



**CONSTRAINTS EXPERIENCE BY EXTENSION PERSONNEL IN THE USE OF ICT TOOLS IN ALLAHABAD DIVISION OF UTTAR PRADESH**

**Rishi Kumar Dwivedi., Dipak Kumar Bose., Yogesh Srivastava and J.P.Srivastava**

Department of Agricultural Extension and Communication, Sam Higginbottom,  
University of Agriculture, Technology and Sciences, Naini, Allahabad, U.P. 211007

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**ABSTRACT**

In India about 760 millions of farmers are engaged in agriculture. According to an estimate more than 60 per cent of the farmers have no access to any source of modern agricultural information. Reaching to these unreached farmers is a great big challenge before the extension system. To achieve the growth rate more than four per cent in agriculture, ICT revolution in India must be preceded by the next generation of technology and infrastructure development. Keeping in new of the above facts the present study was undertaken to access the Constraints experienced by extension personnel in the use of ICT tools in Allahabad division of Uttar Pradesh. A total of 280 respondents (Scientist/Agriculture Officer 84 and Field Level Extension Personnel (FLEP-196) were selected through proportionate random sampling methods. Data were collected with the help of pre structure interview schedule, the collected data were classified tabulated and interpreted in the light of the objective to draw the inferences. It was observed that extension personnel were faced most severe constraints in the area of technological, social, economical and psychological in the study area. A link should be with state department for the proper use of ICT tools for better sharing and utilizing portal resources effectively for agricultural development.

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**INTRODUCTION**

In the recent era of globalization, knowledge has been recognized as a valuable organizational resource and an important factor for competitive advantage, effective organizational performance and success. The desire to promote better information access to improve the socio-economic condition of the farmers has always been the top priority of agricultural extensionists and rural advisory service providers. Further, ICT can contribute to poverty reduction, if it is tailored to the needs of the poor and if it is used in the right way and for the right purposes.

The goal of Information and Communication Technology (ICTs) is to provide the benefits of information revolution to the rural masses by enhancing farming efficiency, farm productivity and farmers' income. ICT supports access to timely and relevant information, as well as empower the creation and sharing of knowledge of the farming community itself. ICT is an emerging tool for achieving meaningful societal transformation and it is an emerging tool for achieving meaningful societal transformation. It constitute of dynamic and continuous set of the process which enables the

organization enhancement and expands their innovation processes. Through its, information is collected from various sources and disseminated too many, so that it can be acquired at the right time in the right format by any user. Continuous two-way interaction among the farmers-agricultural scientists and extension personnel is the most critical missing component of agricultural extension. A careful analysis of websites and portals indicated that these were mostly used for disseminating generic information and poor in quality.

So an attempt was made to analyze the technological, social, economical and psychological constraints experienced by the extension personnel in the use of ICT tools in Allahabad division of Uttar Pradesh.

**METHODOLOGY**

The study was conducted in the purposively selected Allahabad division of Uttar Pradesh. It is the south eastern part of the state of Uttar Pradesh which touches the boundary of neighboring state Madhya Pradesh. The Allahabad division of Uttar Pradesh was selected because the in the division, the ICT tools are being used by extension personnel for transferring the new agricultural technology to the farmers and farming community. There are several extension agencies available in the Allahabad division such as Directorate of Extension of Agricultural University, 4 KrishiVigyanKendras and several

**\*Corresponding author: Rishi Kumar Dwivedi**

Department of Agricultural Extension and Communication,  
Sam Higginbottom, University of Agriculture, Technology  
and Sciences, Naini, Allahabad, U.P. 211007

state agricultural departments. A list of extension personnel of the selected extension agencies were obtained from the concern offices of the selected districts. The only officials who are providing agricultural information technology to the farmers were treated as respondents for the present study. A total of 84 Scientists / Agriculture Officers and 196 Field Level Extension Personnel (FLEP) were selected and making the total sample size of 280 through respondents with proportionate random sampling method.

## RESULTS AND DISCUSSION

A constraint is considered to be the any factor that limits an individual/group to use any information from the intended result of the information. The limiting factors faced by scientists and extension personnel while utilizing the ICT was studied. Investigation focused on analyzing the constraints namely, technological, social, economical and psychological for the study.

### Technological constraints faced by Scientists and Agriculture Officers

Technological constraints were operational as the factors which confined the use of information due to its technological complication and requirement for information and skill on utilizing the rice related information. Different constraints on technological dimension were enlisted and agricultural scientists responses based on severity using LIKERT type scale were collected. Friedman test was used to compare the constraints. The computed “P” value was less then significant at 1 percent level. Technological constraints were having significant effect on the use of information and services.

**Table1** Technological constraints perceived by the scientists and Agriculture Officers (N=84)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	Lack of relevant content in the portal	84	3.725	A
2.	Poor quality of content	84	3.775	A
3.	Too many steps to get information	84	3.813	A
4.	Non availability of computer	84	3.838	A B
5.	Technical and Infrastructure problems while using ICTs	84	4.281	A B
6.	Problems of maintenance/ Poor maintenance of ICT tools	84	5.350	B C
7.	Lack of updated information	84	6.388	C

Chi-Square = 16.681  
DF=6, Asymp. Sig.<.005

Table 1 depicts that among technological constraints lack of updated information (mean ranks=6.388), poor maintenance of ICT tools (5.350) was the major problem faced by agricultural scientists and officers. In other similar study found that lack of time and relevant information in the website was found to be affecting the e- learner. Technical and infrastructural problems while using ICTs (mean ranks=4.281) was also affecting the use of modern technology to access the information. Too many steps to get information (mean ranks=3.813), low quality of content (mean ranks=3.775), and lack of relevant content (mean ranks=3.725) were found to least affected the use of information.

**Table 2** Economic constraints perceived by scientists and Agriculture Officers (N=84)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	High cost of internet connection	84	1.532	A
2.	Cost of computer/mobile	84	1.471	A

Chi-Square = .200  
DF-1, Asymp. Sig.<.655

The above table shown that the scientist and agricultural officer also facing, economic constraints like high cost of internet (mean ranks=1.471) and cost of computer/smart phones (mean ranks=1.532) but statistically it was not significant.

**Table 3** Social constraints perceived by scientists and Agriculture Officers (N=84)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	Lack of accessibility for internet information	84	2.063	A
2.	Lack of institutional support	84	2.763	B
3.	Less networking among scientist	84	2.813	B
4.	Lack of coordination from senior people	84	3.631	C
5.	Restriction to promote organization information in which they work	84	3.731	C

Chi-Square = 19.623,  
DF-4, Asymp. Sig.<.001

In case of social constraints, restriction to promote organization information in which they are working (mean ranks=3.731) was the major constraint followed by the lack of coordination from senior people (mean ranks=3.631). Apart from these constraints, less networking among scientists (mean ranks=2.813), lack of institutional support (2.763) and lack of accessibility the internet information (mean ranks=2.063). As the *p*-value is less than 0.001 it is very clear from social constraints are statistically significantly different from each other.

**Table 4** Psychological constraints perceived by scientists and Agriculture Officers (N=84)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	Lack of motivation	84	1.794	A
2.	Techno-phobia	84	1.988	A B
3.	Benefits given to particular group of people	84	2.219	B

Chi-Square = .816,  
DF-2, Asymp. Sig.<.665

Various psychological constraints were listed and analyzed using Friedman test. In case of psychological constraints, benefits given to particular group of people (mean ranks=2.219) had significant influence on the use of ICT information, whereas techno phobia (mean ranks=1.988) and lack of motivation (mean ranks=1.794) were the other important constraints (Table 4).

### Constraints faced by Field level extension personnel

Different constraints on technological dimension were enlisted and Field level extension personnel responses based on severity using LIKERT type scale were collected. Friedman test was used to compare the constraints. The computed “P” value was less then significant at 1 percent level. Technological constraints were having significant effect on the use of ICT information and services.

**Table 5** Technological constraints perceived by Field level extension personnel (N=196)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	Too many steps to get information	196	3.65	A
	Lack of relevant content in the portal	196	3.68	A
3.	Poor quality of content	196	3.93	A B
4.	Non availability of computer	196	4.45	A B
	Problems of maintenance/ Poor maintenance of ICT tools	196	4.98	A B C
6.	Lack of updated information	196	5.00	B C
	Technical and Infrastructure	196		
7.	problems while using ICTs		5.20	C

Chi-Square = 18.482,  
DF-6, Asymp. Sig.<.001

Table 5 depicts that among technological constraints, technical and infrastructure problems while using ICTs (mean ranks=5.20), lack of updated information (mean ranks=5.0), poor maintenance of ICT tools (mean ranks=4.98) was the major problem and Non availability of computer (mean ranks=4.45) was also affecting the use of modern technology to access the information. Quality of content is low (mean ranks=3.93), lack of relevant content in the portal (mean ranks=3.68), Too many steps to get information (mean ranks=3.65) were the least significant problems that were limiting the use of information from the portal. This finding was supported by several authors who agree upon these constraints.

**Table 6** Economic constraints perceived by Field level extension personnel (N=196)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	High cost of internet connection	196	1.43	A
2.	Cost of computer/mobile	196	1.57	A

Chi-Square = 1.000,  
DF-1, Asymp. Sig. 317

In case of economic constraints, not much significant problem was found in case of extension personnel as well. High cost of internet (mean ranks=1.43) and cost of computer/smart phones (mean ranks=1.57) were not limiting the use of information provided by ICT (Table 6).This study was found in harmony that the high cost of buying and maintaining a system adversely affected the deployment of ICTs.

**Table 7** Social constraints perceived by Field level extension personnel (N=196)

S.N.	Statements	Frequency	Mean of ranks	Groups
1.	Lack of accessibility for internet information	196	2.35	A
2.	Lack of coordination from senior persons	196	2.65	B
3.	Lack of institutional support	196	3.23	B
4.	Less networking among extension personnel	196	3.33	C
5.	Restriction to promote organization information in which they work	196	3.43	C

Chi-Square = 14.092,  
DF-4, Asymp. Sig.<.005

In case of social constraints, restriction to promote organization information in which they were working (mean ranks=3.43) was the major constraint found followed by the

less networking among extension personnel (mean ranks=3.33). Apart from these constraints lack of institutional support (mean ranks=3.23), lack of coordination from senior persons (mean ranks=2.65) and lack of acceptability for internet information (mean ranks=2.35) were the other significant constraints for extension personnel (Table 7). The result of the study was found in harmony with other authors also reported by **Agwu et al. (2008)**.

**Table 8** Psychological constraints perceived by Field level extension personnel (N=196)

S.N.	Statements	Frequency	Mean of ranks	Groups
	Benefits given to particular group of people	196	1.77	A
2.	Lack of motivation	196	1.90	A B
3.	Techno-phobia	196	2.33	B

Chi-Square = 2.182,  
DF-2, Asymp. Sig. .336

In case of psychological constraints, benefits given to particular group of people (mean ranks=1.77) had significant influence on the use of ICT information, whereas lack of motivation (mean ranks=1.90) and Techno-phobia (mean ranks=2.33) were the other important constraints (Table 8).

### Strategies for improving use of ICT

Some strategies were emerged from focused group discussion with respondents for effective utilization of ICT information were creating awareness among people about the ICT, capacity building for extension personnel for utilizing ICT, regularly updated information, providing more location and problem specific relevant information, quick reply by experts to the online queries, develop a Linkage with State Agricultural University (SAUs), KrishiVigyan Kendra (KVK), ICAR Institutes, and State Department of Agriculture.

## CONCLUSION

It is concluded from the present study that scientists and extension personnel faced the technological constraints such as lack of updated information and poor maintenance of ICT tools and technical and Infrastructure problems, restriction to promote organization's information, where as field level extension functionaries were facing constraints like non availability of computer, lack of accessibility of internet, lack of technical and infrastructure. To prevail over these constraints, government needs to be updated information regularly and regular maintenance of ICT tools, provide technical and infrastructures were highly needed. To mitigate economic constraints low cost technology can be provided through which all information of scientific cultivation practices can be accessed. A link should be with state department to use this information for better sharing and utilizing portal resources effectively. Proper planning and extension strategies to be followed in restructuring the use of ICTs and necessary modifications also needed for reaching to unreach for disseminating information and making portal more effective for farmers for timely and relevant information.

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