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Assessing Attitude of Extension Personnel towards ICT Tools in Agricultural Institutions in Ri-Bhoi District of Meghalaya

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ABSTRACT

The study was conducted to assess the attitude of extension personnel in the agricultural institutions in Ri-Bhoi district of Meghalaya towards Information and Communication (ICT) tools. Sixty extension personnel in eight institutions including ICAR RC NEH Region, KVK and State Government line departments were selected. The collected data from the officers of these agricultural institutions were scored, tabulated and analysed using frequency, percentage, mean, standard deviation, class interval and Pearson correlation coefficient. The results elucidated that more than three fourth (88.33%) of the respondents had favourable attitude towards the use of ICT tools. It was also found that attitude of extension personnel towards the use of ICT tools was found significant with sources of awareness about ICTs, purpose of accessing ICTs, possession of smart gadgets, e-readiness and achievement motivation.

1. Introduction

The Indian agriculture has shown a tremendous and decreasing trend of growth rate in a national perspective. The reasons being not that there are dearths of researches but lack of knowledge among the farming community about the advanced and latest technologies. The main role to bring this change bestows of the extension personnel, who are mainly embodied with the task and responsibility of transfer of technology, change in knowledge, attitude and belief and effective diffusion and adoption of improved technologies (Chavai *et al.*, 2017). The earlier role of extension studies was a traditional approach emphasizing on face-to-face, personnel contact method of information and technology dissemination. Since information is an indispensable resource wherein information at right time at right place to right person is sine-qua-non for effective and efficient farming decision by a farmer, there is always a felt need to use the Information and Communication Technologies (ICTs). It has been elucidated from the past researches and literature that favourable attitude towards the use of information and

communication technologies plays a remarkable role in the rejection or adoption of an innovation or an innovative idea. The success or failure of any programme or an innovation greatly depends on the attitude of the respondents towards that particular programme or innovation. Therefore, the need to study the attitude of extension functionaries towards the use of information and communication technologies has been felt. Henceforth, the present paper is an overview to study the attitude of extension personnel towards the information and communication technologies.

2. Methodology

The present study was conducted in Ri-Bhoi district of Meghalaya State during 2018-19. Extension personnel working in eight agricultural institutions were chosen for the study. The eight agricultural institutions *viz.* College of Post Graduate Studies in Agricultural Sciences (CPGSAS), Umiam; Krishi Vigyan Kendra (KVK), Ri-Bhoi; College of Agriculture (COA), Krydemkulai; ICAR Research Complex for North Eastern Hill Region (ICAR RC for NEH Region);

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State Institute for Rural Development (SIRD), Umran; Agricultural Technology Management Agency (ATMA), Nongpoh; Rural Resource and Training Centre (RRTC), Umran; District Agriculture Office (DAO), Nongpoh. Data were collected from 60 respondents from selected agricultural institutions. Data collection was done in the year 2019. The total sample constituted to 60.

The scale consisted of 20 statements rated on a five point continuum 'Strongly Agree', 'Agree', 'Undecided', 'Disagree', and 'Strongly Disagree' with scores of five, four, three, two and one, respectively for positive statements and the reverse for negative statements to study the attitude of extension personnel on ICT were collected. Respondents were asked to choose their response for each statement on a five point continuum. The maximum possible score and minimum possible score one could get was 100 and 20, respectively (Raksha, 2014). Based on the total score obtained from the 20 attitudinal statements/items the respondents were classified into five categories such as highly unfavourable (0-20), unfavourable (21-40), neutral (41-60), favourable (61-80) and highly favourable (81-100).

3. Results and Discussion

Regarding the attitude of extension personnel towards ICTs, scale developed by Raksha (2014) has been used with partial modification. 20 statements have been used for final assessment. The statements have been measured on a five point continuum of Strongly Agree (SA), Agree (A), Undecided (UD), Disagree (DA) and Strongly Disagree (SDA) with a score of 5,4,3,2 and 1 for positive statements and 1, 2, 3, 4, and 5 for negative statements.

Table 1 reveals about agreement of respondents on statements of attitude of extension personnel towards the use of information and communication technology tools. For statement 1 in Table 1 more than half (51.67%) of the respondents agree, 33.33 per cent strongly agree, 8.33 per cent strongly disagree, 5 per cent disagree and 1.67 per cent were undecided, indicating positive attitude towards the statement 'ICTs are best possible bridges between research and farming system'. For statement 'ICTs reduce demonstration and trainings cost' maximum (66.67%) respondents are in agreement while 23.33 per cent of respondents strongly agree with the statement, and none of the respondents disagreed or strongly disagreed with the above statement. Majority (45.00%) of the respondents agree to the statement 3, 'ICTs reduce face to face contacts between farmers and researchers'. While 20.00 per cent strongly agree with the statement followed by disagree

(18.33) and undecided (8.33%). About 46.67 per cent of the respondents agree with the statement 'ICTs demands more time and creativity for development' followed by strongly agree (30.00%) and 11.67 per cent each of the respondents were undecided and disagreed while none of the respondents strongly disagreed with the statement. The statement 'ICTs involved more installation and maintenance cost' was agreed by 43.33 per cent respondents and 35.00 per cent of respondents strongly agreed followed by disagree (11.67%), undecided (8.33%) and only 1 per cent strongly disagreed. About 53.33 per cent of respondents strongly agreed to the statement 'ICTs required constant updates in local languages' followed by agree (40.00%) and undecided (6.67%). None of the respondents either disagreed or strongly disagreed.

For statement, 'ICTs can create problem when extension personnel have less knowledge and experience' 58.33 per cent of respondents agreed, followed by strongly agree (28.33), disagree (6.67), undecided (5.00%) and strongly disagree (1.67%). Majority (60.00%) of the respondents agreed to the statement 'ICTs may replace traditional extension methods', 21.67 per cent strongly agreed, 8.33 per cent were undecided and 5.00 per cent each disagreed and strongly agreed with the statement. About 56.67 per cent of the respondents agreed to the statement 'through the use of ICTs for dissemination of agricultural technologies, more numbers of farmers, scientists and expert can interact at the same time' followed by strongly agree (30.00%), undecided (8.33%), strongly disagree (3.33%) and disagree (1.67%). The statement 'with the use of ICTs working ability and capacity of extension personnel can be improved' 55.00 per cent of the respondents were agreed, 36.67 per cent strongly agreed followed by disagree (5.00%), undecided (3.33%) and none of the respondents strongly disagreed to the statement.

Majority (53.33%) of the respondents agreed to the statement 'ICTs are profitable and faster tools to remote and diversified areas where extension services are not easily available' followed by strongly agree (23.33%), disagree (10.00%), undecided (8.33%) and 5 per cent strongly disagreed to the statement. The statement 'transferring relevant information through ICTs is not easy task' is agreed by half (50.00%) of the respondents while 21.67 per cent of the respondents disagreed followed by undecided (11.67%), strongly agree (11.67%) and 5 per cent strongly disagreed to the statement. About 48.33 per cent of the respondents agreed to the statement 'ICTs based extension services are better alternative to present and future agricultural extension system', one fourth (25.00%) of the respondents were undecided followed by strongly agree (20.00%), disagree (6.67%) and strongly disagree (0.00%). About 65 per cent of the respondents agree to the statement 'modern ICTs applications could change the present way of functioning of researchers, experts, extension

Table 1. Distribution of respondents based on the degree of agreement with attitude statements towards use of ICTs.

(SA: Strongly Agree A: Agree UD: Undecided DA: Disagree SDA: Strongly Disagree)

N=60

Sl. No.	Statements	Response Categories				
		SA	A	UD	DA	SDA
1.	ICTs are best possible bridges between research system and farming system to reduce the research dissemination gap.	20 (33.33)	31 (51.67)	1 (1.67)	3 (5.00)	5 (8.33)
2.	ICTs reduce the trainings and demonstrations cost.	14 (23.33)	40 (66.67)	4 (6.67)	0 (0.00)	2 (3.33)
3.	ICTs reduce face to face contacts between extension personnel and farmers.	12 (20.00)	27 (45.00)	5 (8.33)	11 (18.33)	5 (8.33)
4.	ICTs demands more time and creativity to develop qualitative content for ICTs in agriculture.	18 (30.00)	28 (46.67)	7 (11.67)	7 (11.67)	0 (0.00)
5.	ICTs involve more cost for installation and maintenance.	21 (35.00)	26 (43.33)	5 (8.33)	7 (11.67)	1 (1.67)
6.	ICTs require constant updates of content in local language	32 (53.33)	24 (40.00)	4 (6.67)	0 (0.00)	0 (0.00)
7.	ICTs use creates problems to those extension personnel who lack knowledge and inexperience with online technologies.	17 (28.33)	35 (58.33)	3 (5.00)	4 (6.67)	1 (1.67)
8.	ICTs may replace the traditional extension methods in agriculture in near future.	13 (21.67)	36 (60.00)	5 (8.33)	3 (5.00)	3 (5.00)
9.	Through the use of ICTs for dissemination of agricultural technologies, more numbers of farmers, scientists and expert can interact at the same time.	18 (30.00)	34 (56.67)	5 (8.33)	1 (1.67)	2 (3.33)
10.	With the use of ICTs, working ability and capacity of the agricultural extension personnel can be upgraded.	22 (36.67)	33 (55.00)	2 (3.33)	3 (5.00)	0 (0.00)
11.	ICTs are more profitable and potentially faster tools to remote and diversified areas where agricultural extension services are not easily and frequently available.	14 (23.33)	32 (53.33)	5 (8.33)	6 (10.00)	3 (5.00)
12.	Transferring relevant information through ICT is not an easy task.	7 (11.67)	30 (50.00)	7 (11.67)	13 (21.67)	3 (5.00)
13.	ICTs based extension services are better alternative to present and future agricultural extension system.	12 (20.00)	29 (48.33)	15 (25.00)	4 (6.67)	0 (0.00)
14.	Modern ICTs applications could change the present way of functioning of researchers, experts, extension agents and farmers in agriculture.	11 (18.33)	39 (65.00)	6 (10.00)	2 (3.33)	2 (3.33)
15.	Feedback is fast through ICTs than traditional methods.	14 (23.33)	40 (66.67)	2 (3.33)	4 (6.67)	0 (0.00)
16.	Existing ICTs infrastructure is not enough to meet the needs of the intended users.	19 (31.67)	31 (51.67)	3 (5.00)	7 (11.67)	0 (0.00)
17.	ICTs alone cannot solve all the problems related to agriculture.	28 (46.67)	23 (38.33)	0 (0.00)	7 (11.67)	2 (3.33)
18.	With the help of ICTs, a new skilled and knowledge society can be developed.	14 (23.33)	36 (60.00)	5 (8.33)	2 (3.33)	3 (5.00)
19.	Access to information at doorstep through ICTs is really a boon to agriculture.	9 (15.00)	42 (70.00)	5 (8.33)	2 (3.33)	2 (3.33)
20.	I am comfortable to use ICT in technology dissemination.	10 (16.67)	35 (58.33)	7 (11.67)	6 (10.00)	2 (3.33)

*Figures in parentheses indicate percentage

agents and farmers in agriculture’, followed by strongly agree (18.33%), one tenth (10.00%) were undecided and 3.33% each of the respondents disagreed and strongly disagreed to the statement. Majority (66.67%) per cent of the respondents agreed upon the statement ‘feedback is fast through ICTs than traditional methods’, while 23.33 per cent of the respondents strongly disagreed followed by disagree (6.67%) and 3.33 per cent were undecided whereas none opted strongly disagree.

Just above more than half (51.67%) respondents agree to statement number sixteen in Table no 2, followed by strongly agree (31.67%), disagree (11.67%) and 5 per cent were undecided. None of the respondents strongly disagreed to the statement. The statement ‘ICTs alone cannot solve all the problems related to agriculture’ were agreed upon by little less (46.67%) than half of the respondents, whereas 38.33 per cent agreed followed by disagree (11.67%) and strongly disagree (3.33%) while none of the respondents were undecided. More than half (60.00%) of the respondents agreed upon statement number eighteen of Table 2 followed by agree (23.33%), 8.33 per cent were undecided while 5.00 per cent strongly disagreed and 3.33 per cent of respondents disagreed upon the statement. Little less than three fourth (70.00%) of the respondents agreed upon the statement ‘Access to information at doorstep through ICTs is really a boon to agriculture’, 9 per cent strongly agreed, 8.33 per cent were undecided followed by 3.33 per cent each of respondents opting disagree and strongly disagree. The statement ‘I am comfortable to use ICT in technology dissemination’ was agreed by 58.33 per cent of respondents, while 16.67 per cent strongly agreed, whereas 11.67 per cent were undecided, one tenth (10%) of the respondents disagreed and only 3.33 per cent of the respondents strongly disagreed upon the statement.

According to the scores for each statement, except Statement no.17 all the other statements from 1 to 20 were agreed by majority of the respondents. Statement 17 says “ICTs alone cannot solve all the problems related to agriculture” for which 46.67 per cent of the respondents strongly agreed indicating that ICTs are supplementary technologies to the existing traditional methods. From the Table 1 we can conclude that more than sixty per cent of the respondents had shown positive response to the attitude statements which indicates the positive and favourable attitude of the respondents towards the use of information and communication technology tools in agriculture, results supported and in line with the Table 2 representing overall

attitude of the respondents towards the use of ICT tools. Table 2 represents the attitude of extension personnel towards the use of information and communication technology tools. It elucidates that the majority (88.33%) of the respondents had favourable attitude towards the use of ICTs. Only few (10%) respondents were neutral or undecided towards the use of information and communication technology tools and 1.67 per cent of respondents had highly favourable attitude towards the use of information and communication technology tools in agriculture. Incidentally none of the respondents possessed highly unfavourable or unfavourable attitude towards the use of information and communication technology tools. By this we can say that none of the respondents had unfavourable or negative attitude towards the use of information and communication technology tools and majority of the respondents have positive attitude towards the use of information and communication technology tools.

Table 2. Attitude of extension personnel towards the use of ICTs. N=60

Category	Range	Frequency	Percentage
Highly unfavourable	0-20	0	0
Unfavourable	21-40	0	0
Neutral	41-60	6	10
Favourable	61-80	53	88.33
Highly favourable	81-100	1	1.67
Total		60	100

Table 3 reveals about the association of attitude of extension personnel towards the use of information and communication technology tools with the independent variable. In the study it was found that attitude of extension personnel towards the use of information and communication technology tools had positive and significant relationship with the variables like possession of smart gadgets, sources of awareness about ICTs, purpose of accessing ICTs and e-readiness at per cent level of significance.

It was also found that attitude of extension personnel towards the use of information and communication technology tools was found positively correlated with achievement motivation at 1 per cent level of significance and all the other independent variables like age, gender, education, experience, major job responsibility area, utility of ICTs, access to ICTs, innovativeness and job performance are found non-significant with dependent variable attitude of extension personnel towards the use of information and communication technology tools.

Table 3. Correlation of Attitude with other variables (* and ** represents 1% and 5% level of significance respectively)

Independent variables	Attitude ('r' value)	Independent variables	Attitude ('r' value)
Age	0.133	Utility of ICTs	-0.95
Gender	0.219	Access of ICTs	0.69
Education	0.143	Purpose of accessing ICTs	0.332**
Experience	-0.039	Achievement Motivation	0.319*
Major Job Responsibility Area	0.036	Innovativeness	0.227
Possession of smart gadgets	0.365**	Job performance	0.197
Sources of awareness about ICTs	0.480**	e-Readiness	0.564 ⁸

Conclusion

The results of the present study elucidated that majority (88.33%) of the respondents had favourable and positive attitude towards the use of information and communication technology tools. The results also revealed that independent variables like possession of smart gadgets, sources of awareness about ICTs, purpose of accessing ICTs, e-readiness and achievement motivation had positive and significant association with the independent variable attitude of extension personnel towards the use of information and communication technology tools. Therefore the management of the above mentioned eight agricultural institutions should arrange and conduct the necessary trainings for the extension personnel of the respective agricultural institutions for the effective utilization and maintenance of ICT tools. The recent and advanced ICT tools should made accessible and available to the extension personnel based on their requirement and should equip them with necessary skill to use and utilize the advanced ICT tools.

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