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Research Paper

Extent use of ICT tools by the respondents of North Kashmir (J&K) for seeking agricultural information in transfer of technology

Uzma Rashid[1], Sheikh Muzaffar Ahmad [2] and H. A. Malik[3]

[1]*Department of Agriculture Extension Education;* [2]*Department of Extension; Sher-e-Kashmir University of Agricultural Science and Technology of Kashmir (J&K) - 190 025;* [3]*Krishi Vigyan Kendra, SKUAST-K, Gurez*
*e-mail:*drhamalik@gmail.com*

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ABSTRACT

The study on extent of use of ICT tools by the respondents for seeking agricultural information in transfer of technology was carried out in all the three (03) districts of North Kashmir (Baramulla, Kupwara and Bandipora) in the UT J&K. Out of a list of 11855 farmers who were directly connected to Krishi Vigyan Kendras (KVKs), State Development Departments, SKUAST - Kashmir Agromet Field Unit and receiving updates via Farmer Portal, a sample of 350 farmers was selected through Stratified Random Sampling proportional to size from each district with the condition that the selected respondents had utilized two ICT tools during 2020. A well-structured interview schedule was prepared keeping in view the objectives of the study. It was pretested in a non- sampled area and minor refinements were made to perfect the schedule. Personal interviews were used to gather data, which was analyzed using appropriate statistical tools/tests. More than 90 per cent respondents had perceived radio and television (ICT tools for changing attitude and improved skill) as a good information source in transfer of agricultural technology. More than 50 per cent respondents had perceived bulletins and Public address system (ICT tools) for the transfer of agriculture technology. The findings revealed that majority of the respondents had fully adopted agriculture related information by using mobile, smart phones, CD/DVDs, computers, tablets, laptops due to internet facility providing stake holders through GPRS, Wi-Fi and broadband.

Key words: Adopted, extension personnel, farmers, ICT tools, respondents

ICT (Information and Communication Technology) is a broad term that encompasses all technologies for manipulating and communicating data, such as computers, mobile phones, hardware and software, satellite networks, radio, television and satellite technology; the internet, which includes email, instant messaging, video conferencing, social networking websites, artificial intelligence, robotics. One of the United Nation's Sustainable Development Goals is to "significantly increase access to information and communication technologies" and seek to provide free and open access to the internet in least developed countries by 2020 (SDG). This can be seen in computers, the internet, geographic information systems, mobile phones and traditional media such as radio and television (Stienen *et al.* 2007). Rural India has an estimated 109 million mobile internet users, according to the Indian Market Research Bureau, though the vast majority of them use the internet mainly for social networking and email (Maghura Swaminathan *et al.* 2018). The present study was planned with the following specific objectives:

1) To study the extent of use of ICT tools for seeking agricultural information as perceived by the respondents
2) To study the extent of adoption using agriculture related information using ICT tools

MATERIALS AND METHODS

The research was carried out in all the three (03) districts of North Kashmir (Baramulla, Kupwara and Bandipora) in the state of J&K. A list of 11855 farmers who were directly connected to KVKs, State Development Departments of North Kashmir, Agromet Field Unit of SKUAST-Kashmir and were receiving updates through the Farmer's Portal was collected. A sample of 350 respondents was drawn through Stratified Random Sampling proportional to size from each district with the condition that the selected respondent had utilized at least two ICT tools during 2020. A well-structured interview schedule was prepared and pretested, in a non-sampled area keeping in view the objectives of study. The data was collected through personal interviews and every effort was made to clarify the questions posed to the respondents in their mother tongue. The frequency at which farmers used ICTs to collect information on various aspects of agriculture was operationalized the extent of ICTs use.

RESULTS AND DISCUSSION

A perusal of data presented in Table 1 would reveals that radio, television, mobile (smart phones) are being utilized by more than 50 per cent respondents for seeking agriculture related information on daily basis whereas 29.71 per cent respondents use newspapers for seeking agriculture information on daily basis. (Telecommunication Infrastructure Index (TII) and its components, 2018). Only 17.43 per cent respondents use bulletins on daily basis for seeking agriculture information. The findings further reveal that 15.14 per cent respondents use newspaper for seeking agriculture information on weekly basis (Wijekoon, Rohan. 2004). Almost 10 per cent respondents use radio and bulletins on weekly basis and 05.14 per cent respondents use mobile/smart phones on weekly basis. The data with respect to use of radio and television (ICT tools) for seeking agricultural information reveals that almost an equal percentage (11.43%) of respondents use them on fortnightly basis (Noor Agha, B.S. Ghanghas and Chahal, P.K. 2018). Only_14.29 per cent respondents use bulletins on fortnightly basis for seeking agriculture information. The data further reveals that television and bulletins as ICT tools are used by 15.14 per cent and 14.00 per cent respondents respectively for seeking agriculture information on monthly basis. Almost an equal percentage of respondents use radio, television, mobile/ smart phones and newspapers for seeking agriculture information once in a crop season whereas more than one-fourth (25.71%) respondents utilize bulletins as ICT tool once in a crop season (Kharmudai A., D. Sumi. Jyothi S.S.P 2018). The data further reveals that more than 25 per cent respondents have not used newspaper, mobile/smart phones for seeking agriculture related information.

The findings with respect to extent of use of ICT tools for seeking agricultural information by the respondents call at the earliest efforts to be made by the State Development Departments, KVKs, SKUAST-Kashmir, NGO's through training /awareness programmes so that the farmers judiciously use ICT tools on daily basis for boosting their production, productivity and profitability on their farms (Richardson, D. 2003).

Table 1: Respondents' distribution according to extent of use of ICT tools for seeking agricultural information (N= 350)

S. No	ICT Tools	Information Seeking Pattern											
		Daily		Weekly		Fortnightly		Monthly		Once in a crop season		Never	
		F	% age	F	% age	F	% age	F	% age	F	% age	F	% age
1.	Radio	185	52.86	36	10.29	40	11.43	33	09.43	37	10.56	19	05.43
2.	Television	180	51.43	31	08.86	20	05.71	53	15.14	37	10.57	29	08.29
3.	Newspaper	104	29.71	53	15.14	40	11.43	21	06.00	39	11.14	93	26.58
4.	Operating System gadgets (mobile, smart phones, CD/DVD Player, computers, laptop, tablets etc.)	176	50.29	18	05.14	10	02.86	13	03.71	38	10.85	95	27.15
5.	Bulletins	61	17.43	36	10.29	50	14.29	49	14.00	90	25.71	64	18.28

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A perusal of the data presented in Table 2 reveals that majority of the respondents (60.29%) fully adopt the Agriculture related information by using mobile/ smart phones, CD/DVD's, computers, tablets, laptops due to internet facility provided by stakeholders through GPRS, Wi- Fi and broadband. The data further reveals that more than 50 per cent respondents (58.00%) have fully adopted agriculture related information through watching farm related television programmes telecasted by Doordarshan on daily basis (Arkhi, S., E. Darvishi and M. Adibnejad 2008). The percentage of respondents fully adopting the agricultural related information through farm related radio programmes comprises 48.00 per cent. The findings reveal that farm related information printed through newspapers and bulletins account for 24.86 per cent and 16.00 per cent full adoption by the respondents utilizing bulletins as ICT tool was observed (Arkhi, S., E. Darvishi and M. Adibnejad 2008). Efforts should be made by the State Development Departments, Krishi Vigyan Kendras, SKUAST- Kashmir and various NGO's to motivate the farmers for listening/watching agricultural programmes on daily basis so that farmers fully adopt the various technologies advocated by the experts. Besides, the quality of programmes to be broadcasted/telecasted in a timely manner need to be looked into by various stakeholders by constituting a committee of Agriculture experts who will look into the quality of broadcasts/telecasts of radio and television, so that the farmers are benefitted and at the same time programmes are worth to watch. Besides, there should be a mechanism that Agriculture related information related to a particular time should find a place in our newspapers preferably on weekly basis.

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Table 2: Respondents' distribution as per the extent of adoption of Agriculture related information from ICT tools (N= 350)

S. No.	ICT tools	Extent of adoption of Agriculture related information			
		Fully	Percentage	Partially	Percentage
1.	Radio	168	48.00	182	52.00
2.	Television	203	58.00	147	42.00
3.	Newspaper	87	24.86	263	75.14
4.	Operating System gadgets (mobile, smart phones, CD/DVD Player, computers, laptop, tablets etc.)	211	60.294	139	39.71
5.	Bulletins	56	16.00	294	84.00

*Multiple responses

CONCLUSION

The findings with respect to use of ICT tools for seeking agriculture related information suggest that quality of broadcasts/ telecasts should be monitored by a constituted committee and every effort should be made that programmes are repeated, so that the farmers listen/watch the programmes as per their convenience. Besides, live phonic programme should be organised where farmers can ask their queries/ problems to the Subject Matter Experts/ Officers of the Development Department /Policy makers and get benefitted from their expertise without wastage of their precious time.

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