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RAGHUPRASAD KODAGAVALLIHATTI PALAIAH
UNIVERSITY OF AGRICULTURAL SCIENCES, INDIA

SHANABHOGA MAHANTHESH BHARATESH
UNIVERSITY OF AGRICULTURAL SCIENCES, INDIA

SHIVANI DECHAMMA
UNIVERSITY OF AGRICULTURAL SCIENCES, , INDIA

DEVARAJ K
UNIVERSITY OF AGRICULTURAL SCIENCES, , INDIA

ATTITUDE OF FARMERS ABOUT USE OF ICT TOOLS IN FARM COMMUNICATION

Abstract:

Knowledge is an increasingly significant factor of production in modern agriculture. Information and communication Technology (ICT) generated lot of hopes to disseminate updated information to the farming community, overcoming the barriers of distance, socio-economic status, gender etc. ICTs can accelerate agricultural development by facilitating knowledge management. Several ICT initiatives in rural India and implementation of ICTs in agriculture has been proposed and developed in the recent decades. though there are so many ICT tools available in villages still many of the farmers are not making use of these tools for obtaining timely information due to physical, social and psychological barriers. Especially, attitude of the farmers plays a significant role in accepting and using these tools. since these initiatives are new to their social system and establish rare contact with the external world. Hence, the study was conducted in Karnataka state to know the attitude of farmers about ICT tools using for farm communication. The findings of the study revealed that more than two-fifth of the farmers had favorable attitude towards ICT tools followed by least favorable attitude and most favorable attitude towards ICT tools. Majority of the respondents had knowledge about TV and mobile which are providing agricultural information but majority of the respondents didn't know regarding internet, agricultural DVDs, social media and interactive conferencing. Hence, there is need to educate the farmers regarding ICT tools like internet, conferencing and agricultural DVDs by means of providing training and make availability of these ICT tools in rural areas.

Keywords:

Attitude, ICT, DVDs, social media, internet

JEL Classification: D83, L82, Q10

INTRODUCTION

Knowledge plays an important role in increasing productivity in modern agriculture. Information and communication technology (ICT) generated lot of hopes to disseminate updated information to the farming community, overcoming the barriers of distance, socio-economic status, gender etc. ICT is a term which is currently used to denote a wide range of services, applications and technologies using various types of equipment and software. ICT includes conventional tools like radio, television followed by internet, mobile services, websites and portals, expert systems, social networking etc through e-mails, chats, blogs, alert messages, MMS etc. farmers can get the innovative information services through the creative use of the information technology.

The past decade has witnessed a revolution in the use of ICT in developing countries. Many people and field level functionaries as well as farmers own ICT facilities such as personal computers and mobile phones. The largest increases in the use of ICT has been in mobile telephony where subscriptions in developing countries increased from about 30 percent of the world in 2000 to more than 50 percent in 2004 and to almost 70 percent in 2007 (Cieslikowsk *et al*.,2009). While internet use has not increased as rapidly as mobile communication, it increased tenfold in developing countries in the same period (Cieslikowsk *et al*., 2009). Other ICT facilities such as telecast, radio FM and information centers have also increased in number remarkably during the same period.

The strong linkage complimented by flawless information flow enhanced by the effective use of ICT by the extension services will significantly boost agricultural production and improve rural livelihoods in developing countries. Front line extension workers, who are the direct link between farmed and other actors in the agricultural knowledge and information system, are well positioned to make use of ICT to access expert knowledge or other types of information that could facilitate the accomplishment of their day-to-day activities (Adedoyin, 2005).

With this background the study was conducted to know attitude of farmers about ICT tools using for farm communication and the extent of utilization and multiple usages of ICT tools among farming community of selected districts of Karnataka state, India.

METHODOLOGY

The study was conducted using “Ex-post-facto research design” since the phenomenon has already started and is continuing. The study was conducted in Bangalore rural, Chikkaballapura and Kolar districts of Karnataka state during 2011 to know the knowledge level of farmers about ICT tools using for farm communication. These districts were selected purposefully because as these districts are nearer to the hub of IT i.e. Bangalore. Many farmers of all the three districts are getting Multi Message Services (MMS) and also they are using conventional and non-conventional ICT tools.

Doddaballapurar, Chintamani and Srinivasapura taulks were selected from Bangalore rural,bChikkaballapura and Kolar districts respectively. These taluks were purposefully selected because these are located very close to respective Krishi Vigyan Kendras (KVKs) which are the capacity building centers at district level throughout the country. From each taluk four villages were selected which are closer to respective KVKs. In each of the selected villages, initially a list of 25 farmers was prepared based on the farmers getting multi message services, attended video conference programmes and using one or more ICT tools in getting farm information. From this list 10 farmers were selected randomly from each village, constituting a sample of 120 farmers for the study. Personal interview were conducted to illicitate their response about attitude and extent of utility of the ICT tools for farm information.

RESULTS AND DISCUSSION

Attitude of farmers towards ICT tools using for farm communication

Attitude is the degree of positive or negative effect with some psychological objects like symbol, phrase, slogan, person, institutions, idea towards which people can differ in varying degrees from the point of view of social psychology. It is the preparedness of people to respond in a certain way towards social object or phenomena. Further, the attitude of the farmers towards

ICT tools was operationalised as the positive or negative mental predisposition of respondents towards use in farm communication ICT. A structured schedule was used to measure the attitude of the farmers towards usage of ICT tools.

It was observed that more than two-fifth (40.83%) of the farmers had favorable attitude towards ICT tools followed by 31.67 per cent of the farmers had least favorable attitude and 27.50 per cent of the farmers had most favorable attitude towards ICT tools. The possible reason might be the fact that younger generation who are also literate are knowledgeable about ICT tools and its usages. They are few in number. Generally old age people with less exposure will have less favorable attitude towards ICT tools. The medium and high attitude may indicates that they are convinced about the utility of these tools and many of them opined that these tools provides wide range of information except cost of few ICT tools like internet and accessibility to the rural women. This result is in line with the findings of Reddy and Reddy (1997).

Table 1: Overall attitude of the farmers towards ICT tools

(n=120)

Category	Score	Frequency	Per cent
Least favorable	<58.29	38	31.67
favorable	58.29-60.82	49	40.83
Most favorable	>60.82	33	27.50
Total		**120**	**100.00**

As per the results obtained, statements agreed by respondents are nearly 78 per cent of the respondents agreed that I like to use ICT tools, ICT tools provide global information (76.66%), ICT provides wider information regarding agriculture (73.33%), ICT usage is socially, economically and culturally feasible (69.17%), usage of ICT tools lead to modernization (79.16%), ICT tools will build social capital among farmers (68.33%), ICT tools are only suitable to literate people (78.33%), ICT tools are costly (90.00%), youth will have more access to ICT tools (70.83%), information can be obtained from ICT tools without any assistance (50.83%).ICT tools provide timely information (69.16%), it is very easy to get information from ICT tools (76.66%) and frequency of broadcasting/telecasting/conferencing of ICT tools is not convenient (60.83%).

Further, 18 per cent of the respondents expressed disagreement with the reasons that ICT provides wider information regarding agriculture. ICT usage is socially and economically feasible (30.00%), use of ICT tools will build social capital among farmers (31.67%), ICT tools are only suitable to literate people (20.83%), youth will have more access to ICT tools (29.16%), without any assistance I can get information from ICT tools (50.83%) and ICT tools provide need based information (30.00%).

Table 2: Statement wise analysis of attitude of farmers towards ICT tools

(n=120)

#	Statements	SA		A		DA		SDA	
		N	%	N	%	N	%	N	%
1	I like to use ICT tools.	25	20.83	95	79.17	0	0.00	0	0.0
2	ICT tools provide global information.	28	23.33	92	76.67	0	0.00	0	0.0
3	ICT tools provides wider information regarding agriculture	11	9.17	88	73.33	21	17.5	0	0.0
4	ICT usage is socially and economically feasible.	1	0.83	83	69.17	36	30.00	0	0.0
5	Use of ICT tools lead to modernization.	25	20.83	95	79.17	0	0.00	0	0.0
6	Use of ICT tools will build social capital among farmers.	0	0.00	94	78.33	38	31.67	0	0.0
7	ICT tools are only suitable to literate people.	0	0.00	94	70.84	25	20.33	1	0.83
8	ICT tools are costly.	0	0.00	108	90.00	12	10.00	0	0.00
9	ICT tools are more accessible to rich and upper class people.	0	0.00	20	16.66	100	83.33	0	0.00
10	Youth will have more access to ICT tools.	0	0.00	85	70.83	35	29.17	0	0.00
11	It is difficult to use ICT tools by rural women.	0	0.00	20	16.66	100	83.33	0	0.00
12	Without any assistance I can get information from ICT tools.	2	1.67	56	46.67	61	50.83	1	0.83
13	ICT tools provide need based information.	1	0.833	83	69.17	36	30.00	0	0.00
14	ICT tools provide timely information.	1	0.833	83	69.17	36	30	0	0.00
15	It is very easy to get information from ICT tools	2	1.67	56	46.6	61	50.83	1	8.33

16	Interactive discussion is possible through ICT tools	2	1.67	56	46.67	61	50.83	1	0.83
17	Socio cultural barriers can be over come through ICT.	0	0.00	89	74.16	31	25.83	0	0.00
18	Frequency of broadcasting of ICT tools is not convenient.	0	0.00	73	60.83	47	39.16	0	0.00
19	Time of broadcasting of ICT tools is not convenient.	0	0.00	73	60.83	47	39.16	0	0.00
20	Sometime subject matter is not relevant in ICT tools.	2	1.67	56	46.67	61	50.83	1	0.83
21	Information provided through ICT is not in local language.	2	1.67	56	46.67	61	50.83	1	0.83

SA-Strongly agree, **A**-Agree, **DA**- Disagree, **SDA**-Strongly disagree

In order to measure the relationship that exists between the independent variables with attitude of farmers, the correlation coefficients were worked out and tested for its statistical significance. It was observed that the variables such as education, land holding, annual income, economic motivation, risk orientation, and scientific orientation had positive and significant relationship with attitude of farmers at one per cent level of significance whereas, extension participation had positive and significant relationship with attitude of farmers at five per cent level of significance. Other variables such as age, family type, farming experience, material procession, innovativeness, social participation, mass media exposure and cosmopoliteness found to have non-significant relationship with attitude of the farmers.

This might be the due to the reason that education to individual for acquisition of knowledge, broadening the vision and motivating towards higher accomplishment has helped them to develop positive attitude towards ICT tools. Further, size of landholding provides the economic base for farmers to practice new agricultural technologies disseminated through ICT tools for achieving maximum profit resulting in showing positive attitude. In addition, scientific orientation also helps to build positive attitude since they logically think about the actual utility of the ICT tools.

Table 3: Multiple regression analysis of attitude of farmers towards ICT tools with independent variables.

(n=120)

Sl.No.	Variables	Regression co-efficient (β)	Std. Error	't' value
1	Age	0.026	0.279	0.095 NS
2	Education	0.243	0.079	3.095*
3	Land holding	0.209	0.070	2.989*
4	Family Type	0.394	0.464	0.849 NS
5	Farming experience	0.026	0.159	0.165 NS
6	Material possession	0.009	0.036	0.242 NS
7	Annual income	2.13	0.552	3.861**
8	Innovativeness	0.314	0.186	1.684 NS
9	Social participation	0.344	0.179	0.922 NS
10	Extension participation	1.707	0.376	4.541**
11	Mass media exposure	0.033	0.150	0.223 NS
12	Economic motivation	0.653	0.172	3.802**
13	Risk orientation	1.063	0.268	3.966**
14	Scientific orientation	1.157	0.424	2.729*
15	Cosmopoliteness	0.109	0.228	0.477 NS

R^2=0.721 F=11.88*

** Significant at the 0.01 level.

* Significant at the 0.05 level.

NS = Non-Significant

In most of the case attitude depends on prosperity they want to have constant income, less risks for this education and extension participation will help to broader their horizon of thinking. Hence, they showed significant relation to the variables. These results are in line with the findings of Reddy and Reddy (1997).

Extent of utilization and multiple usages of ICT tools among farming community

Result depicts that the majority of the respondents obtained information occasionally from TV regarding inputs availability (60.83%), production technologies (70.83%), credit (64.17%), marketing (73.33%), weather (57.50%), crop insurance (53.33%), government programmes and schemes (70.83%) and IPM (84.17%). A considerable percentage of the respondents obtained information occasionally from mobile regarding input availability (37.50%), production technologies (80.00%), marketing (54.17%), weather (60.83%), crop insurance (33.33%), government programmes and schemes (70.83%), post harvest technology (44.17%) and INM and IPM (40.00%).

The probable reason might be that majority of the respondents possessed TV and mobile. TV is the most effective communication tool to disseminate the farm information to the farming community since many decades. TV became popular since it provides information in the form of audio with video. Further, different types of programmes like success stories, interviews, phone in programme are telecasting through TV is provided wide range of information with effectiveness. Portability and multiple uses of mobile can help in getting information at their door step and even at working places. Further, they perceive that the information provided from these sources is found credible and timely. Hence, majority of the respondents obtained information regarding different aspects of agriculture by means of TV and mobile. This finding is conformity with finding of Basavaraj (2010).

Limitations in using ICT tools among farmers.

The results indicated that problems in using ICT tools among farming community were electricity problems (I), lack of ICT literacy among the farmers (II), more time and practice required to learn the tools to use (II), lack of trained man power (III), clarification is difficult if any doubt arise (IV), initial cost is more (IV), time of broadcasting and conferencing is not convenient (V), recurring expenditure is more (VI), Lack of training centres in rural area (VII)), dependency on interpreters (VIII), problems of foreign language (IX) and Lack of locally relevant information (X).

It is evident from the results that more severe problems in using ICT tools among farming community are electricity problems in rural areas because of frequent load shedding in rural areas. More time and practice required learning the tools because of complexity of few tools and cost is more for few tools like computer, TV and internet connection due to their medium level of income, time of broadcasting and conferencing is not convenient

due to time constraint in prime hours specially in TV programme. Since, most of the time farmers spend in field only hence they are unable to watch programmes during day time. Further, there is a lack of locally relevant information and not using local language in few tools. This finding is in line with the findings of Dhaka and Chayal (2010).

Table 4: Limitations in using ICT tools

(n=120)

Sl. No.	Statements	Percentage	Rank
1	Electricity problems	95.60	**I**
2	Lack of ICT literacy among farmers	69.40	**II**
3	More time and practice required to learn to use the tools	69.40	**II**
4	Lack of trained man power	67.80	**III**
5	Clarification is difficult if any doubt arise	67.50	**IV**
6	Initial cost is more	67.50	**IV**
7	Time of broadcasting and conferencing is not convenient	67.20	**V**
8	Recurring expenditure is more	66.90	**VI**
9	Lack of training centers	65.60	**VII**
10	Dependency on interpreters	54.20	**VIII**
11	Problems of foreign language	46.90	**IX**
12	Lack of locally relevant information	43.90	**X**

CONCLUSION

The agriculture 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 user at the right time. The study revealed that majority of the farmers were not aware ICT tools and only 40 per cent of the farmers having favourable attitude towards ICT tools which becomes the major bottleneck in accepting this technology. Further, there is need to educate the farmers regarding ICT tools like internet, conferencing and agricultural DVDs and use of social media by means of providing training and make availability of these ICT tools in rural areas. Hence, there is a need to provide farm information through other tools since internet has got more space, wider reach and retrievable form of information it is possible to have two way interactions through video conferencing. Hence, there is a need to establish multipurpose ICT centres in village level comprising all ICT tools. ICT becomes promising future mode and communication to the farming community. gradually penetrating in to rural areas. In spite of few limitations ICT emerged as important tools where real time information can be disseminated to the farmers who are having geographical isolation. Hence, there is a strong need to educate the people specially middle ages and above farmers in using ICT tools by removing the psychological barriers like it is difficult tool not suitable for them. further still there is need to develop more user friendly tools and options for usage. In the initial stage promote community ICT centres where multiple services can provide with the help of entrepreneurs.

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