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## Knowledge level of farmers about information and communication technology in Bikaner district of Rajasthan

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### Abstract

Now a days new technologies introducing in agriculture and it reduce the role of man power. This era is informative and Information and communication technology (ICT) play vital role to create awareness globally about new technologies in every fields as well in as agriculture. ICTs can make agriculture more remunerative and a fruitful occupation by providing latest information. In this study, ICTs is operationalized as the use of communication tools like, WhatsApp group, SMS, Telephone helpline. It saves money, time and efforts and reduces dependency on so many factors in the chain of extension. In these present studies its found that Majority of respondents were having medium level of knowledge regarding ICT.

**Keywords:** agriculture, communication, helpline, ICT, knowledge and technology

### Introduction

India holds second position among the countries with high population in the world having about 1.33 billion people. Amongst these, 70 per cent live in rural area and their main occupation is agriculture. The agriculture which continues to be the main occupation and way of life for more than half of Indian population even today making single largest contribution to the GDP 17.70 per cent (2019) of our nation. Sustainable prosperity of the farmers and the agricultural labours holds the key for improving the overall human resource development scenario in the country. There is a need to increase production and productivity of agriculture. Hence, the Indian farmers need to be updated with the latest knowledge about new techniques of farming, new cultivars, farm machinery, market, trade situation etc. The ICTs also provide the flexibility in providing information related to the various modes of farming practices including all the crops, specific commodities and enterprises, price information and all other information & regarding technological advances and tracking global competitiveness. Thus, the ICT play an increasingly important role in linking the research- extension-market continuum towards developing professional competencies and entrepreneurial capabilities among specialists and farming communities respectively. Information and Communication Technology (ICT) is a global term that includes all technologies for the manipulation and communication of information encompassing: radio, television, computers, internet, cell phones, network hardware, satellite systems and so on, as well as various services and application associated with them. ICTs can directly support farmers 'access to timely and relevant information, as well as empower the creation and sharing of knowledge of the farming community itself. ICTs in agriculture have the potential to facilitate greater access to information that drive or support knowledge sharing. ICTs essentially facilitate the creation, management, storage, retrieval, and dissemination of any relevant data, knowledge, and information that may have been already been processed and adapted (Batchelor 2002; Chapman and Slaymaker 2002; Rao 2007; Heeks 2002) [3, 5, 18, 9]. In this study ICTs is operationalized as the use of communication tools like, WhatsApp group, Text Messages, Telephone helpline So, ICTs can make agriculture more remunerative and a fruitful occupation by providing latest information. It saves money, time and efforts and reduces dependency on so many factors in the chain of extension. Keeping in mind the above background, the present study entitled "The knowledge level of farmers regarding Information Communication Technology (ICT)" has been taken.

## Materials and Method

The present study required a standardized "Knowledge test" to measure quantitatively the knowledge level of respondents about ICT. For selection of respondents, district wise list of registered farmers during the year 2015 to 2017 received from the ARS Bikaner, KVK Bikaner and IKSL Jaipur. From the list so prepared total 10 ICT users were selected randomly for each ICT tool from each selected panchayat samity. This way 40 ICT users were selected from each panchayat samiti comprising a sample of 80 respondents from selected district To constitute other half of sample (i.e.80 ICT non-users) same number of farmers were selected from the selected panchayat

samities. While selecting ICT non-user farmers, the personal characteristics of ICT users were taken into consideration.

## Results and Discussions

In this study ICT denotes four tools namely: WhatsApp, Message, KVK help line and IKSL help line. Based on the level of knowledge regarding ICT, respondents were categories in three categories viz; low, medium and high. The data depicted in table-1 gram producers clearly shows that majority (62.50%), 28.75 and 08.75 per cent farmers possessed medium, high and low knowledge level regarding information communication technology (ICT) respectively.

**Table 1:** Distribution of respondents according to knowledge level of information communication technology N=320

S.N.	Level of Knowledge of ICT	Gram Growers						Moth Growers					
		ICT users (n=80)		ICT non- users (80)		Total (n=160)		ICT users (n=80)		ICT non- users (n=80)		Total (n=160)	
		F	%	F	%	F	%	F	%	F	%	F	%
1	Low (below 4.48)	07	08.75	32	40.00	39	24.38	06	07.50	29	36.25	35	21.87
2	Medium (from 4.48 to 12.12)	50	62.50	44	55.00	94	58.75	52	65.00	46	57.50	98	61.26
3	High (above 12.12)	23	28.75	04	05.00	27	16.87	22	27.50	05	06.25	27	16.87

Mean = 8.30, S.D. =3.82

Similarly in case of ICT non-users 55.00, 40.00 and 05.00 per cent gram growers had medium, low and high knowledge regarding information communication technology (ICT) respectively. Out of gram producers 58.76, 24.37 and 16.87 per cent had medium, low and high knowledge regarding information communication technology (ICT) respectively.

## Conclusion

Knowledge level of ICT user and ICT non-user of gram and moth bean farmers regarding Information Communication Technology (ICT) Majority of the respondents were having medium level of knowledge about ICT.

## Statements wise comparison of knowledge level of gram growers regarding ICT

In addition to study of level of knowledge of ICT user and ICT non-user gram producers about the ICT, efforts were made to compare the difference between ICT user and non user respondents about ICT. 'Z' test was applied to search out the variation in the knowledge of respondents.

The knowledge level of ICT user and ICT non-user

respondents regarding information communication technology were calculated in terms of Mean Percent Score (MPS). Table no. 2 shows that ICT user gram producer possessed good knowledge as compare to ICT non-user respondents. In case of ICT user gram growers excellent level of knowledge (above 90.00 MPS) was reported against the statement like "ICT is quick mode of communication" (92.68 MPS) and "Knowledge about voice message" (90.88 MPS) awarded first and second rank respectively. Very good knowledge about ICT (70.00 to 90.00 MPS) was reported in items like, "ICT provide information regarding crop production, protection, post harvest technologies and other allied activities", "ICT provide marketing and storage information of agriculture", "Minimum skill is required for the use of ICT", "ICT provide accurate and timely weather information" with 78.00, 75.36, 75.00 and 73.46 MPS and got third, fourth, fifth and sixth rank respectively. Whereas, good knowledge (50.00 to 70.00 MPS) possessed by ICT user gram farmers about "ICT provide quick information regarding crop insurance and government programmes", "ICT is easy to use", "can communicate pictures on WhatsApp",

Statements wise comparison of knowledge level of gram growers regarding ICT (N=160)

S. N.	ICT knowledge statements	ICT users (n=80)		ICT non-users (n=80)		Z' Value
		Mean ±	S.D.	Mean ±	S.D.	
1	ICT provide retrievable Information	00.63	00.48	00.41	00.49	02.03*
2	ICT provide information regarding crop production, protection, post harvest technologies and other allied activities	00.81	00.39	00.53	00.50	02.90**
3	ICT provide marketing and storage information of agriculture	00.75	00.43	00.36	00.48	03.61**
4	ICT is quick mode of communication	00.92	00.26	00.90	00.30	00.29 <sup>NS</sup>
5	ICT provide accurate and timely weather information	00.73	00.44	00.52	00.50	02.32*
6	ICT provide quick information regarding crop insurance and government programmes	00.65	00.47	00.32	00.47	02.98**
7	ICT is easy to use	00.66	00.47	00.30	00.46	03.34**
8	Minimum skill is required for the use of ICT	00.75	00.43	00.82	00.38	00.74 <sup>NS</sup>
9	Can communicate through pictures on WhatsApp	00.63	00.48	00.38	00.49	02.26*
10	share short films on WhatsApp	00.62	00.48	00.38	00.49	02.14*
11	Use internet for getting agricultural information	00.43	00.49	00.17	00.38	00.79 <sup>NS</sup>
12	WhatsApp provide location sharing, documents sharing, voice notes and broadcast facilities	00.36	00.48	00.13	00.34	02.23*

13	Text message can be share MMS facility	00.31	00.46	00.76	00.30	02.71**
14	Knowledge about voice message	00.91	00.28	00.62	00.48	02.93**
	Overall	00.65	00.43	00.47	00.43	02.12

“ICT provide retrievable information” and “share short films on WhatsApp” with 66.28, 65.76, 64.33, 63.30 and 62.61 MPS got seventh, eighth, ninth, tenth and eleventh rank respectively. Poor knowledge (below 50.00 MPS) observed about statements like “Use internet for getting agricultural information”, “WhatsApp provide location sharing, documents sharing, voice notes and broadcast facilities”, “Text message can be share MMS facility” with 43.21, 36.36 and 31.52 MPS and got twelfth, thirteenth and fourteenth rank respectively.

Similarly in case of ICT non-user gram producers, they possessed excellent knowledge (above 90.00 MPS) about the item “ICT is quick mode of communication” with 90.36 MPS and ranked first. The ICT non-user gram producers had very good knowledge (70.00 to 90.00 MPS) about item like “minimum skill is required for the use of ICT” with 82.64 MPS and occupied second rank. Whereas, good knowledge (50.00 to 70.00 MPS) possessed by ICT non-user gram farmers about statements like “Knowledge about voice message”, “ICT provide information regarding crop production, protection, post harvest technologies & other allied activities” and “ICT provide accurate & timely weather information” with 62.98, 53.36, 52.98 MPS and got third, fourth and fifth ranks respectively. They possessed poor knowledge (below 50.00 MPS) about items like “ICT provide retrievable information”, “Can communicate pictures through WhatsApp”, “share short films through WhatsApp”, “ICT provide marketing and storage information of agriculture”, “ICT provide quick information regarding crop insurance & government programmes”, “ICT is easy to use”, “Use internet for getting agricultural information”, “WhatsApp provide location sharing, documents sharing, voice notes and broadcast facilities”, “Text message can be share MMS facility” with 41.00, 39.00, 38.61, 36.25, 32.33, 17.34, 13.32, 10.24, 16.24 MPS and got sixth, seventh, eighth, ninth, tenth, eleventh, twelfth, thirteenth and fourteenth rank respectively. An efforts were also made to laid down the relationship between the ranks assigned by ICT user and ICT non-user gram producers by enforcing rank correlation test. The value of rank correlation ( $r_s$ ) was 0.9669 which shows positive correlation, the significance level of  $r_s$  was tested through ‘t’ test and it was indicated that calculated ‘t’ value (07.2698) was higher than its tabulated value.

Though there is similarity in ranks occupied by ICT users and ICT non-users about knowledge of ICT but there was difference in magnitude of Mean Percent Score of ICT user and ICT non-user respondents. The ICT users had more knowledge regarding ICT knowledge as compared to ICT non- users.

From the pooled data of ICT users and ICT non- users it may be concluded that the ICT user respondents in the study area subservient more knowledge regarding ICT. The above conversation shows that the extent of knowledge in ICT user respondents was ranging from 31.52 to 92.68 MPS. Whereas, in the case of ICT non-user respondents the range of knowledge score was observed to be from 10.24 to 90.36 MPS.

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