty-eighth rank. About one-third (30.42 per cent) of respondents had knowledge about Agriwatch website as it provides useful information about the prices of agricultural information with the twenty-ninth rank. About one-fifth

(20.42 per cent) of respondents had knowledge about Kiosks as an effective tool for agricultural technology dissemination in with the thirtieth rank.

Only 16.25 per cent of respondents had knowledge about e-books on agriculture which are available on the internet for their ease with the thirty-first rank, which is on the second last position among all the statements. Only 15.83 per cent of respondents had knowledge about E-choupal as a useful ICT tool for them with the thirty-second rank, which is the last among all the statements.

The data about the overall knowledge of farmers regarding the ICT services are presented in Table 2, it is clear that about two-third (64.17 per cent) of farmers had medium level of knowledge regarding ICT services followed by 21.25 and 14.58 per cent of farmers had high and low level of knowledge regarding ICT services, respectively.

This might be due to the fact that most of farmers had medium mass media exposure and were using medium sources of information which lead them to know about the different ICT services which can be used in agriculture. Further, they came to know about the modern ICT services by the young generation in their family, friends and neighbours.

In conclusion the about one-third (64.17 per cent) of respondents had medium level of knowledge about Information and Communication Technology services followed by 21.25 per cent and 14.58 per cent respondents had high and low level of knowledge, respectively. This leaves a wide scope to improve the knowledge and utilization of ICT services by farmers by conducting awareness campaigns and meetings.

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