



# Farmers' Attitude towards Information and Communication Technology (ICT) - A Study of Kangra District (Himachal Pradesh)

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## Abstract

The study conducted on a random sample of 120 respondents selected from Kangra District of Himachal Pradesh revealed that all the respondents were engaged in agriculture, male (91%) residing in Joint family system (74%) and belonged young to middle age categories (85%). About (80%) of them were marginal and small farmers' with educational status as Higher Secondary to Senior Secondary passed and tube-well was the main source of irrigation (73%). Majority of the respondents (61%) had taken information related to agriculture from their relatives/friends. Those who had consulted Horticulture Development Officer and Horticulture Extension Officer were 23.33 per cent. The study further found that about 26 per cent of the respondents had **Favorable** attitude toward the use of ICT. Those who had **Neutral** and **Unfavorable** attitude were found to be 45 per cent 29.16 per cent respectively.

**Key words:** ICT, Marginal, Attitude, Information sources etc.

Information and communication technology (ICT) plays a significant role in various aspects of our day to day life. ICT refers to the digital processing and utilization of information through the use of electronic computers. Singh et.al (2022) has rightly remarked that ICT is one such technology that has huge potential to transform the education sector. The new possibilities presented by ICTs from the digitization of information to new possibilities for recording, simulation and data processing are revolutionized by scientific research in various fields. It also facilitates e-learning and m-learning to the users and incorporates other technology for the transformation of information, such as Television and Telephones. Information and Communication

Technology is ruling the whole world in all walks of life; and access to mobile phones and internet facility has been observed to be rapidly growing in India in the recent years. It not only provides timely information at the right place but also at reasonable cost. The role of ICTs such as e-mail, cell phones, the World Wide Web, and Kiosks promise to provide innovative solutions to not only the problems of education but also is solving the problems of farming community by transmitting /covering timely information to them. Due to inadequate and trained extension manpower, it is very difficult to approach the farmers 'particularly those living in remote and far –flung areas of our country. ICT has made this task of transfer technology very easy and accessible to the farming community. But, what do the farmers think about ICT was the question for which the present study was undertaken with the following specific objectives:

- i. To study the demographic profile of the respondents.
- ii. To identify the sources of information consulted by the respondents for obtaining agricultural information.
- iii. To determine the respondents' attitude towards ICT.

### **Methodology:**

The study was conducted in purposively selected Kangra district of Himachal Pradesh because the district has served as the District Unit of the National Informatics Centre and the distinction of becoming the first e-governance center of the State. Out of the total sixteen development blocks in the district, four development blocks were randomly selected. From each selected block ,two villages were randomly selected and from each selected village ,15 respondents were randomly selected who had been using any of the ICT tools for the last two years .Thus in all, 120 respondents constituted the sample for the purpose of the present study.

### **Variables and their Measurement:**

#### **Dependent Variable:**

- **Farmers' attitude towards ICT:**

Attitude refers to the degree of positive or negative effect associated with some psychological object. For the purpose of the present study, it has been operationalized as an individual farmer's degree of like or dislike towards the use of ICT.

It was measured with the help of scale developed by **Rashid (2021)** with suitable modifications. The scale consisted of 15 items and the respondents' response was obtained on 5-point continuum scale Viz; Strongly agree, Agree, Undecided, Disagree and Strongly disagree with respective scores of 5, 4, 3, 2 and 1. The frequency of respondents under each continuum / column was multiplied with its respective scores in order to compute the total score on each statement /item and accordingly, the mean attitude score was calculated by dividing the total score with total number of respondents.

On the basis of the total score obtained by each respondent on all the 15 items and standard deviation, the respondents were classified in the following three categories:-

- **Favourable attitude ( $>\bar{X} + S.D$ )**
- **Neutral attitude ( $\bar{X} \pm S.D$ )**
- **Unfavourable attitude ( $<\bar{X} - S.D$ )**

The data were collected with the help of well-structured and pre -tested interview schedule by personally interviewing the respondents. The data were tabulated, analyzed and interpreted by applying suitable statistical tests.

### Results and discussion:-

The main findings of the study are discussed under the following heads/sub-heads:-

#### A: Respondents' demographic profile:-

The Socio –economic characteristic of the respondents have been depicted in Table- 1

**Table- 1: Demographic Profile (n=120)**

S. No.	Socio-economic characteristics	Frequency	Percentage
<b>I.</b>	<b>Age (years)</b>		
	Young (20-40)	42	35.00
	Middle (40-60)	60	50.00
	Old (60-85)	18	15.00
<b>II.</b>	<b>Gender</b>		
	Male	109	90.84
	Female	11	09.16
<b>III.</b>	<b>Family Type</b>		
	Nuclear	31	25.84
	Joint	89	74.16
<b>IV.</b>	<b>Educational status</b>		
	Up to Middle	15	12.51
	Up to Higher Secondary	32	26.66
	Senior Secondary /12 <sup>th</sup>	55	45.83
	Graduates	16	13.34
	Post graduates	02	01.66

<b>V.</b>	<b>Profession/Occupation</b>		
	Agriculture	120*	100.00
	Any other (business, shopkeeper etc.)	04	03.34
<b>VI.</b>	<b>Land holding (Kanal)</b>		
	Marginal (less than 25 Kanal i.e. < 1 ha)	61	50.83
	Small (25-50 Kanal i.e. 1-2 ha )	34	28.33
	Semi-medium (more than 50 Kanal i.e. > 2 ha)	25	20.83
<b>VII.</b>	<b>Irrigation facilities</b>		
	Tube-wells	88	73.33
	Canals	32	26.66

It has been observed from the data that all the respondents were engaged in agriculture, male (91%) residing in Joint family system (74%) and belonged young to middle age groups (85%), about (80%) of them were marginal and small farmers' with education status as higher secondary to senior secondary passed and tube-well was the main source of irrigation (73%).

These findings were found to be similar with those of **Kailash et al. (2017)** who reported that the majority of farmers (74.54%) belonged to middle age group while 16.36 per cent farmers belonged to old age category followed by farmers who belonged to young age group (9.09%). The authors further observed that 45.45 per cent of the respondents had qualification up to high school level/ Intermediate level followed by 25.45 per cent farmers who passed middle level, and 19.09 per cent were graduates.

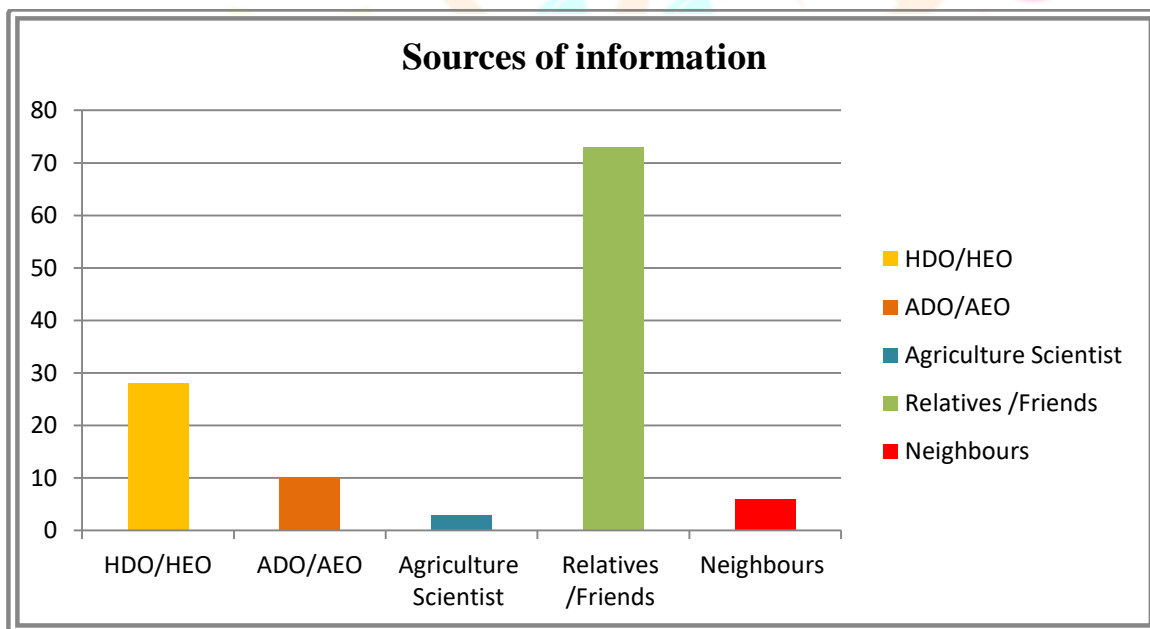
#### **B: Respondents' Sources of Information:**

The respondents were asked from which source they obtained information pertaining to agriculture. The response has been depicted in Table 2.

**Table 2: Sources of information (n=120)**

S. No.	Information sources	Frequency	Percentage
•	HDO/HEO	28	23.33
•	ADO/AEO	10	08.33
•	Agriculture Scientists of SAUs/KVK	03	02.50
•	Relatives/Friends	73	60.83
•	Neighbourers	06	05.00

It is evident from the data that a majority of the respondents (61%) had taken information related to agriculture from their Relatives/Friends. Those who had consulted Horticulture Development Officer and Horticulture Extension Officer were 23.33 per cent. However, it was disappointing to note that those who consulted Agricultural Scientists were only 2.50 per cent. Agriculture Development Officers/Agriculture Extension Officer and Neighbourers were the sources of information for only 8.33 per cent and 5.00 per cent respondents respectively (Fig-1). These findings were found in contrast with those of **Kailash et al. (2017)** who in a study to assess the socio - economic effects on farmers in Nagaur district of Rajasthan reported that the bulk of respondents (14.54%) had **Regularly** used Kisan Mela followed by Agricultural Officers (7.27%). Most of the farmers were found to use TV Regularly followed by newspapers 29.09 per cent. Similarly, these findings were found in contrast with those of **Avilesh (2017)** who concluded that most of the efficient extension methods used by the farmers were Extension Officers (25.2%) followed by phone calls (19.8%) and video films (13.1%). The author further revealed that Mobile phone was the main ICT device used by the farmers (65%) to retrieve agricultural information.



**Fig. 1: Distribution of the respondents' on the basis of source of information**

### **C: Attitude towards ICT:-**

The attitude of the respondents was obtained on a five point continuum scale viz, Strongly agree, Agree, Undecided, Disagree and Strongly disagree with respective scoring of 5, 4, 3, 2, and 1 for each positive statement. The response of the respondents has been given in Table-3.

**Table 3: Respondents 'attitude toward ICT**

S.NO	Statements	SA(5)	A(4)	UD(3)	DA(2)	SDA(1)	Total	Mean attitude score
I.	ICT is a powerful communication tool.	62(51.66)	56(46.66)	2(01.66)	-	-	540	4.50
II.	Besides providing agriculture information, ICTs is also a medium of entertainment.	50(41.66)	70(58.33)	-	-	-	530	4.41
III.	ICTs act as an effective tool for dissemination of agricultural programmes and other improved practices.	43(35.83)	77(64.16)	-	-	-	523	4.35
IV.	ICTs provides information pertaining to agriculture 24 hours a day (24X7)	49(40.83)	67(55.83)	4(03.33)	-	-	525	4.37
V.	ICT is the cost effective source of Information.	56(46.66)	61(50.83)	30(2.50)	-	-	533	4.44
VI.	ICT is the most important source of Advertisement.	44(36.66)	76(63.33)	-	-	-	560	4.66
VII.	Information related to agriculture can be easily shared with other fellow farmers through	45(37.50)	75(62.50)	-	-	-	525	4.37

	ICTs.							
VIII.	ICTs provides information regarding day to day weather conditions which further help the farmers in taking timely decisions	50(41.66)	70(58.33)	-	-	-	600	5.00
IX.	ICTs give farmers updated knowledge related to agriculture.	52(43.33)	68(56.66)	-	-	-	532	4.43
X.	Farming problems can be easily discussed through ICT with the experts for their solution.	60(50.00)	57(47.50)	3(02.50)	-	-	537	4.47
XI.	Use of ICT tools does not require much Literacy.	64(53.33)	52(43.33)	4(03.33)	-	-	540	4.50
XII.	ICTs tools can be accessed at any time.	54(45.00)	66(55.00)	-	-	-	534	4.45
XIII.	ICT is quite useful in improving the skills of farmers.	63(52.50)	57(47.50)	-	-	-	543	4.52
XIV.	ICTs facilitate the farmers in obtaining timely marketing information.	43(35.83)	77(64.16)	-	-	-	523	4.35

XV.	ICT is quite useful in changing the Farmers' attitude.	40(33.33)	78(65.00)	2(01.66)	-	-	518	4.31
<b>Weighted Mean Score = 4.47</b>								

It has been concluded from the data more than 50 per cent of the respondent were 'Strongly agree' on the statements like " ICT is quite useful in improving the skills of farmers (52.50%), 'Use of ICT tools does not require much literacy' (53.33%) and that 'ICT is a powerful communication tool (51.66%). Similarly, those who were found to be 'Agreed' with the statements such as 'ICT is quite useful in changing the farmers' attitude', 'ICT facilitates the farmers in obtaining timely marketing information'; and 'ICT act as an effective tool for dissemination of agriculture programmes and other improved practices (64.16% each)', 'ICT is the most important source of advertisement (63.33%)' and Information related to agriculture can be easily shared with the fellow farmers through ICTs (62.5%). The percentage of those respondents who were Agreed on the statements like besides providing agriculture information, ICTs is also a medium of entertainment, ICTs provides information pertaining to agriculture 24x7 hours a day, 'ICT is the cost effective source of information', 'ICTs provides information regarding day to day weather conditions which further help in taking timely decisions', 'ICTs provide the farmers updated Knowledge related to agriculture and ICTs tools can be accessed at any time, were found in the range of 44 to 58 per cent. These findings were in consonance with those of **Rohila et al. (2017)** who reported that ICT was not only providing greater awareness and knowledge in terms of agriculture technology and information but also in terms of farmer's attitudes towards adoption of new technologies. The authors further observed that ICT had enabled the farmers to make better crop and commodity decisions in future with timely and accurate information. Similar findings were also reported by **Pandey (2017)** who concluded that ICTs application such as, mobile phones helped the farmers to change their existing attitudes. Through mobile phones, the farmers could make interaction with market stakeholders, Kisan Call Centres and shared information with their friends/colleagues, extension officers which further helped them to change the traditional pattern of cultivation. Similarly, **Singh et al. (2022)** also found that a majority of the respondents agreed that ICT had saved their time and helped them to keep up to date information.

#### **Respondents' overall attitude towards ICT:-**

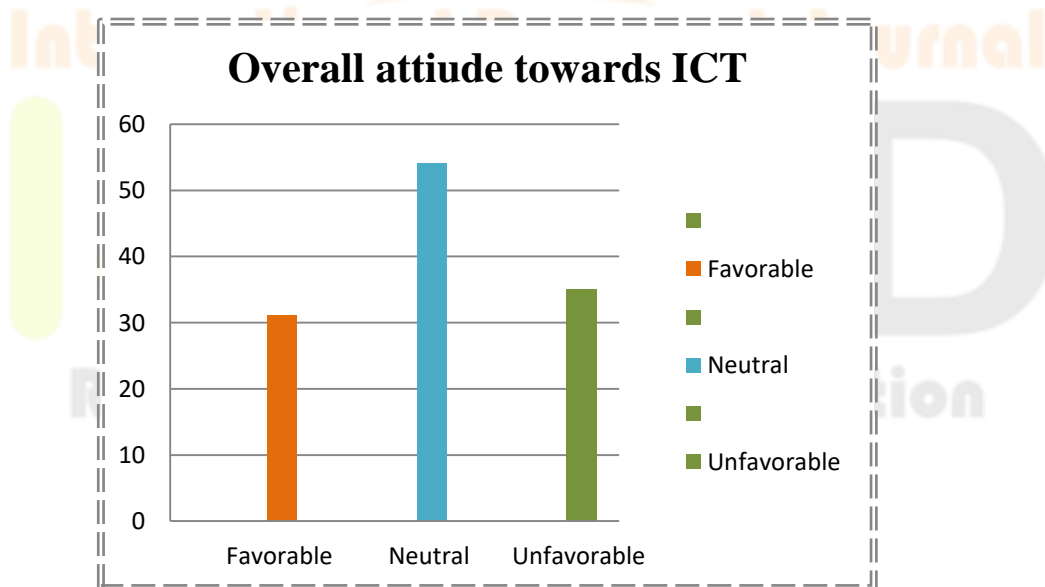
On the basis of the Mean attitude score and Standard Deviation, the respondents were classified into three categories mentioned in Table 4.



**Table 4: Respondents 'Overall attitude towards ICT**

Level of Attitude	Frequency	Percentage
<b>Favorable</b> (71.18 score)	31	25.83
<b>Neutral</b> ( 61.12-71.18 score)	54	45.00
<b>Unfavorable</b> (<61.12 score )	35	29.16
<b>Mean = 66.30/ S.D = 5.18</b>		

It has been observed that about 26 per cent of the respondents had **Favorable** attitude toward the use of ICT. Those who had **Neutral** and **Unfavorable** attitude were found to be 45 per cent 29.16 per cent respectively (Fig-2). These findings were similar to those of **Chahal (1992)** who reported that a majority of the respondents had a favourable attitude toward Radio and Television programmes. Similarly, **Kabir (2015)** also observed that majority of the respondents had a moderately favourable attitude towards ICT based farming and education was found responsible for their favourable attitude towards ICT based farming. **Verma et al. (2016)** had also stated that a majority of the farmers (80%) had Moderately Favourable attitude toward e-Choupal. Only a little more than one tenth of them were found to have favourable attitude towards e-choupal.

**Fig.2: Distribution of the respondents' on the basis of overall attitude towards ICT**

**Conclusion:-**

The study concluded that a little more than one-fourth of the respondents had **Favourable** attitude towards ICT and those who had **Netural** attitude were found be 45 per cent. Relatives and Friends followed by Horticultural Development Officers /Horticultural Extension Officers and Agriculture Development Officers /Agricultural Extension Officers were found to be the main sources of information pertaining to agriculture.

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