

**RESEARCH ARTICLE :**

# Study of extent of knowledge and use of various information and communication technologies by scientists, teachers and extension workers in state agriculture universities

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**SUMMARY :** The study on ICT was conducted in Akola district of Maharashtra State. Data were collected from 120 scientists, teachers and extension workers in state agriculture universities. It is found that majority of the respondents 54.17 per cent possessed high level of knowledge about ICT about ,45.00 per cent of respondents had high level of use of ICT about , 75.00 per cent of respondents using ICT facilities for communication with other scientists and about 74.17 per cent of respondents using ICT facilities for computer information retrieval or data updating.

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**KEY WORDS :**

Knowledge , Use, Information, Technology, Communication, Computer

## **BACKGROUND AND OBJECTIVES**

Information technology encompasses development and use of electronic and allied gadgetry for effective generation, documentation, processing, storage, retrieval and use of information for maximum and speedy output (Chaturvedi and Khare, 2004).

The country is having rapid computerization in different field of agriculture *i.e.* from weather forecasting for crop production to protection of crop. Different IT technologies like remote sensing expert system, database of research project, modeling techniques, different agricultural

calculators integrated management are being extensively used. After the mechanization of Indian agricultural computerization will only support green revolution by efficient management of agricultural research (Kolhe and Kamble, 2004)

ICAR websites (<http://www.icar.nic.in>) has been designed including organizations, research activities, agriculture research information system (ARIS), International linkages publication offices, National Agriculture Technology Project (NATP), State Agriculture Universities (SAU) and announcement of Agricultural Scientists

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Recruitment Board(ASRB) besides ARIS News ([www.icar.nic.in](http://www.icar.nic.in)).

A major initiative has been taken by developing agriculture research information system (ARIS), in order to modernize and bring information management in national agriculture research system (NARS). The basic infrastructure required for linking all ICAR Institutes and state agriculture universities (SAU) were already developed under national agriculture research project (NARPI) by creating IANS and providing the E-mail connectivity. ARIS News provides much needed forum for exchange of ideas and high light of the implementations of ARIS programmer ( Petriwicz, 1998).

## RESOURCES AND METHODS

The study was mainly confined to scientists, teachers and extension workers located at Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola campus which is one of reputed agriculture university among 35 agriculture universities in the country A list of 120 respondents as scientists teachers and extension workers working in all three activities like teaching research and extension, respectively or any one of the above activities was obtained from Directorate of extension education Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola it was possible to personally contact and give questionnaire.

After constant persuasion responses was received from 120 respondents *i.e.* scientists teachers and extension workers. Whole data of this study was collected with the help of questionnaire. For present study exploratory research design of social research has been used.

## OBSERVATIONS AND ANALYSIS

As per study information is collected from 120 respondents with the help of questionnaire in each questionnaire about 100 questions related to extent of knowledge and use of various information technologies were asked. Yes /no type questions were asked for correct answer score will be given as 1 and for no score will be given as 0 score will be given as per their answer with the help of this score categorization of the respondents were done as shown in the following Table 1.

List of items related to information and communication technology was prepared. The knowledge

**Table 1 : Categorization on the basis of knowledge perceived**

Sr. No.	Index range	Category
1.	Upto25	Low
2.	25-50	Medium
3.	50-75	Medium high
4.	Above 75	High

**Table 2 : Distribution of respondents according to their knowledge about ICT**

Sr. No.	Knowledge	Respondents	
		Number	Per cent
1.	Low	00	00
2.	Medium	3	2.50
3.	Medium high	52	43.33
4.	High	65	54.17
	Total	120	100.00

**Table 3 : Correlates of knowledge about ICT**

Sr. No.	Correlates	Co-efficient of correlation (r)
1.	Age	0.3289*
2.	Qualification	0.1425 <sup>NS</sup>
3.	Post held	0.1121 <sup>NS</sup>
4.	Experience	0.2999*
5.	Background	0.0831 <sup>NS</sup>
6.	Training received	0.3117-
7.	Nature of work	0.1123 <sup>NS</sup>
8.	Availability of material	0.422P

0.05 level of probability = 0.195\*

0.01 level of probability = 0.254

NS= Non-significant

**Table 4 : Categorization on the basis of extent of use**

Sr. No.	Index range	Category
1.	Upto 25	Low
2.	25-50	Medium
3.	50-75	Medium high
4.	Above 75	High

**Table 5 : Distribution of respondents according to their extent of use of ICT**

Sr. No.	Extent of use	Respondents	
		Number	Per cent
1.	Low	00	00
2.	Medium	9	7.50
3.	Medium high	57	47.50
4.	High	54	45.00
	Total	120	100.00

**Table 6 : Correlates of extent of use of ICT**

Sr. No.	Correlates	Co-efficient of correlation
1.	Age	-0.159 <sup>NB</sup>
2.	Qualification	0.0608 <sup>NB</sup>
3.	Post held	0.0993 <sup>NB</sup>
4.	Experience	-0.1353 <sup>NB</sup>
5.	Background	0.1605 <sup>NB</sup>
6.	Training received	0.2040 <sup>*</sup>
7.	Nature of work	0.066 <sup>NB</sup>
8.	Availability of material	0.3082 <sup>**</sup>
9.	Extent of knowledge	0.3256 <sup>**</sup>

0.05 level of probability = 0.195\*

0.01 level of probability = 0.254\*

**Table 7 : Purpose wise distribution of respondents according to their extent of use of ICT**

Sr. No.	Technologies used	Respondents	
		Number	Per cent
1.	Computer information retrieval or data updating	89	74.17
2.	Data analysis	89	74.17
3.	Comm. with other scientists	90	75.00
4.	For findings references	88	73.33
5.	For searching details related to subject	88	73.33
6.	For E-mailing	87	72.50
7.	Report writing	77	64.17
8.	Printing	64	53.33
9.	Photo printing	51	42.50
10.	Entertainment	44	36.67
11.	Seminars	85	70.83
12.	Presentations	86	71.67
13.	For data storage	29	24.17
14.	For correspondence	23	19.17
15.	For scanning	77	64.17
16.	Chatting	22	28.33
17.	Typing	32	26.67
18.	Research	85	70.83
19.	Teaching	87	72.50
20.	Slide showing	88	15.00

score of each item known was given thus, total number of item given forms knowledge index.

$$\text{Knowledge index} = \frac{\text{Actual obtained ICT knowledge score}}{\text{Maximum obtainable ICT knowledge score}} \times 100$$

It is observed from Table 2 that 54.17 per cent of respondents having high level of knowledge about ICT, Whereas 43.33 per cent of respondents have moderate level of knowledge and only 2.50 per cent of the respondents possessed medium level of knowledge about ICT (Table 2).

$$\text{Extent of use index} = \frac{\text{Actual obtained ICT use score}}{\text{Maximum obtainable ICT use score}} \times 100$$

It is observed from Table 4 that majority of respondents about 47.50 per cent have medium high level of extent of use, 45.00 per cent have high level of extent of use while 7.50 per cent have medium level of extent of use about ICT facilities.

### Conclusion :

Training received, availability of material and knowledge were significantly related with extent of use about ICT whereas age, qualification, post held, experience, background, nature of work were non-significantly related with extent of use about ICT. Only half of the respondents had high level of knowledge about ICT facilities. More than half of the respondents *i.e.* teachers and scientists were found to be in low and moderate use of ICT.

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