Opinion towards Applications of ICT and Problems Faced by KVK Extension Personnel

Arjun Sulibhavimath[1] and Preeti Sharma[2]

ABSTRACT

The present study entitled "Opinion towards applications of ICT and problems faced by KVK extension personnel" was conducted in Punjab and Karnataka states. The objective of the study was to explore the opinion and problems faced by the KVK extension personnel in using ICT for acquiring and disseminating the knowledge. Fifty per cent of KVKs were randomly selected from both the states. From Punjab, out of 17 KVKs nine were selected and from Karnataka, out of 30 KVKs fifteen KVKs were selected. All the extension personnel in position at the time of investigation were taken from the selected KVKs. Thus 51 respondents from Punjab and 73 respondents from Karnataka, total of 124 respondents were selected for the study. The structured interview schedule was used to collect the data. Most of the respondents had positive opinion towards the use of ICTs for acquiring and disseminating knowledge to farmers. All the respondents were agreed upon various benefits of ICTs. Inadequate training on ICT tools, lack of communication infrastructure and lack of sufficient number of computers were considered as major problems by majority of the respondents. It is suggested to provide more trainings on ICT and sufficient budget to improve ICT infrastructure. Use of advanced ICT should be promoted.

Key words: Information communication technology, krishi vigyan kendras, KVK extension personnel, opinion, problems, suggestions.

INTRODUCTION

ICT is an umbrella term which in this context encompasses all information and communication technologies including the devices, networks, services and applications. For the user, ICT materializes as any device, tool, or application that pertains to the above and "permits the exchange or collection of data through interaction or transmission". ICT not only encompasses the innovative internet based technologies relating to information and communication but also includes other pre-existing technologies such as television, radio and satellites.

In India, Public extension system is involved in disseminating information to farm families. The Indian Council of Agricultural Research (ICAR) Institutes, State Agricultural Universities (SAUs) and Krishi Vigyan Kendras (Farm Science Center) spread all over the nation have the responsibility of developing, refining and disseminating the cutting edge technologies to rural families. Besides this, conducting extension activities like contacting farmers, disseminating new technology, organizing trainings, and field days and so on is performed by state agricultural universities, private agricultural organizations and NGOs.

The individual contacts made by field extension staff is limited due to lack of resources, constrained coordination, aptitudes and less number of field level staff. It has been evaluated that there are around 110,000 extension workers to take into account the necessities of farmers families spread across nearly 600,000 villages. Besides, public extension system has a poor reputation of contacting small and marginal farmers (Parikh, 2007).

The National Commission on Farmers has discovered that this information lacking situation leads to less efficiency and productivity in agriculture. Promotion of Information Communication Technologies (ICTs) for agricultural growth is one way of satisfying the information needs of farm community. The Working Group on Agricultural Extension constituted by the Planning Commission (Eleventh Five Year Plan), Government of India has recommended that there is a vital need to counter to the forthcoming challenges of

[1.] MSc Student and [2.] Assistant Professor, Punjab agricultural university Ludhiana pubjab

disseminating information to farmers by using ICTs. Agricultural production is relied upon to end up noticeably more expanded, learning concentrated, and request driven with the assistance of ICTs and therefore more powerful in meeting farmer's data. Use of ICT can help extension personnel in becoming more varied, learning concentrated, and demand-driven and thus more effective in addressing farmers' information needs. (Zijp, 1994)

KVK extension personnel need to acquire knowledge on recent research findings for performing these tasks effectively as well as efficiently. At the same time, recommendations on innovative technologies should reach ultimate users in the best possible way. With the advent of new technologies and increase in basic infrastructural facilities like computer, mobile, electricity and internet, Information Communication Technologies (ICTs) can take care of the issue of reaching countless with the appropriate and timely agricultural technologies. ICTs effectively facilitate dissemination of knowledge among farmers, extension agents and other stakeholders. To enable better adoption of improved crop varieties, agricultural technologies, and agronomical operations, ICT act as an initiator. ICT not only encourages transfer of agricultural technologies but also helps in transmitting more services such as training, extension and communication management, administration, distance education, health and information sharing. ICTs promotes convergence in agricultural extension by providing common platform for research and extension systems for sharing knowledge. Keeping in mind the importance of ICT for different purposes, the present study was conducted with the following objective, to explore the opinion of KVK extension personnel towards application of ICT, to study the problems faced by the KVK extension personnel in using ICT and to seek suggestions of KVK extension personnel in enhancing the use of ICT.

METHODOLOGY

The study was conducted in selected KVKs of Punjab and Karnataka states. Fifty per cent of the KVKs under the jurisdiction of SAUs were selected through simple and proportionate random sampling technique. There are 17 KVKs in Punjab out of which nine KVKs were selected and in Karnataka there are 31 KVKs, out of which 15 KVKs were selected for the study.

All the extension personnel working in selected KVKs (in position at the time of data collection) were taken as respondents for the purpose of the study. Out of nine selected KVKs of Punjab, 51 respondents and out of

fifteen selected KVKs of Karnataka, 73 respondents were selected for the study, thus total sample selected for the study was 124 respondents.

RESULTS AND DISCUSSION

Opinion of KVK extension personnel towards ICT

Table 1 discusses the opinion of the extension personnel towards the application of Information Communication Technologies for acquiring and disseminating knowledge. Cent per cent KVK extension personnel of Punjab were agreed that ICT promotes communication, helpful in extension activities, useful for educating farmers on improved practices and technologies, saves time and covers the masses in short period and reduces the distance. Majority of the respondents were agreed that ICT acts as a good source for collecting the current information (96.02%), useful in connecting with the farmers (80.39%), creates interesting learning environment (72.54%), reduces the workload and enhances the productivity (62.74%). Majority of the respondents (64.70%) also opined that Wi-Fi / internet connection is not accessible in rural areas and sufficient power supply for use of ICTs in rural areas is not available (60.78%) which reduces the use of ICT for disseminating knowledge. It was further expressed by almost half of the respondents (52.94%) that ICT is effective when there is proper infrastructure available to use it. Cent per cent of the KVK extension personnel of Karnataka state agreed that ICT saves time, cover the masses in short period and creates an interesting learning environment. Most of the respondents each (98.63%) opined that ICT promotes communication and is useful in connecting with farmers followed by 94.52 per cent respondents who viewed ICT as good source for collecting the current information and useful for educating farmers on improved practices and technologies (95.89%). Majority of the respondents i.e. 75.34 per cent agreed that it reduces workload & enhances the productivity of scientists while 69.86 per cent respondents were of the view that it is effective only when proper infrastructure is provided. Half of the respondents (57.53%) were disagreed that it is not suitable for extension activities in rural areas, although 54.79 per cent were agreed that in rural areas Wi-Fi /internet connection was not properly accessible and sufficient power supply to use ICT was not available (49.31%) and at the same time it reduces interpersonal relationship between extension personnel and farmers (43.83%). Nearly one third respondents *i.e.* 34.24 per cent agreed that they can't get instant feedback while using ICT about trainings and increased use of ICT leads to eye and back pain (30.29%).

The table concluded that overall there was positive opinion of KVK extension personnel of both the states

(x=2.42 and x=2.44) towards the use of ICTs. The findings are also supported by the findings of Kale et al (2016). Thus there is a need to develop proper infrastructural facilities and trainings to extension personnel of KVK as well as to farmers, so that all can have maximum benefits of ICT.

Table 1: Distribution of respondents according to their opinion towards application of ICTs for acquiring & disseminating knowledge

n=124

Statements	Punjab (n=51)			Mean score	Karnataka (n=73)			Mean score
	Agree	Undecided	Disagree		Agree	Undecided	Disagree	
	f (%)	f (%)	f (%)		f (%)	f (%)	f (%)	
Promotes communication	51 (100.00)	--	--	3	72(98.63)	1(1.36)	--	2.98
Good source for collecting the current information	49 (96.02)	2(3.92)	--	2.96	69(94.52)	1(1.36)	3(4.10)	2.90
Helpful in extension activities	51 (100.00)	--	--	3	70(95.89)	2(2.73)	1(1.36)	2.94
Useful for educating farmers on improved practices and technologies	51(100.00)	--	--	3	71(97.26)	2(2.73)	--	2.97
Useful in connecting with farmers	41(80.39)	10(19.60)	--	2.80	72(98.63)	1(1.36)	--	2.98
Save time, cover the masses	51(100.00)	--	--	3	73(100.00)	--	--	3
Multimedia, video, power point used to create an interesting learning environment	37(72.54)	14(27.45)	--	2.72	73(100.00)	--	--	3
Reduce the workload & enhance the productivity	32(62.74)	11(21.56)	8(15.68)	2.47	55(75.34)	12(16.43)	--	2.54
Not suitable for extension activities in rural areas	16(31.37)	23(45.09)	12(23.52)	1.92	18(24.65)	13(17.80)	42(57.53)	2.32
Increased use of ICT led to eye and back pain	18(35.29)	15(29.41)	18(35.92)	2	22(30.13)	25(34.24)	26(35.61)	2.05
Reduces interpersonal relationships	11(21.56)	11(21.56)	29(56.86)	2.35	32(43.83)	13(17.80)	28(38.35)	1.94
Effective when there is proper infrastructure of ICT	27(52.94)	21(41.17)	3(5.88)	1.52	51(69.86)	14(19.17)	10(13.69)	1.98
Can't get instant feedback about trainings	14(27.45)	17(33.33)	20(39.21)	2.11	25(34.24)	28(38.35)	22(30.13)	2.01
Non accessibility of Wi-Fi /internet connection in rural areas	31(60.78)	11(21.56)	9(17.64)	1.56	40(54.79)	26(35.61)	7(9.589)	1.54
No sufficient power supply in rural areas to use ICTs	23(45.09)	18(35.29)	10(19.60)	1.74	36(49.31)	20(27.39)	17(23.28)	1.73
Wrong perception of farmers on ICTs decline the use of ICTs by extension personnel	17(33.33)	4(7.84)	30(58.82)	2.62	16(21.91)	28(38.35)	30(41.09)	2.21
Over all mean score				2.42				2.44

Mean score range-<1- negative, 1-2- neutral, 2-3-positive.

Problems faced by KVK extension personnel while using Information Communication Technology

Information regarding the problems faced by KVK extension personnel while using information communication technology is presented in Table 2. Problems were studied under two sub heads *i.e.* personal and infrastructural constraints.

Table 2: Distribution of respondents according to problems faced by them while using of ICT

n=124

Personal Constraints	Punjab n₁=51		Karnataka n₂=73		Total (n₁+n₂=124)	
	f	%	f	%	F	%
Lack of adequate awareness about advanced ICT	21	41.17	60	82.19	81	65.32
Lack of adequate skill in handling ICT facilities	29	56.86	51	69.86	80	64.52
Lack of confidence in operating ICT facilities	25	49.01	62	84.93	87	70.16
Lack of adequate time for training on ICT facility	28	54.90	45	61.64	73	58.87
Complexity in using ICT	18	35.29	54	73.97	72	58.06
Inability to cope up with advancement in ICT	29	56.86	49	67.12	78	62.90
Inadequate training on ICT tools	34	66.66	39	53.42	73	58.87
Infrastructural constraints						
Lack of communication infrastructure in which ICTs depend on	40	78.43	47	64.38	87	70.16
Lack of ICT tools in office	18	35.29	47	64.38	65	52.42
Lack of accessibility of Wi-Fi /internet connection	18	35.29	15	20.54	33	26.61
Lack of sufficient computers	13	25.49	60	82.19	73	58.87
Erratic and fluctuating power supply	21	41.17	43	58.90	64	51.61
Lack of sufficient trained computer personnel on ICT.	11	21.56	40	54.79	51	41.13
Poor maintenance of ICT tools	26	50.98	41	56.16	67	54.03
Lack of latest ICT infrastructure	26	50.98	37	50.68	63	50.81
Insufficient budget for ICT infrastructure	24	47.05	35	47.94	59	47.58
Slow speed of internet	21	41.17	18	24.65	39	31.45
Lack of sufficient space	11	21.56	57	78.08	68	54.84

Regarding the personal constraints, data presented in Table 2 depicts that in Punjab, majority of the respondents faced problem of inadequate training on ICT tools (66.66%) followed by 56.86 per cent respondents each faced problems of lack of adequate skill in handling ICT

facilities and inability to cope up with advancement in ICT. Nearly half of the respondents *i.e.* 54.90 per cent faced personal constraint of lack of adequate time for training on ICT facility, lack of confidence in operating ICT facilities (49.01%) and complexity in using ICT (35.29%).

Most of the respondents of Karnataka shared personal constraints as lack of confidence in operating ICT facilities (84.93%) and lack of adequate awareness about advanced ICT (82.19%). Majority of the respondents perceived complexity in using ICT (73.97%), lack of adequate skill in handling ICT facilities (69.86%), inability to cope up with advancement in ICT (67.12%) and lack of adequate time for training on ICT facility (61.64%) as other personal constraints. Nearly half of the respondents (53.42%) also considered inadequate training on ICT tools as one of the personal constraints.

The table further elaborates upon the infrastructural constraints faced by KVK extension personnel while using ICT. Majority of the respondents of Punjab i.e. 78.43 per cent perceived lack of communication infrastructure in which ICTs depend on as major infrastructural constraint. Half of the respondents i.e. 50.98 per cent respondents each faced the problems of poor maintenance of ICT tools and lack of latest ICT infrastructure followed by 47.05 per cent respondents who reported that budget for ICT infrastructure was insufficient. Nearly two fifth of the respondents each (41.05%) shared that erratic and fluctuating power supply and slow speed of internet were other infrastructural constraints. Nearly one third of the respondents i.e. 35.29 per cent each said that lack of ICT tools in office and lack of accessibility of Wi-Fi /internet connection also caused problems while using ICT.

In Karnataka state, most of the respondents reported lack of sufficient number of computers (82.19%) and lack of sufficient space (78.08%) as major infrastructural constraints. Majority of the respondents each (64.38%) perceived constraints as lack of communication infrastructure in which ICTs depend on and lack of ICT tools in office followed by 58.90 per cent respondents who reported erratic and fluctuating power supply, poor maintenance of ICT tools (56.16%) and lack of latest ICT infrastructure (50.68%) as other constraints.

The table concluded that majority of the Punjab respondents considered inadequate training on ICT tools and lack of communication infrastructure as major personal and infrastructural constraints respectively whereas lack of adequate awareness about ICT, lack of confidence in operating ICT facilities and lack of

sufficient number of computers were considered major personal and infrastructural constraints respectively by Karnataka respondents. The findings were in line with the findings of Akpabio *et. al.,* (2007), Salau and Saingbe (2008).

Table 3: Distribution of respondents according to their suggestions given by them for enhancing the use of ICT

n=124

Suggestions	Punjab (n₁=51)		Karnataka (n₂=73)		Total (n₁+n₂=124)	
	F	%	F	%	F	%
Provision of training and knowledge about ICT	45	88.23	65	89.20	110	88.70
Release of more budget to KVKs to improve ICT infrastructure	36	70.58	39	53.42	75	60.48
Make awareness about ICT to farmers as well as KVK extension personnel	23	45.09	38	52.05	61	49.20
Need of proper supply of power to use ICTs	24	47.05	30	41.01	54	43.54
Regular up gradation of software of computers	25	49.01	25	34.24	50	40.32
ICT application made more user friendly and in local language to use effectively	10	19.60	25	34.24	35	28.22
All crop based ICT application must be designed	0	0.00	15	20.54	15	12.10

Suggestions given by respondents for enhancing the use of ICT

Suggestions regarding enhancing the use of ICT for extension activities were sought from KVK extension personnel.

Data in Table 3 indicated that most of the respondents *i.e.* 88.70 per cent reported that there should be provision of training and knowledge about ICT. Majority of the respondents (60.48%) suggested the release of more budget to KVKs to improve ICT infrastructure. Nearly half of the respondents (49.20%) were of the view that awareness about ICT must be created among farmers as well as KVK extension personnel followed by 43.54 respondents suggested that there is a need of proper supply of power to use ICTs and regular upgradation of software (40.32%). Nearly one fourth of the respondents suggested to make ICT more user friendly and in local language (28.22%).

The table concluded that majority of both the states' KVK extension personnel suggested to provide training in ICT and to release sufficient budget to KVKs to improve ICT infrastructure.

CONCLUSION

It can be concluded that KVK extension personnel had positive opinion about application of ICT in acquiring and disseminating knowledge. But lack of confidence in operating ICT tools and lack of communication infrastructure required for ICT. As suggested by KVK

extension personnel, trainings on ICT and more budget for improving ICT facilities should be provided to Krishi Vigyan Kendras. Use of advanced ICT facilities such as use of ICT kiosks, decision support system, management information systems should be promoted.

REFERENCES

Akpabio I A (2007). Agricultural Extension Officials and Utilization of Information and Communication Technologies in the Niger Delta, Nigeria. J Ext Syst 23(1):29-41.

Arokoyo, T. (2003). ICTs in the Transformation of Agricultural Extension: The case of Nigeria. Paper presented at the 6th Consultattive Expert Meeting og the CTA's Observatory on ICTs, Wagenngen. September 23rd to 25th.

Joshi V (2010). Extent of use and information needs regarding information technology among the progressive and non-progressive farmers. M.Sc. Thesis. Punjab Agricultural University, Ludhiana, India.

Salau E S and Saingbe, N D (2008). Access and Utilization and Communication Technologies (ICT) among Agricultural Researchers and Extension Workers. 4 : 1-11.

Zipp W (1994). Improving the transfer and use of agriculture information: A guide to information technology. World bank discussion paper 247. The World bank, Washington, DC.