

Access and usage of ICTs among the Farmers of Bengaluru Rural and Chikkaballapura District of Karnataka

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ABSTRACT: The purpose of this research is to determine the extent of ICT usage and access among farmers of Bengaluru Rural and Chikkaballapura districts of Karnataka. The ex-post facto research design has been used for the current study and samples have been collected by using both random and purposive sampling techniques. From each district 120 farmers were drawn as the sample size, making a total of 240. Most of the respondents from both districts were well aware of mentioned ICT tools but comparatively less in the case of the common service centres (CSCs). Ownership of ICT tools in both districts shows that cent per cent of the respondents possessed a mobile and nearly cent percent respondents possessed TV and subscribed for Internet services in their mobile. Mobile acts as a single source for the multi functions like audio, video, calling etc. Other ICT tools like TV, Radio, DVD/CD, and Telephone lost their importance. In both districts, the majority (98.34% in Bengaluru Rural and 80.33% in Chikkaballapura) of the respondents frequently access Mobile and TV and the majority (87.50% in Bengaluru Rural and 61.67% in Chikkaballapura) of the respondents never accessed Radio, DVD, and Personal Computers In both districts, the majority of respondents preferred and used print media like newspapers, magazines and posters which are published in the local language with very well understanding and none of them used e-journals and e-books. In the case of general access to various mobile applications, out of five applications which are mentioned in the current study the applications like Varuna Mitra, Meghasandesh and Sidilu apps are quite popular as compared to other applications. The most of the respondents from both districts responded as the electricity was the main energy source for operating ICT tools and only a meager per cent of them used solar as a source of energy for operating various ICT tools. The Affordability of ICT tools in both district found that almost all the respondents felt that they can easily affordable to all ICT tools other than personal computers and Internet services.

Keywords: Access and Usage, Common Service Centre, ICTs, Mobile.

INTRODUCTION

Information and Communication Technologies (ICTs) is the extended term of Information Technology (IT) which is getting more attention from all stakeholders in agriculture as well as other fields. ICTs are the instruments or gadgets that are available to assist people, companies, and organizations in using information to make decisions. Any product that can store, process, retrieve, alter, send, or receive information in text, picture, or video format is considered an ICT (Anonymous, 2011). Information is the processed form of any raw data and Information is

the first step towards change. ICTs are the cost effectiveness and flexibility to use because of this reason it is reaching more number of stakeholders and catering the information and knowledge on the latest varieties, adapting weather patterns, crop production techniques, and improved agronomic practices. The farmers in rural areas rely on various ICTs to get information about agriculture as well as climate change. Currently the efforts of Indians Public Agricultural Extension System (PAES) along with private players are reaching their services to their extent possible. Still, there is a need to reach out many end users i.e., our farmers in very stipulated time. So, this present study

focuses on access and usage of ICTs among the farmers of Bengaluru rural Chikkaballapura districts of Karnataka. These are the districts which are close to the 'IT hub' and capital (Bengaluru) of the Karnataka. The study envisages to understand the access and usage pattern of ICTs by the farmers of the two rural districts with the following objective;

To examine the level of access to and usage of information and communication technologies by farmers.

RESEARCH METHODOLOGY

Access and usage of ICTs is defined as the capability of a person to use ICTs or their applications for reducing and adjusting to climate change in agriculture. It was revealed by assessing the awareness and Ownership of ICTs, frequency of access to ICTs, general access to various mobile applications and print media. The affordability and energy source for operating ICTs. The state of Karnataka in the Southern region of the country was purposively selected for the proposed study. Agriculture prominent districts, Bangalore Rural and Chikkaballapura districts were purposively selected for the study as these districts were very closer to Bangalore, the "IT hub" as desirable criteria. The study was designed and responses collected from farmers who are using ICTs. The ex-post fact research design was employed and the sample from Bengaluru Rural (120 samples) and the Chikkaballapura(120 samples) area were drawn by employing purposive and random sampling techniques. Based on the highest geographical area and population, 2 taluks were selected purposively from each district. From each Taluk 5 villages of 12 samples each has been collected randomly thus the total sample size of the study was 240. Statistical tests such as the frequency, percentage, and Mann-Whitney U test were used to assess the data that had been obtained. Microsoft Excel and SPSS were used to examine the data. The U value was calculated by using formula;

$$U_{stat} = \text{Rank Sum} - n(n-1)/2.$$

A non-parametric test called the Mann-Whitney U test was utilized in place of a parametric t-test because of the data collected under current study was not followed

normal distribution which was tested by histogram in the excel . The test was used to determine whether or not the two sample means, which were drawn from the same population, were equal.

RESULTS AND DISCUSSION

Awareness of different ICTs. As can be seen from Table 1, Cent per cent of the respondents in the two districts knew or aware of the radio, TV, mobile, telephone, and print media. In the case of Bengaluru, rural district farmers about 96.67 per cent of them had aware of Personal Computer/laptop and 95.00 per cent of respondents were aware of the internet and also 97.50 per cent of them opinioned that they knew DVD/CD and 85.83 per cent of them had awareness about the existence of Common Service Centre(CSC). On other hand Chikkaballapura farmers are aware of personal computer/laptop (94.17 %), DVD/CD (95.84%) and 78.30% are aware of the CSC. Almost all the respondents of both districts had high awareness about the mentioned ICT tools out of them awareness about the common service centre has less per cent in both the district respondents. The findings are in line with (Nagalakshmi and Narayanaswamy 2011).

The stated results in Table 1 might be due to that these are the two districts very close to the capital of Karnataka and also the majority of the farmers had a basic level of education which is required to get to know about the existence of various ICT tools along with this most of the stated ICT tools in the table are quite popular and easily available in markets might be the reason to had awareness about various ICT tools. Among the stated ICTs, community service centres awareness has less compared to remaining ICT tools the probable reason might be the farmers had less accessibility to community centre because most of the centres operated at the Panchayat level hence the farmers of both districts had comparatively low awareness than remaining ICT tools.

The Mann - Whitney test was applied and U value was found to be significant at a 5 per cent level. It means that there was a significant relationship between the Bengaluru Rural and Chikkaballapura district farmers in terms of awareness about various ICT tools.

Table 1: Distribution of respondents according to awareness about various ICTs.

ICTs/District	Bengaluru Rural (n=120)		Chikkaballapura (n=120)		U value (MWUT)
	Frequency	Percentage	Frequency	Percentage	
Radio	120	100	120	100	1.826*
TV	120	100	120	100	
Mobile	120	100	120	100	
Personal Computer/Laptop	116	96.67	113	94.17	
Internet	114	95.00	109	90.84	
DVD/CD	117	97.50	115	95.84	
Telephone	120	100	120	100	
Print media	120	100	120	100	
Community Centre	103	85.83	94	78.34	

*Significant @ 5 per cent

Ownership and access to ICTs. Table 2 represents the possession of ICT tools in the Bengaluru rural and Chikkaballapura district. It revealed that cent per cent of respondents from Bengaluru rural possessed mobile phones followed by 98.34 per cent of them had TV, 94.17 per cent of the respondents possessed internet facility further more than half of the respondents (52.50%) possessed personal computers in their homes it may be used by their children or family members. Telephone (48.34%), print media (40.84%), and DVD/CD (35.84%) of respondents of Bengaluru rural district possessed various ICT tools. Only a meager (23.34%) of respondents had a radio in their homes. On the other hand cent per cent of respondents in the Chikkaballapura district possessed a mobile and 90.84 per cent of them had possession of a TV. In the case of Internet possession 77.50 per cent of respondents owned internet service on their mobile. While telephone (55.00%) and DVD/CD (42.50%) possession were slightly higher as compared to the former district. whereas possession of radio and print media possession 32.50 per cent and 27.50 per cent respectively in the case of Chikkaballapura district farmers. The findings are in line with the results of (Nagalakshmi and Narayanaswamy 2011).

Table 2 revealed that the majority of farmers from both districts possessed mobile, TV and Internet the probable reason might be because of farmers felt that access and use of mobile phones were easy fast and very convenient to carry and quick to get access and communicate for various purposes. Apart from these reasons most of the Govt. and Non-Govt. agencies developed user-friendly mobile applications which

provide instant advisory on the market, weather, inputs etc which influenced every farmer to possess a mobile. Whereas TV is possessed widely among both districts because farmers of both districts wish to get entertainment in the evening time after working long hours in the field at day time and also the TV is an Audio Visual medium which caters the various agriculture-related programmes like Annadatha and Krishi darshan. In the case of Internet possession after the introduction of the Jio-4G network which creates the telecommunication revolution in India and thus the data and recharge packs of mobile internet become more affordable because of this reason, the respondents possessed Internet service in their mobile generally. Possession of a PC is considerably less because of difficulty to open and access its applications and not being able to carry everywhere as compared to mobile and also PC possessions require comparatively more money to mobile hence only nearly half of the respondents possess Personal computers. In the case of telephone and radio, the farmers updated with advanced portable mobile phones hence the usage and possession of telephones decreased drastically. Further, both district farmers had the least possession to print media because they felt it was time consuming and difficult to understand in writing mode as compared to AV mode in mobile and TV along with this the farmers prefer to know some advanced information in easy and understandable method with entertainment.

The Mann - Whitney test was applied and it was found to be non-significant. It means that there was no significant relationship between ICT tools possessed by Bengaluru Rural and Chikkaballapura district.

Table 2: Distribution of respondents according to various ICTs possessed.

ICTs/District	Bengaluru Rural (n=120)		Chikkaballapura (n=120)		U value (MWUT)
	Frequency	Percentage	Frequency	Percentage	
Radio	28	23.34	39	32.50	-1.185^{NS}
TV	118	98.34	109	90.84	
Mobile	120	100	120	100	
Personal Computer/Laptop	63	52.50	41	34.17	
Internet	113	94.17	93	77.50	
DVD/CD	43	35.84	51	42.50	
Telephone	58	48.34	66	55.00	
Print media	49	40.84	33	27.50	

NS-non significant

Frequency of access to ICTs. Table 3 shows that 87.50 per cent of Bengaluru rural and 61.67 per cent of Chikkaballapura district respondents never used the radio for receiving any agriculture or climate change related information. However, about 84.17 per cent in Bangalore rural and 85.84 per cent of respondents very frequently access TV for various purposes. Nearly cent per cent (98.34%) of in Bengaluru rural and 80.83 per cent of respondents in Chikkaballapura district farmers very frequently access mobile for getting information. More than three by fourth of the respondents were not accessing personal computers. Nearly half of the

respondents from Bengaluru rural (49.17%) and Chikkaballapura (42.50%) respondents accessing the internet occasionally, whereas in the case of access to DVD/CD in Bengaluru rural (93.34%) and Chikkaballapura (83.34%) respondents never accessing to get agriculture information. Further respondents of Bengaluru rural (80.00%) and Chikkaballapura (70.84%) were never accessing telephones to get any type of information. Accessibility to common service centres in Bengaluru rural none of them were very frequently, with 6.67 per cent as frequently, 35.84 per cent as occasionally and 57.50 per cent of them never

accessing. On the other hand, none of the farmers from the Chikkaballapura district accessed common service centre very frequently followed by 2.50 per cent as frequently, 45 per cent of them as never and 51.67 per cent of them accessing occasionally. The findings are in line with the results of (Raghuprasad, 2011).

It could be concluded from the above table that the majority of respondents from both districts very frequently access Mobile and TV for getting various information related to agriculture and also entertainment purpose. The reason for very frequently accessing Mobile and TV might be due to the easily understandable and more attractive because of presence of Audio and Video facilities. The table also revealed that the majority of the respondents from both districts never accessed radio which might be due to the entry of

TV and mobile. In the case of the personal computer, the reason might be due to the difficulty in navigation and the use of laptop features. Low accessibility of the internet might be due to the cost of the data pack and also the farmers were not ready to access information by paying a charge for data. In the case of telephone and DVD/CD low accessibility might be due to the existence of advanced ICT tools like TV and mobile and also the unwillingness of farmers to buy DVD/CD from markets. Common Service Centre were located at the Panchayat level and it is required to travel from village to Panchayat to get accessibility along with this there was less awareness about the existence of common Service Centre among the respondents might be the reason for the low accessibility.

Table 3: Distribution of respondents according to the frequency of usage of various ICTs.

Sr. No.	ICTs	Bengaluru Rural (n=120)				Chikkaballapura (n=120)			
		Very frequently	Frequently	Occasionally	Never	Very frequently	Frequently	Occasionally	Never
1.	Radio	0 (0.00)	02 (1.67)	13 (10.84)	105 (87.50)	06 (5.00)	18 (15.00)	22 (18.34)	74 (61.67)
2.	TV	101 (84.17)	11 (9.17)	06 (5.00)	02 (1.67)	103 (85.84)	09 (7.50)	06 (5.00)	03 (2.50)
3.	Mobile	118 (98.34)	02 (1.67)	0 (0.00)	0 (0.00)	97 (80.83)	15 (12.50)	08 (6.67)	0 (0.00)
4.	Personal Computer/ Laptop	06 (5.00)	09 (7.50)	16 (13.34)	89 (74.17)	03 (2.50)	07 (5.84)	03 (2.50)	107 (89.17)
5.	Internet	08 (6.67)	18 (15.00)	59 (49.17)	35 (29.17)	09 (7.50)	23 (19.17)	51 (42.50)	37 (30.84)
6.	DVD/CD	0 (0.00)	03 (2.50)	05 (4.17)	112 (93.34)	0 (0.00)	02 (1.67)	18 (15.00)	100 (83.34)
7.	Telephone	11 (9.17)	08 (6.67)	05 (4.17)	96 (80.00)	18 (15.00)	06 (5.00)	11 (9.16)	85 (70.84)
8.	Common Service Centre	0 (0.00)	08 (6.67)	43 (35.84)	69 (57.50)	0 (0.00)	03 (2.50)	62 (51.67)	55 (45.00)

Note: Figures shown in parenthesis indicate the Percentage

Access to print media. It is evident from Table 4 that the majority of farmers in Bangalore rural and Chikkaballapura district accessed only newspapers, magazines and posters and none of them accessed e-journals and e-books. In the case of Bangalore rural majority of them preferred newspapers (94.16 %), magazines (91.66 %) and posters (70.83 %) in the local language. Only a meager per cent of respondents preferred newspapers in English (4.16 %) and other local (1.66 %) languages. Less than five per cent (4.16 %) of the farmers preferred magazines in other local languages. Only 2.00 per cent of respondents preferred posters in another local language. Concerning understandability, it is observed from Table 4 that the majority of the farmers very well understood the newspaper (95.83 %), magazine (95.70 %) and poster (72.50 %) in the local language and none of them felt difficulty in understanding.

Concerning the Chikkaballapura district majority of them preferred newspapers (98.33 %), and magazines

(93.33 %) in the local language. More than half of the respondents (51.66 %) accessed posters. Only a meagre per cent of respondents preferred newspapers in English (1.66 %) and other local (1.66 %) languages. Only less per cent (1.66 %) of respondents preferred posters in another local language. Concerning understandability, it is observed from Table 4 that the majority of the farmers very well understood the newspaper (100.00 %), magazine (93.33 %) and poster (53.33 %) in the local language and none of them felt difficulty in understanding. The findings in line with the results of Syiem and Raj (2011).

The probable reason for the above findings may be that farmers will access the print media because of the low cost and easy accessibility. They can read the information at their own pace and time through print media. And the content can be easily read and understood by the farmers. Farmers were not aware of the e-journals and e-magazines and they feel difficulty in handling the ICT devices.

Table 4: Distribution of respondents according to access to various print media.

District	Print Media	Language preference			Understandability		
		Local	Other Local	English	Very well	With difficulty	No
Bengaluru Rural (n=120)	Newspapers	113(94.16)	02(1.66)	05(4.16)	115(95.83)	0(0.00)	0(0.00)
	Magazines	110(91.66)	05(4.16)	02(1.66)	117(97.50)	0(0.00)	0(0.00)
	Posters	85(70.83)	2(1.66)	0(0.00)	87(72.50)	0(0.00)	0(0.00)
	e-Journal	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)
	e-Books	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)
Chikkaballapura (n=120)	Newspapers	118(98.33)	2(1.66)	0(0.00)	120(100.00)	0(0.00)	0(0.00)
	Magazines	112(93.33)	8(6.66)	0(0.00)	112(93.33)	0(0.00)	0(0.00)
	Posters	62(51.66)	2(1.66)	0(0.00)	64(53.33)	0(0.00)	0(0.00)
	e-Journal	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)
	e-Books	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)	0(0.00)

Note: Figures shown in parenthesis indicate the Percentage

Table 5: Distribution of respondents according to access to various Mobile Applications.

Sr. No.	Mobile applications	Bengaluru Rural (n=120)				Chikkaballapura (n=120)			
		Frequently	Rarely	Occasionally	Never	Frequently	Rarely	Occasionally	Never
1.	Meghasandesh	06 (5.00)	18 (15.00)	43 (35.84)	53 (44.17)	02 (1.67)	23 (19.17)	41 (34.17)	54 (45.00)
2.	Varuna Mitra	32 (26.67)	61 (50.84)	16 (13.34)	11 (9.17)	28 (23.34)	43 (35.84)	28 (23.34)	11 (9.17)
3.	Sidilu	04 (3.34)	07 (5.84)	13 (10.83)	96 (80.00)	02 (1.67)	05 (4.17)	09 (7.50)	104 (86.67)
4.	Mausam	0 (0.00)	0 (0.00)	03 (2.50)	117 (97.50)	0 (0.00)	0 (0.00)	02 (1.67)	118 (98.34)
5.	E-Krishi	08 (6.67)	13 (10.84)	33 (27.50)	66 (55.50)	13 (10.84)	09 (7.50)	47 (39.17)	51 (42.00)

Note: Figures shown in parenthesis indicate the Percentage

General accesses to ICT services (Mobile Apps). A mobile application most commonly referred to as an app is a type of application software designed to run on a mobile device, such as a Smartphone or computer. In agriculture, mobile apps are the most convenient and useful medium to guide farmers in farming. It gives the guideline for doing the proper scientific way of farming, crop cultivation, sowing or harvesting of crops.

It is evident from Table 5 that, In the case of Bangalore rural only 5.00 per cent of farmers frequently used the Meghasandesh mobile application, 15.00 per cent of them were rarely used, 35.84 of farmers occasionally used and more than two fifth (44.17 %) of them never used the Meghasandesh application. In Chikkaballapura 45.00 per cent of farmers never used the Meghasandesh application followed by 34.17 per cent of them occasionally used and less than one-fifth (19.17 %) of them rarely used followed by only a few (1.67 %) were frequently used the Meghasandesh applications.

Nearly half of the farmer respondents (50.84 %) in Bangalore rural used Varuna Mitra rarely followed by frequently (26.67 %), occasionally and less than ten per cent (9.17 %) of them never used Varuna Mitra application. In the case of Chikkaballapura district, 35.84 per cent of the respondents rarely used Varuna Mitra applications, the equal number of respondents (23.34 %) frequently and occasionally used Varuna Mitra followed by 9.17 per cent of them never used this Application.

Four fifth (80.00 %) of the respondents never used Sidilu in Bangalore rural district followed by 10.83 per cent of them occasionally used 5.8 per cent of them rarely used and only 3.34 per cent of them frequently used Sidilu application in Bangalore Rural District. More than four fifth (86.67 %) of the respondents never used Sidilu in the Chikkaballapura district followed by 7.50 per cent of them occasionally used 4.17 per cent of them rarely used and only 1.67 per cent of them frequently used Sidilu application in Chikkaballapura District.

It is depicted from the table that the majority of the farmers in Bangalore rural never used the Mausam application and only 2.50 per cent of them occasionally used the Mausam application in Bangalore rural. In the case of the Chikkaballapura district, 98.34 % of the farmers never used the Mausam application and 1.67 per cent of them occasionally used the Mausam application. None of the farmers frequently and rarely used Mausam Application.

It is evident from the table that in the case of Bangalore rural more than half (55.50 %) of farmers never used e-Krishi, 27.70 per cent of them occasionally used followed by rarely (10.84 %) and frequently (6.67 %) respectively. In the case of the Chikkaballapura district more than two fifth (42.00 %) of the respondents never used e -Krishi portal, less than two-fifth (39.17 %) of them were occasionally used followed by frequently (10.84 %) and rarely (7.50 %) respectively.

Energy sources for access to various ICTs. It is evident from Table 6 that the majority of the farmers in Bangalore Rural and Chikkaballapura were using electricity as a source of energy for operating different ICTs. None of them was using the generator as energy for use of ICT. Nearly cent per cent (99.17 %) of farmers use electricity as a source for radio and 0.87 per cent are using solar energy for radio in Bangalore rural district. About 95.84 per cent of farmers are using electricity for T.V. and 4.17 per cent are using solar sources, 97.50 per cent are using electricity as a source of energy followed by 2.5 per cent are using solar energy for personal computers and laptops. Cent per cent of farmers utilises electricity as the source of energy for telephones. The findings in line with the results of (Syiem and Raj 2011)

Cent per cent of farmers in the Chikkaballapura district was using electricity as a source of energy for Radio, Personal computers and laptop and telephones. About 98.33 per cent of farmers utilised electricity for T.V. whereas only 1.67 per cent was using solar energy. About 97.25 per cent of farmers were using electricity as a source of energy for mobile and only 2.5 per cent of farmers are using solar energy for mobile usage. The reason for the above trend might be that farmers might not have knowledge and awareness regarding solar energy that's why only a meagre per cent of the population is utilizing solar energy. And farmers might not be rich to afford generators to utilize ICT tools. So none of them were using generators.

Table 6: Distribution of respondents according to the use of energy sources for operating different ICTs.

Sr. No.	ICTs	Bengaluru Rural (n=120)			Chikkaballapura (n=120)		
		Electricity	Solar	Generator	Electricity	Solar	Generator
1.	Radio	119(99.17)	01(0.84)	0(0.00)	120	0(0.00)	0(0.00)
2.	TV	115(95.84)	05(4.17)	0(0.00)	118	02(1.67)	0(0.00)
3.	Mobile	113(94.17)	07(5.84)	0(0.00)	117	02(1.67)	0(0.00)
4.	Personal Computer/ Laptop	117(97.50)	03(2.50)	0(0.00)	120	0(0.00)	0(0.00)
5.	Internet	118(98.34)	02(1.67)	0(0.00)	120	0(0.00)	0(0.00)
6.	DVD/CD	115(95.84)	05(4.17)	0(0.00)	118	02(1.67)	0(0.00)
7.	Telephone	120(100.00)	0(0.00)	0(0.00)	120	0(0.00)	0(0.00)

Note: Figures shown in parenthesis indicate the Percentage

Affordability of ICTs. ICT maintenance and accessibility costs were discussed with respondents who were aware of the various ICTs. The maintenance and accessibility expenses in this question refers to the whole cost of having the ICT operate, complete the necessary task, or pay for the ICT service.

The data presented in Table 7 depicts the affordability of ICT tools by farmers in Bangalore rural and Chikkaballapura district. In the case of Bangalore rural district, cent per cent of farmers expressed that radio and CD/DVD are affordable. The majority of them expressed that TV (98.34 %), Mobile (96.67 %) and telephone (96.67 %) are affordable. Slightly more than half (52.50 %) of the respondents expressed internet I affordable and slightly more than two-fifth (42.50 %) of them expressed personal computer /laptop is affordable. About 57.50 per cent and 42.50 per cent of farmers in Bengaluru Rural expressed that personal computer and

the internet is not affordable. In the case of Chikkaballapura district, cent per cent of farmers expressed that Radio is affordable, majority of the farmers expressed that TV (94.17 %), Mobile (93.34 %), DVD (96.67 %) and Telephone (98.34 %) are affordable. About 72.50 per cent of farmers in Chikkaballapura expressed that personal computer/laptop is not affordable followed by the internet (68.34 %). The reason for the above trend might be that farmers were getting TV, Radio, and Telephones at differential pricing so that farmers can afford whichever is convenient and they consider it a one-time investment. But the internet needs to be paid for and subscribed to on a monthly, quarterly or yearly basis which farmers thought costly to afford. Personal laptop or computer is comparatively costly and cannot be afforded by all categories of farmers.

Table 7: Distribution of respondents according to affordability to various ICTs.

Sr. No.	ICTs	Bengaluru Rural (n=120)		Chikkaballapura (n=120)	
		Affordable	Expensive	Affordable	Expensive
1.	Radio	120(100.00)	00(0.00)	120(100.00)	00(0.00)
2.	TV	118 (98.34)	02(1.67)	113(94.17)	07(5.84)
3.	Mobile	116(96.67)	04 (3.34)	112(93.34)	08(6.67)
4.	Personal Computer/ Laptop	51 (42.50)	69 (57.50)	33(27.50)	87(72.50)
5.	Internet	63 (52.50)	57 (47.50)	38(31.67)	82(68.34)
6.	DVD/CD	120(100.00)	0(0.00)	116(96.67)	04(3.34)
7.	Telephone	116(96.67)	04(3.34)	118(98.34)	02(1.67)

Note: Figures shown in parenthesis indicate the Percentage

CONCLUSION

The study's findings showed that mobile devices, followed by TV and the internet, had the highest levels of accessibility and usage. Compared to other ICTs, mobile phones and televisions were the two most frequently used ICT tools. The reason might be that mobile phones nowadays became more affordable because of multi companies are competing with each other to increase their sales and thus they were trying to provide more features in single mobile at very affordable price for middle-class people. In the case of TV nowadays its became a prestige matter for everyone to have a TV in their home this type of mindset of the people made them to had a TV in their home. Telecommunication wizard of India *i.e.* Jio-Reliance made the tele-revolution by offering its services (Data and Calling) free of cost and later on at a very minimal price which can be easily affordable by the common man. The majority of the respondents were using Varuna Mitra mobile application because of that it provides its services to framers via a Web portal, SMS and toll-free that too in the local language might be the reason for familiarity and famous in both districts. It was found that the government of India's plan to use ICT to deliver services to the general public—Common Service Centre, (CSC)—is not being fully implemented in both districts. This may be because people are unaware of CSCs, which are typically found at the Panchayat level, some distance from the farmer's village. This study suggests creating awareness of CSCs

and, if possible, providing CSC services at least at the cluster level. Another suggestion is that since mobile phones and televisions are the two main ICT tools that are widely available in both districts. The extension agents and other organizations who wish to improve the livelihood conditions of the farmers by efficient use of ICTs to provide agro-advisory and new information.

Conflict of Interest. None.

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