

# The Pharma Innovation

ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2022; SP-11(3): 1419-1422  
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[www.thepharmajournal.com](http://www.thepharmajournal.com)  
Received: 19-12-2021  
Accepted: 12-02-2022

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## A critical analysis on knowledge level of extension personnel about e-tools (ICT-tools) working in developmental departments in Vijayapur District

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### Abstract

The use of Internet and mobile by extension personnel is now common in India. Extension personnel use the Internet for social, research and educational purposes. This study focused on exploring knowledge level of extension personnel about e-tools. The data were collected from 135 extension personnel through an interview schedule. The results identified overall knowledge about e-tools, it was 43 per cent of the extension personnel had high level of knowledge about e-tools. Further, it indicated that extension personnel had high knowledge level about e-tools such as, 'Whats App group' (72.79%) followed by 'Video conference' (71.85%), 'Raitamitra' (62.96%), 'Mobile phone' (59.26%), 'krishi marata vahini' (50.37%) and 'Information kiosk' (49.63%). While the extension personnel had low knowledge level on e-tools like 'Agromet advisory Service' (60.00%) and 'KMAS' (46.67). Knowledge level can be increased only through the education. It can be overwhelmed with more research, experience and training programme. Extension personnel should be made aware about e-tools and need to be trained on use of e-tools.

**Keywords:** Internet, e-tool, extension personnel and knowledge level

### Introduction

Agriculture is demographically the broadest economic sector and plays a significant role in the overall socio-economics of India. Agricultural extension in the current scenario of a rapidly changing world has been recognised as an essential mechanism for delivering knowledge (information) for modern farming. Extension organisations have been concerned with what should be the appropriate means and approaches to getting the right agricultural information to the end-users (farmers). The updated information allows the farmers to cope with the highly localized nature of agriculture for which information must be tailored specifically to distinct conditions. In recent times, however, there has been a revolution with regards to ICT in agriculture and particularly in extension service delivery of India.

The extension personnel are using a wide variety of e-tools for seeking and dissemination of improved technologies to the farming community. The knowledge on e-tools by the agriculture extension personnel is a prerequisite for the use of e-tools. The Karnataka Government initiated 'Raitha Mitra Yojana' which translates to 'Farmer's Friend Scheme' during 2001 for providing effective extension services to the farmers. Raitha Samparka Kendras (RSKs) also known as Agricultural Extension Centers are established under Raitha Mitra Yojane at hobli or sub-block level i.e., between village level and block level of administration to address a wide range of local issues related to agriculture. The RSKs act as a common platform for farmers to access and interact with agriculture based technology and information at the grass root level. These Kendras are intended to provide technical information on crop selection, crop production, and crop protection related know-how, market and weather information, etc., to the farmers. They also provide seed and soil testing facilities locally and facilitate on-site provision of critical inputs like seeds, bio-fertilizers, plant protection chemicals, etc. RSKs also provide a forum for the on-farm demonstration on new technologies developed by both public and private sectors and act as an interface for public and (or) private sector technologies and inputs.

The RSK is headed by an Agricultural Officer and Assistant Horticulture officers (Agricultural Graduate) duly supported by Assistant Agricultural Officers and Horticulture Assistant. These technical staffs are vested with the responsibility of disseminating agricultural technologies to the farming community from time to time.

Access to such information sources is a crucial requirement for the sustainable development of the farming systems. They also added that ICT can be of immense help by enabling extension workers into knowledge workers (KW). The emergence of such knowledge workers will result in the realization of the much talked about bottom-up, demand-driven technology generation, assessment, refinement and transfer. Hence the present study was undertaken to assess the knowledge level and profile characteristics of agriculture extension personnel about E-tools.

## Material and Methods

The study was conducted using “Ex-postfacto” research design in Vijayapur district of Karnataka State during 2019. Vijayapur districts were selected purposively for the present study since no such study was conducted on Vijayapur on ICTs and sampling area comes under college of Agriculture Vijayapur Jurisdiction. All the taluks coming under Vijayapur district i.e., Vijayapur, Basavana Bagewadi, Sindagi, Indi and Muddebihal were considered and selected for the study. A list of extension personnel working in State Department of Agriculture and State Department of Horticulture were obtained from respective district offices.

A total of 105 Extension personnel in Agriculture department and 30 Extension personnel in horticulture department are working at present. All the Agriculture Officers (AO) and Assistant Agriculture Officers (AAO) working in department of Agriculture and all the Assistant Horticulture Officers (AHO) and other staff (SADH, ADH) working in department of horticulture at the time of investigation are considered for the study, based on availability of extension personnel. Purposive sampling method was adopted.

Data was collected for study with the aid of well designed, pre-tested and comprehensive schedule exclusively prepared for the study. Primary data was elicited from the extension personnel through personal interview method and statistical

tools of analysis in the study are mean, frequency percentage standard deviation.

## Results and Discussion

### Profile characteristics of the respondents

From Table 1, it was observed that 50.37 per cent of respondents fitted to old age group, followed by middle age (39.25%) and young age (10.37%) group. The reason might be that recruitment in the past years was less, hence there was less number belonged to middle and young age and with a larger per cent of old aged personnel. These findings were in agreement with the findings of Manty (2011)<sup>[6]</sup>.

The data in Table 1 indicated that 28.15 per cent of extension personnel were educated up to post-graduation, followed by graduation (27.41%), high school (22.96%), pre-university education (20.00%) and Ph.D. (1.48%). The reason for this could be the larger number of extension personnel were under ‘post-graduation’ but the minimal qualification for job entry was B. Sc. and adding any additional qualification may help them to get a further better post in their job. Similar findings were reported by Chithra (2015)<sup>[3]</sup>.

The data in Table indicated that about half of the extension personnel (48.15%) belong to high level of experience category, followed by low (42.22%) and medium (9.63%) experience category. Because most of them are near to the retirement age hence their experience in job was high. Similar findings were reported by Chithra (2015)<sup>[3]</sup>.

It was clear from Table 1 that 41.48 per cent of the respondents had low extension contact, while 34.82 per cent of the respondents had high extension contact and 23.70 per cent of the participants had medium extension contact. The possible reason for the low extension contact was they are involved in several actives like seed distribution, fertilizer distribution, demonstrations and other works. Due to lack of time, number of respondents had low extension contact. The findings were line with the findings of Smitha (2018)<sup>[11]</sup>.

**Table 1:** Profile of extension personnel

Sl. No.	Category	Extension personnel (n=135)	
		Frequency	Per cent
<b>Age</b>			
1.	Young (< 30 years)	14	10.37
	Middle (31 to 50 years)	53	39.26
	Old (> 50 years)	68	50.37
<b>Education level</b>			
2.	High school (8 <sup>th</sup> to 10 <sup>th</sup> )	31	22.96
	PUC (11 <sup>th</sup> to 12 <sup>th</sup> )	27	20.00
	Graduation (Degree)	37	27.41
	Post-Graduation (PG)	38	28.15
	Ph.D.	2	1.48
<b>job experience</b>			
3.	Low (< 14 years)	57	42.22
	Medium(14 to 25 years)	13	9.63
	High(> 25 years)	65	48.15
<b>Mean= 19.53 SD=11.91</b>			
<b>Extension contact</b>			
4.	Low (< 6.24)	56	41.48
	Medium (6.24 to 7.75)	32	23.70
	High (>7.75)	47	34.82
<b>Mean= 7.00 SD=1.77</b>			
<b>Mass media participation</b>			
5.	Low (<14.75)	49	36.30
	Medium (14.75 to 19.87)	32	23.70
	High (> 19.87)	54	40.00
<b>Mean=17.31 SD=6.02</b>			

		Innovative proneness	
6.	Low (<20.81)	35	25.93
	Medium (20.81 to 25.57)	55	40.74
	High (> 25.57)	45	33.33
<b>Mean= 23.19 SD=5.60</b>			
		Cosmopoliteness	
7.	Low (<11.30)	36	26.67
	Medium (11.30 to 12.87)	19	14.07
	High (>12.87)	80	59.26
<b>Mean= 12.09 SD=1.84</b>			
		Organisational participation	
8.	Low (< 5.57)	47	34.81
	Medium (5.57 to 7.97)	41	30.38
	High (>7.97)	47	34.81
<b>Mean= 6.77 SD=2.82</b>			
		Scientific orientation	
9.	Low (< 13.35)	61	45.19
	Medium (13.35 to 15.40)	32	23.70
	High (>15.40)	42	31.11
<b>Mean= 14.37 SD=2.41</b>			

The results depicted in Table 1 showed that 40.00 per cent of extension personnel had a high level of mass media participation, followed by low (36.30%) and medium (23.70%). The reasons for a high level of mass media utilization by the respondents may be due to cent per cent of the respondents were educated as revealed in this study, almost all respondents were access to mass media and abstaining interest to know about recent issues about agriculture and new technologies. In general, media enhance awareness about latest development among the respondents. These outcomes were confirmative with the findings of Manty (2011) [6].

The data in Table 1 indicated that 40.74 per cent of the extension personnel were having medium innovative proneness. While, 33.33 per cent and 25.93 per cent were in the high and low categories of innovative proneness, respectively. The reason for this could be related to their high level of education and it can be interpreted that extension personnel will be able to adopt the latest ICTs for the transfer of technology. These outcomes were confirmative with the findings of Manty (2011) [6].

A look into Table 1 depicted that 59.26% of the extension personnel were having high cosmopoliteness, while, 26.67 per cent and 14.07 per cent of extension personnel with low and high cosmopoliteness, respectively. The extension personnel were using e-tools that are fairly in their socio-economic status and they would travel frequently to nearby towns and cities for their departmental works. Hence the cosmopoliteness level was high among respondents. The findings were line with the findings of Sandesh (2004) [10].

It has been illustrated from Table 1 that an equal number of respondents (34.81%) of the extension personnel were belonged to low and high organizational participation, followed by medium (30.38%) of organizational participation. The reason could be most of the extension personnel are professional bodies, hence they are regularly going to an office and departmental and also visit many organizations for informal and formal work. As a result, they might have a high level of organization participation.

By looking at Table 1, it could be concluded that 45.19 per cent extension personnel were distributed among the low scientific orientation category, followed by high (31.11%) and medium (23.70%) category of scientific orientation. The reason may be, most of the respondents are old and due to

their age, they think age-old practices are better than new scientific ways or practices.

#### Knowledge level of extension personnel about e-tools

The results in Table 2 depicted that about half of the respondents (50.37%) had high knowledge of 'Krishi Marata Vahini', followed by medium knowledge (28.89%) and low knowledge (20.74%). Because of the need and interest of the farmers to know market prices of the different commodities to sell their produce profitably and 'Krishi Marata Vahini' is the official source which gives updated information in a local language, the farmers were interested to know about it. Hence extension personnel was regularly updated with market prices. This is in line with the findings of Vishwatej (2013) [12] and Manty (2011) [6].

The table also indicated that the majority (62.96%) of the extension personnel had high knowledge about 'Raitamitra' in the Vijayapur district, followed by low (29.63%) and medium (7.41%) knowledge. The reason for this could be most of the extension personnel were aware of 'Raitamitra' e-tool, as respondents are regular and close contact with this website in Raitha Samparka Kendra.

In the case of 'Whats app group', majority of the respondents (72.59%) had high knowledge, followed by 14.07 per cent and 13.34 per cent had low and medium knowledge, respectively. The reason behind this could be now a day's 'Whats app' is the popular social media platform among all other media. Further, it is easy to get and share the required information in a short period time.

In the Vijayapur district, about half of the extension personnel (49.63%) had high knowledge about 'Information Kiosk', followed by 32.59 per cent and 17.78 per cent of extension personnel were belonged to medium and low knowledge, respectively. There was no much difference in knowledge level of extension personnel about Information Kiosk in the study area, even though the 'Information kiosk' was kept in 'Raitha Samparka Kendra' and respondents' possession moderate knowledge. Most of the time information in the kiosk was outdated, irregular maintenance, most of the time kiosks were not functioning.

In the case of 'Kisan Mobile Advisory Service' (KMAS), 46.67 per cent of the respondents had low knowledge level, followed by 45.93 per cent and 7.41 per cent of the respondents had high knowledge and medium knowledge, respectively. The possible reason could be due to poor

advertising and promotion of the e-tools among extension personnel and sometimes, they show a lack of interest in using new applications. KMAS of KVK's give informational update only once in a week, also might be the reason for most of the extension personnel fall under low knowledge category. Further, it was clear from the table that 60.00 per cent of the extension personnel belonged to low knowledge level category, followed by high (38.52%) and medium (1.48%). It might be due to a lack of interest in use e-tools and no proper training about the use of e-tool. Lack of promotion about this portal is the main reason for low knowledge about this e-tool. The results indicated that 59.26 per cent of extension personnel had high knowledge about 'Mobile Phones', while, 40.74 per cent of respondents had low knowledge level about mobile phones. This helps in providing experts' advice to farmers by extension personnel and it also provides weather information and many other services.

**Table 2:** Distribution of the extension personnel according to knowledge of e-tools

Sl. No	e-tools	Knowledge level Caterories						(n = 135)	
		Low		Medium		High			
		f	%	f	%	f	%		
1.	Krishi Marata Vahini	28	20.74	39	28.89	68	50.37		
2.	Raitamitra	40	29.63	10	7.41	85	62.96		
3.	Whats app group	19	14.07	18	13.34	98	72.59		
4.	Information Kiosk	24	17.78	44	32.59	67	49.63		
5.	KMAS	63	46.66	10	7.41	62	45.93		
6.	Agromet Advisory Service	81	60.00	2	1.48	52	38.52		
7.	Mobile phone	55	40.74	-	-	80	59.26		
8.	Video conference	30	22.22	8	5.93	97	71.85		

**Table 3:** Overall knowledge level of extension personnel about e-tools

(n = 135)

Sl. No.	Category	Frequency	Percentage
1.	Low (<19.01)	40	29.63
2.	Medium (19.01 to 24.97)	37	27.41
3.	High (>24.97)	58	42.96
Mean = 21.99		S.D. = 7.00	

## Conclusions

Extension personnel had high knowledge level about e-tools such as, 'WhatsApp group' and 'Video conference'. The findings of the study indicated that low and medium knowledge level of extension personnel many e-tools considered for the study. So there is a lot of scope to increase knowledge level of extension personnel by manipulating some of the profile characteristics viz, organisational participation, scientific orientation cosmopoliteness and mass media utilization.

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