

Utility Pattern of ICT Tools for Transfer of Agricultural Technology by the Extension Personnel in Allahabad Region of U.P.

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Abstract: Information and Communication Technologies (ICT) in agriculture is an emerging field focusing on transfer of technology for the enhancement of agricultural and rural development in India. All the ICT initiatives are not uniform with disparities between regions in the level and quality of telecommunications, information and the effort of individuals, public and private organizations, differentiated nature of demand of the farmers in different areas. Keeping in new of the above fact the present study was undertaken to access the utility pattern of ICT tools for transfer of agricultural technology in Allahabad division of Uttar Pradesh. A total of 280 respondents (Scientist/Agriculture officer 80 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. The study inferred that Scientist/Agricultural Officer are using ICT tools medium level (42.86%) followed by high level (34.2%) which is more as compare to FLEW which is 22.45 and 23.98 per cent respectively. It is due to their availability of ICT tools in their level for transfer of agricultural technology. The level of utilization may be improved in the both level by providing more facilities by the Government as well as proper training and extension strategies can be followed.

Key Words: ICT tools, Utility pattern, Agricultural technology.

1. INTRODUCTION:

The 21st century is witnessing a communication revolution with information processing and retrieving which are being reliably done at incredible speeds. The most striking invention in the field of education is the integration of Information and Communication Technology (ICT). ICT can be interpreted as technologies that facilitate communication, processing and transmission of information by electronic means.

Technologies involved in collecting, processing, storing, retrieving, dissemination and implementation of data and information using microelectronics, optics, telecommunication and computers. Keeping in view of the above facts the present study was undertaken to ascertain the utility pattern of ICT tools for transfer of technology by extension personnel

2. LITERATURE REVIEW:

Akpabio (2007) attempted to determine the level of utilization of Information Communication Technology (ICT) for agricultural extension activities by Agricultural Extension officers in Nigeria's Niger Delta region. Findings revealed that public extension officers utilized a wider range of ICT (especially the broadcast and print ICT) than their private agency counterparts. Private extension officer, however, utilized more of telecommunication / computer ICTS, which are faster, means of accessing agro – technological information.

Bahgat and Antar (2007) in their study Evaluations of extension personnel in Assiut governorate of their levels of knowledge and use and the degree of importance of information communication technology revealed that Levels of use of ICT were evaluated as low or very low by over 60 % of them and as high or very high by only 12.6 % of them.

Agwu et al. (2008) in their study Use of Information Communication Technologies (ICTs) among Researchers, Extension Workers and Farmers in Abia and Enugu States: Implications for a National Agricultural Extension Policy on ICTs reported that out of 24 ICT facilities listed, 14 facilities were frequently used by the researchers and these facilities include Internet (x = 2.25), Television set (x = 2.07), Voltage stabilizer (x = 2.17), Radio set (x = 2.25), Printer (x = 2.02), Flash drive (x = 2.10), Diskette (x = 2.20), Computers (x =2.20), UPS (x = 2.08), Mobile phone (x =2.58), and E-mail (x = 2.30). On the part of the extension workers, only 4 out of the 24 facilities were frequently used by extension workers and these include Video player (x = 2.00), T.V (x = 2.10), Radio set (x = 2.58) and Mobile phones (x = 2.55), while the other ones were not frequently used. This shows a very low level of digital ICTs

utilization by the extension workers, especially the computer facilities. On the part of the farmers, only 3 facilities were used frequently and they include: T.V ($x = 2.20$), Radio ($x = 2.57$) and Mobile phones ($x = 2.03$). This also shows a very low level of utilization of digital ICT facilities by farmers in the two states.

Aboh (2008) in his study Assessment of the frequency of ICT tools usage by Agricultural Extension agents in IMO state, Nigeria revealed that only mobile phone and computer were frequently used by respondents. The overall mean of 0.89 suggests that ICT tools were not frequently used for extension services.

Ndag et al. (2008) in their study comparative analysis of information and communication technology (ICT) use by agricultural extension workers in South-West and North-Central Nigeria concluded that majority (51.43%) of the respondents had low level ICT use in South-West Nigeria, majority had moderate (43.86%) to high level (48.57%) ICT use in North-Central Nigeria.

Singh et al. (2009) elucidated the use of Internet based e- resources at Manipur University. It was noticed that 30.7% of respondents use Internet to little extent, 28.8% to some extents and 13.1% of respondents use Internet to full extent. However 27.4% of respondents are non-users of Internet.

3. MATERIALS AND METHOD:

The present investigation was conducted in Allahabad region of Uttar Pradesh which was selected purposively. The study covered four districts 280 respondents (84 Scientist / Agricultural Officer and 196 Field Level extension Personnel) which was selected through proportionate random sampling method. Data were collected through pre-structured and pre-tested interview schedule. The information was also gathered through focused group discussion and observation methods. The collected data were coded, tabulated, classified and analysed and for interpretation of data both descriptive and inferential statistics were used.

4. RESULTS AND DISCUSSION:

Socio-economic levels of the respondents. The socio-economic level of the respondents are presented in the following table.

4.1 Socio-economic levels of the respondents

S.NO.	Socio economic level	Scientists/Agriculture Officers (N=84)		Field Level Extension Personnel (N=196)	
		F	P	F	P
1.	Low	00.00	00	23	11.73
2.	Medium	36	42.85	119	60.71
3.	High	48	57.15	54	27.69
Total		84	100.00	196	100.00

The Table 3.1 indicated that majority (57.15%) of the respondents (scientist/agricultural officer) have had high level of socio-economic level followed by 42.85 per cent medium level where as 60.71 per cent field level extension personnel have medium level of socio-economic status followed by 27.69 and 11.73 per cent were high and low level of socio-economic status respectively. Similar findings are also reported by Sen (2008) Patel (2015).

4.2 Utilization of ICT tools by the extension personnel:

It is operationally defined as the degree to which an individual respondent possess ICTs or its applications for the purpose of agriculture and rural development. Information technology has demonstrated its utility and advantages in all elements of human life and especially in vocations of agriculture and allied sectors enhancing the productivity either directly or indirectly.

Table-2 Distribution of respondents according to use of ICT tools.

ICT Tools	Used for Transfer of Technology			
	Scientist/Agriculture Officer (N = 84)		Field Level Extension Personnel (N = 196)	
	Used	Not Used	Used	Not Used
Radio	52 (61.90)	32 (38.10)	145 (73.97)	51 (26.02)
Television	68 (80.95)	16 (19.05)	133 (67.85)	63 (32.15)
Telephone / Mobile	68 (80.95)	16 (19.05)	141 (71.93)	55 (28.06)
Computer	57 (67.85)	27 (32.15)	25 (12.75)	171 (87.25)
Wed Search Engine (Google, Google Chrome,	33	51	29	167

Mozilla Firebox, Yahoo etc.)	(39.28)	(60.72)	(14.79)	(85.21)
Web Based Agricultural Information Portals (e-choupal)	25 (29.76)	59 (70.24)	32 (16.33)	164 (83.67)
Video Camera	27 (32.14)	57 (67.85)	26 (13.26)	170 (86.73)
Video Conferencing	22 (26.18)	62 (73.82)	28 (14.29)	168 (71)
e-newspapers	30 (35.71)	54 (64.29)	15 (7.65)	181 (92.34)
e-agricultural Magazine	24 (28.57)	60 (71.43)	13 (6.63)	183 (93.36)

(Figures in parenthesis denotes percentage)

The table-2 indicated that the priority in the utilization of ICT tools by the scientist/Agriculture Officer were mobile (80.95%), computer (67.85%), search engine Google (39.28%), radio (62%), video camera (32.14%), e-newspaper (35.71%), e-agricultural magazine (28.57%) where as in case of field level extension function mobile (71.93%), computer (12.75%), search engine Google (14.79%), radio (73.97%), video camera (13.26%), e-newspaper (7.65%), e-agricultural magazine (6.63%) respectively. It indicated that the scientist/ agricultural officer using more ICT tools as compare to field level extension personnel it may be due to their responsibility as well as more approach towards ICT tools. The finding is in the line of the finding of Saravanan (2013).

Table 3: Overall Extent of Utilization of ICT Tools

Variable	Categories	Scientists / Agriculture Officers (N= 84)	Field Level Extension Personnel (N=196)	Total (N=280)
Extent of Utilization of ICT Tools	Low (0-13)	07(8.33)	71(36.22)	78(27.86)
	Medium (14-26)	49(58.34)	102(52.04)	151(53.93)
	High(27-39)	28(33.33)	23(11.73)	51(18.21)
	Total	84 (100.00)	196 (100.00)	280 (100.00)

The table 3 shows that majority (58.34%) of the Scientists / Agriculture officers are using ICT tools medium level followed by High level (33.33%), Low level (8.33%), where as in case of field level extension personnel group, 52.04 per cent were in medium level followed by 36.22 and 11.73 per cent were in low and high level respectively. It was also observed that overall 53.93 per cent extension personnel are utilizing ICT tools for transfer of technology. Similar findings are also reported by Patel (2015).

4.3 Association between personnel profile of the respondents with utility of ICT tools

Sl.No	Independent variables	Correlation Coefficient ('r' value`)
1.	Age	-0.23458 NS
2.	Education	0.35129**
3.	Income	0.05246 NS
4.	Duration of training	0.368115**
5.	Innovativeness	0.212376*
6.	Sources of information	0.200755*
7.	Progressiveness	0.318277**

The above table indicates that the association between independent variables and utility of ICT tools by the respondents. After the test the results implied that education, duration of training, progressiveness have significant association at 0.05% level, innovativeness and sources of information were found significant association at 0.01 level of significance with the utility of ICT tools. Age and income were not found any association with the utility of ICT tools.

5. CONCLUSION:

It is concluded from the present study that the socio-economic status of scientist/agricultural officers were higher in comparison to field level extension officer. Regarding the utilization of ICT tools scientist/agricultural officers were using more ICT tools as compare to field level extension officers. The major ICT tools utilizing by the extension functionaries are mobile, television, radio, web search engine, the reason may be easily availability as well

as cost effective. Video Camera, Video Conferencing, e-newspapers and e-agricultural Magazine were least utilizing by the extension functionaries due to some technical aspects as well as not cost effective. The overall extent of utilization of ICT tools were medium to higher level to higher level in case of scientist/agricultural officers where as in case of field level extension officer it was medium to low level.

6. RECOMMENDATIONS:

The accessibility of ICT tools should be approachable to each and every extension functionaries from lower to upper level for smooth functioning and disseminating of agricultural information among the farm families. The utilization of ICT tools may extend through proper planning by the Government and Extension functionaries and enhancing ICT facilities in the grass root level as well as appropriate extension strategies to be followed for proper use of ICT tools for agricultural development.

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