

RESEARCH ARTICLE

Accessible places and purposes of uses of information and communication technologies (ICTs) among KVKs scientists of Madhya Pradesh and Chhattisgarh

■ Rohan Sharma, Y. D. Mishra, S. R. K. Singh and K. N. Pathak

SUMMARY

Now-a-days agricultural extension is facing a large quantity of innovations, discoveries and information in different fields of science, skills and agricultural technology and has got the latest findings from the resources of producing information and make it accessible for the users and for being successful in this important matters, it is necessary to have a powerful and effective informing system (Bassak Harouni *et al.*, 2012). ICT in agriculture offers a wide range of solutions to some agricultural challenges. It is seen as an emerging field focusing on the improvement of agricultural and rural development through improved information and communication processes. The mission is to make cost effective ICT based systems. These technologies besides improving the accessibility of the information for the farmers makes it possible for the providers of the extensional services to compete in a better and healthier environment. ICTs can be used to increase effectiveness and efficiency of extension system. Krishi Vigyan Kendra's (KVK) scientists are playing a proactive role in transferring new technology at field level with beneficial impacts. So, in this era of information revolution, the KVKs Scientists should be encouraged to use ICTs for different extension activities and field works. Hence, an attempt was made through a research study was undertaken for 304 scientists working in different KVKs in Madhya Pradesh and Chhattisgarh, to find out the accessible places and purposes of uses of ICTs among KVKs Scientists. The findings of the study revealed that vast majority (80.20%) of the respondents have the accessibility of mobile phone at office and home followed by computer system (61.88%), Internet Services (51.98%) and other ICT tools, Similarly in case of purpose of use of ICT tools by KVK scientists, majority of the respondents (100%) were using ICT tools for Social media followed by, Report writing (100%), Hooked up web based information (99.51%), Data storage (99.01%), Presentations (98.52%), Information retrieval/ data updating, Typing (98.02%) and so on respectively.

Key Words : Information and communication technologies (ICTs), Krishi Vigyan Kendras (KVKs), Places, Purposes of ICT uses, accessibility

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As the world's present population grows from 6.7 to 9.1 billion by 2050, food production will need to double over this same period (FAO, 2016). Thus, more effective extension services are needed to address agricultural challenges including meeting the information needs of poor smallholder farmers in developing countries.

In response, agricultural extension experts and institutions around the world are promoting the use of Information and Communication Technology (ICT) by agricultural extension and education agents. ICTs can expedite the process of agricultural technology transfer from research and development institutions to farmers. ICTs improve adoption of agricultural technology by supporting farmer's learning, problem solving, and accessibility to profitable markets for their crops (World Bank, 2011).

ICT has an important role in connecting research, extension and the market toward expanding the professional and entrepreneurship abilities, capacities among the experts and the agricultural communities (Arkhi *et al.*, 2008). The advancements in ICT can be utilized for providing accurate, timely, relevant information and services to the farmers, thereby facilitating an environment for more remunerative agriculture.

The Krishi Vigyan Kendras (KVK) is of national importance which would help in accelerating the agricultural production and also in improving the socio-economic conditions of the farming community. They are continuously engaged in improving their professional knowledge and skills by keeping themselves abreast with latest information. The overall development of KVK's scientists largely depends on their capacity and willingness to seek and share relevant information with their colleagues peers juniors superiors and other members of organization.

ICTs can be used to increase effectiveness and efficiency of extension system. So, in this era of information revolution, the KVKs Scientists should be encouraged to use ICTs for different extension activities

and field works. Keeping these things in mind an attempt was made through a research study was undertaken for 304 scientists working in different KVKs in Madhya Pradesh and Chhattisgarh, to find out the accessible places and purposes of uses of ICTs among KVKs Scientists.

MATERIAL AND METHODS

The study was carried out in State Agricultural Universities of Madhya Pradesh and Chhattisgarh State. The study population included all scientists of KVKs of all SAUs, NGOs and ICAR Jurisdiction in both the States. A structured questionnaire was designed based on related literature and objectives of the study and variables and it was send to all scientists of KVKs comes under study area. Validity of the instrument was ensured through a panel of experts. Data was analyzed with using frequencies, percentages, mean and multiple correlation and regressions.

RESULTS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Places of ICT access:

The results presented in Table 1 and Fig 1 indicated that vast majority (80.20%) of the respondents have the accessibility of mobile phone at office and home followed by computer system (61.88%), Internet Services (51.98%), e-books (49.00%), e-journals (44.55%), Digital

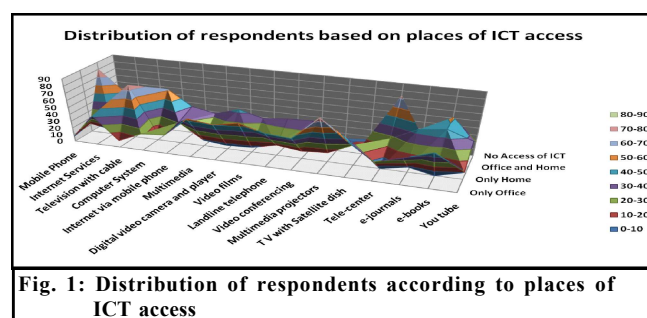


Fig. 1: Distribution of respondents according to places of ICT access

Table 1: Distribution of respondents based on places of ICT access (n=202)

Sr. No.	ICTs	Places of ICT access			
		Only office	Only home	Office and home	No access of ICT
1.	Mobile phone	15 (7.42)	25 (12.38)	162 (80.20)	0 (0)
2.	Internet services	85 (42.08)	12 (5.94)	105 (51.98)	0 (0)
3.	Television with cable	20 (9.90)	155 (76.73)	27 (13.37)	0 (0)
4.	Computer system	49 (24.26)	22 (10.89)	125 (61.88)	6 (2.97)
5.	Internet via mobile phone	55 (27.22)	62 (30.69)	81 (40.10)	6 (2.97)
6.	Multimedia	110 (54.45)	17 (8.41)	68 (33.66)	7 (3.46)
7.	Digital video camera and player	102 (50.49)	10 (4.95)	88 (43.56)	2 (0.99)
8.	Video films	115 (56.93)	14 (6.93)	70 (34.65)	3 (1.48)
9.	Landline telephone	95 (47.03)	30 (14.85)	77 (38.12)	0 (0)
10.	Video conferencing	90 (44.55)	22 (10.89)	80 (39.60)	10 (4.95)
11.	Multimedia projectors	155 (76.73)	27 (13.37)	15 (7.42)	5 (2.47)
12.	T V with satellite dish	102 (50.49)	60 (29.70)	30 (14.85)	10 (4.95)
13.	Tele-center	55 (27.22)	0 (0)	55 (27.22)	147 (72.77)
14.	e-journals	75 (37.13)	15 (7.42)	90 (44.55)	22 (10.9)
15.	e-books	99 (49.00)	0 (0)	99 (49.00)	103 (50.99)
16.	You tube	65 (32.18)	20 (9.90)	75 (37.13)	42 (20.79)

(Figures in parenthesis indicate percentage)

video camera and player (43.56%), Internet via mobile phone (40.10%), Video conferencing (39.60%), Landline telephone (38.12%), You tube (37.13%), Video films (34.65%), Multimedia (33.66%), Tele-center (27.22%), T V with Satellite dish (14.85%), Television with cable (13.37%), Multimedia projectors (7.42%), respectively. Thus, it can be revealed that mobile phone, computer system, internet services, are accessible at office and home among the KVK scientists. This finding was in conformity with the findings of Khamoushi (2014).

Purpose of use of ICTs:

The data in Table 2 indicated that vast majority of the respondents (100%) were using ICT tools for Social media followed by, Report writing (100%), Hooked up web based information (99.51%), Data storage (99.01%), Presentations (98.52%), Information retrieval/ data updating, Typing (98.02%) and so on, respectively.

Thus, from Table 2 and Fig 2 it can be revealed that majority of the KVK Scientists use ICTs for various purposes like Data storage, Information retrieval/ data updating, Typing, Hooked up web based information, Presentations, Report writing, Social media, Communication with Scientists, Seminars, Data analysis, Slide showing, Interactive Teaching, To prepare Teaching aids, To prepare charts/posters, Mobile based extension, Strategy preparation for exhibition/melas, Cyber

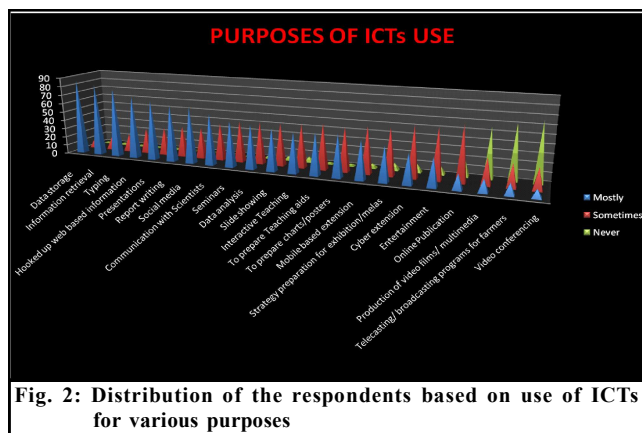


Fig. 2: Distribution of the respondents based on use of ICTs for various purposes

extension, Entertainment, Online Publication, Production of video films/ multimedia, Telecasting/ broadcasting programs for farmers and Video conferencing. These findings show the usage of ICTs by KVK scientists mostly for their research purposes. In this era of information revolution, the KVK scientists should be encouraged to use ICTs for extension education. The observations of Tayade *et al.* (2011), Ahmad and Fatima (2009) and Baliram (2009) were supportive of the present findings.

Conclusion:

So it can be concluded on the basis of these findings that vast majority (80.20%) of the KVK Scientists have the accessibility of mobile phone at office and home

Table 2: Distribution of the respondents according to use of ICTs for various purposes (n=202)

Sr. No.	Purpose of ICTs use	Mostly	Sometimes	Never
1.	Data storage	174 (86.14)	26 (12.87)	2 (0.99)
2.	Information retrieval/ data updating	167 (82.67)	31 (15.35)	4 (1.98)
3.	Typing	160 (79.21)	40 (19.80)	2 (0.99)
4.	Hooked up web based information	144 (71.29)	57 (28.22)	1 (0.49)
5.	Presentations	136 (67.33)	63 (31.19)	3 (1.48)
6.	Report writing	132 (65.35)	70 (34.65)	0 (0)
7.	Social media	130 (64.36)	72 (35.64)	0 (0)
8.	Communication with Scientists	117 (57.92)	85 (42.08)	2 (0.99)
9.	Seminars	104 (51.48)	95 (47.03)	3 (1.48)
10.	Data analysis	99 (49.01)	96 (47.52)	7 (3.46)
11.	Slide showing	95 (47.03)	98 (48.51)	9 (4.45)
12.	Interactive Teaching	91 (45.05)	99 (49.00)	12 (5.94)
13.	To prepare Teaching aids	93 (46.04)	105 (51.98)	4 (1.98)
14.	To prepare charts/posters	96 (47.52)	101 (50.00)	5 (2.47)
15.	Mobile based extension	86 (42.57)	106 (52.47)	10 (4.95)
16.	Strategy preparation for exhibition/melas	78 (38.61)	108 (53.46)	16 (7.92)
17.	Cyber extension	69 (34.16)	115 (56.93)	18 (8.91)
18.	Entertainment	65 (32.18)	117 (57.92)	20 (9.90)
19.	Online Publication	35 (17.33)	125 (61.88)	42 (20.79)
20.	Production of video films/ multimedia	29 (14.36)	61 (30.20)	112 (55.44)
21.	Telecasting/ broadcasting programmes for farmers	26 (12.87)	52 (25.74)	124 (61.39)
22.	Video conferencing	19 (9.40)	49 (24.26)	134 (66.34)

(Figures in parenthesis indicate percentage)

followed by different ICT tools and also they perceived usefulness of ICT in job to increase effectiveness and efficiency of extension work and also helps farmers to utilize such information in solving their pressing problems.

Abbreviations :

ICTs-Information and Communication Technologies, KVKs - Krishi Vigyan Kendras, SAU - State Agriculture University, NGO - Non-Government Organization, ICAR – Indian Council of Agriculture Research, RVSKVV-Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, IGNTU-Indira Gandhi National Tribal University, MP - Madhya Pradesh.

Author statement:

All authors read, reviewed, agree and approved the final manuscript

Conflict of interest:

None declared

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