



Utilization Pattern of ICT Tools among Farm Women in Uttarakhand

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ABSTRACT

ICT tools are the new tools used for gathering the latest information. A study was carried out to find the utilization pattern of ICT tools among farm women of the Tarai region of Uttarakhand during 2019-2020. The data were collected from 120 respondents using a structured interview schedule, as a personal interview schedule reduces the bias of respondents and helps in the collection of credible data. Findings revealed that the majority of the farm women (79.16%) used the Mobile daily once or twice. Television was watched by farm women (61.66%) daily once or twice. Most of the farm women used ICT tools for general purpose than agriculture purpose. Hence, concerted efforts like; formal education of ICT tools, easy access and usage, cost effectiveness measures, etc. have to be made by the policymakers, administrators, and academicians concerned to make necessary improvements in planning and implementing ICTs strategies, so that farm women must be made aware of use of ICT tools and promote interest among them for its optimum agriculture use.

Key words : Farm women; ICT tools; Utilization pattern; Mobile; Social participation.

Agriculture is the base of Indian economy. About 70 per cent population lives in village out of which primarily 47 per cent workforce is in agriculture (FAO 2011). Thus, we can say that Indian economy is primarily an agrarian economy. Agriculture is a basic driver of economic growth and poverty reduction for many developing countries. Mishra and Sundaram (1970) said that agriculture is the largest livelihood provider in community life and occupationally it is highly dependent on various cropping system, animal husbandry and allied sectors. Sharma et al. (2008) in their study on critical analysis of information sources and channels preferred by rapeseed-mustard farmers reported that scientist and agriculture officers were perceived as a much credible source of information by

the farmers. Yadav et al. (2011) in their study on utilization pattern of different sources and channels of agriculture information used by the fenugreek growers revealed that agriculture supervisors were most utilized by farmers as the source of information. These all-information sources can be supplemented along with ICT tools. ICT tools aims to improve the lives of farm household especially in the rural areas by providing them the appropriate and relevant information. Traditionally the extension services have focused on male farmers. In the last few decades, the concern regarding farm women have been raised globally. Farm women play an important and crucial role in agricultural development. Agriculture sector employs 80 per cent of all economically active women out of which 33 per cent

constitute the agriculture labour force and 48 per cent are self-employed (OXFAM, 2018). Around 70 per cent of all women engaged in cultivation are from households witnessing migration (NSSO, 2013). According to The State of Food and Agriculture (FAO, 2011), “women comprise, on average, 43 per cent of the agricultural labour force in developing countries, ranging from 20 per cent in Latin America to 50 per cent in Eastern Asia and Sub-Saharan Africa”. Information and Communication Technology (ICT) is for everyone and women have to be an equal beneficiary to the advantages offered by the technology, and the products and processes, which emerge from its use. The benefits of the information provided by ICT tools, need not be restricted to the upper strata of the society but have to freely flow to all segments of the society. Information and Communication Technology (ICT) include technologies that give access to information through communication (Khan et al., 2012). ICTs in agriculture have the potential to facilitate greater access to information that drive or support knowledge sharing. ICTs essentially facilitate the creation, management, storage, retrieval, and dissemination of any relevant data, knowledge, and information that may have been already processed and adapted (Batchelor 2002; Chapman and Slay maker 2002; Rao, 2007; Heeks 2002). ICT is defined as the technology which covers any product that stores, retrieves, manipulates, transmits or receives information electronically in a digital form. ICT stands for information and communication technology and is sometimes used both as singular and plural nouns. It is used almost synonymously with IT or information technology (Garai and Shadrach, 2006). The real challenge of the information era is not producing information or storing information, but rather getting people to use the information (Annor-Frempong and Edumadze, 2009). Keeping in view the above facts and importance, the study was conducted with the objective to assess the ICT tools utilization pattern among farm women of tarai region Uttarakhand.

METHODOLOGY

The study was carried out in Udham Singh Nagar district of Uttarakhand state out of which two blocks were selected randomly i.e. Rudrapur and Kashipur by following Simple Random Sampling without replacement method. From each block, two villages were selected

randomly. Kolaria and Chhatarpur were selected from Rudrapur block and Gopipura and Chandpur were selected from Kashipur block. Data were collected from each of 120 selected farm women as respondent with help of interview schedule. Statistical techniques used in data analysis include: frequency, per centage, mean, Standard deviation, correlation and Garrett ranking.

Empirical data were tabulated and analyzed with the help of appropriate statistical tools using Statistical Package for Social Sciences (SPSS). Under Utilization pattern there were three components measured i.e.; Accessibility of ICT tools, Extent of use of ICT tools, Purpose of ICT use in agriculture and for general purpose. Extent of use of ICT tools was dependent variable in the study. The responses of farm women were obtained on five-point continuum scale in case of extent of use of ICT tools as Daily (Once or twice), Weekly (Once or twice), Monthly, whenever needed, never and scores were given as 4, 3, 2, 1 and 0, respectively. After that frequency was multiplied with the score (4, 3, 2, 1 or 0).

RESULTS AND DISCUSSION

Results of the study are presented and discussed under broad headings as accessibility of ICT tools, extent of use of ICT tools, purpose of ICT use in agriculture, utilization of ICTs by the respondents for general purpose and relationship between socio-economic and communication characteristics with extent of use of ICT tools.

Accessibility of ICT tools : Its time of ICT as lots of information can be obtained in various fields using different ICT tools. But it doesn't mean that one should own ICTs. Important is the access to ICTs may be own or others as with family members, neighbor, friends, ICT centers, school, college or any other sources.

Table 1. Distribution of respondents according to their access to ICT tools

Tools	Yes	No
Mobile	120(100%)	0
Television	86(71.66%)	34(28.33%)
Radio	19(15.83%)	101(84.16%)
Computer	10(8.33%)	110(91.66%)
Internet	45(37.5%)	75(62.5%)

The information regarding access to ICTs presented in Table 1 reveals that all the respondents (100%) have access to Mobile Phone whereas 86 per cent of respondents have access to Television followed

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

Tools	Daily (Once or twice)	Weekly (Once or twice)	Monthly	Whenever needed	Never
Mobile	95(79.16%)	25(20.83%)	0	0	0
Television	74(61.66%)	32(26.66%)	10(8.33%)	0	0
Radio	2(1.66%)	4(3.33%)	12(10%)	1(0.83%)	0
Computer	0	2(1.66%)	6(5%)	4(3.33%)	0
Internet	15(12.5%)	18(15%)	7(5.83%)	5(4.16%)	0

by 19 per cent respondents also had access to radio. Further, 45 per cent respondents had access to internet and 10 per cent respondents had access to computer.

Extent of use of ICT tools

Extent of use of ICT tools : Data in Table 2 depict that 79.16 per cent of the respondents were using Mobile daily whereas 61.66 per cent of respondents watched Television daily and 12.5 per cent of respondents used internet daily whereas only 1.66 per cent of respondents used radio daily. Computer was not used by majority of the respondents as not many respondents were having access to it. The respondents having access to computer and internet were using it mostly weekly/fortnightly/monthly and very less per centage of respondents were using it daily while none of respondents were using computer daily. Mobile was used by 20.83 per cent weekly whereas Television was used by 26.66 per cent weekly and 8.33 per cent of respondents used monthly. Radio was used by 3.33 per cent of respondent weekly, 10 per cent of respondent used monthly and 1 respondent used it whenever needed. Computer was used by 1.66 per cent weekly, 5 per cent monthly and 3.33 per cent whenever needed by the respondents. Similarly, internet was used daily, weekly, monthly and whenever needed by 12.5, 15, 5.83 and 4.16 per cent respondents, respectively.

The major ICTs used were only television and mobile phone and internet was also accessed by respondents on their mobile phone. *Roy et al. (2018)* found that mobile

was found to be the most used medium of networking with the stakeholders (up to 75%).

Purpose of ICT use in agriculture :

Mobile Phone : Perusal of Table 3 reveals that more number of respondents used mobile to get weather information (58.33%) followed by latest information on agriculture(50%). Further mobile phone was used to know price of products (42.5%) followed by information related to high yielding varieties of various crops by 41.66 per cent respondents, different types of soil by 31.66 per cent respondents, for knowledge of insecticide and pesticide by 27.5 per cent respondents and to know precautionary measures in field by 25 per cent respondents.

Television : Data in Table 3 depict that 38 per cent of the respondents used TV for the purpose of getting latest information in agriculture and 50 per cent respondents used for weather information followed by 33.33 per cent respondents used TV to get information about price of product and precautionary measure by 31.66 per cent respondents. Further 25-26 per cent respondents used TV for use of insecticides and pesticides, high yielding varieties in various crops (29.16%) and having knowledge of different types of soil (19.16%).

Radio : Data presented in Table 3 reveal that 16 per cent of the respondents used radio for the purpose of getting latest information in agriculture and 15.83 per cent respondents used for weather information. Radio was used by the respondents for getting information

Table 3. Utilization of ICTs by the respondents for agriculture purpose (N= 120)

Information needs	Mobile	Television	Radio	Computer	Internet
Latest information on agriculture	60(50%)	45(38%)	19(16%)	10(8.33%)	40(32.32%)
High yielding varieties in various crops	50(41.66%)	35(29.16%)	15(12.5%)	6(5%)	18(15%)
Insecticide and pesticide use	33 (27.5%)	31(25.83%)	7(5.83%)	4(3.33%)	15(12.49%)
Weather information	70(58.33%)	60(50%)	19(15.83%)	8(6.66%)	45(37.5%)
Precautionary measure in field	30(25%)	38(31.66%)	4(3.33%)	6(5%)	27(22.5%)
Types of soil	38(31.66%)	23(19.16%)	9(7.5%)	6(5%)	10(8.32%)
Price of products	51(42.5%)	40(33.33%)	17(14.16%)	9(7.5%)	27(22.5%)

Table 4. Utilization of ICTs by the respondents for general purpose

Information needs	Mobile	Television	Radio	Computer	Internet
For communication	120(100%)	-	-	5(4.16%)	31(25.83%)
Maintain social relationship	120(100%)	-	-	8(6.66%)	36(30%)
For entertainment	99(82.5%)	63(52.5%)	16(13.33%)	5(4.16%)	26(21.66%)
To gather information	41(34.16%)	69(57.5%)	19(15.5%)	8(6.66%)	23(19.16%)
For messaging	63(52.5%)	-	-	7(5.82%)	29(24.16%)
For news	48(40%)	71(59.16%)	10(8.33%)	5(4.16%)	22(18.32%)
For health information	36(30%)	56(46.66%)	9(7.5%)	5(4.16%)	13(10.83%)
To know current issues	34(28.32%)	42(35%)	8(6.66%)	0	6(5%)
For general knowledge	23(19.16%)	24(20%)	6(5%)	0	3(2.5%)
Sanitation and environment issues	31(25.83%)	31(25.83%)	5(4.16%)	0	8(6.66%)

about price of product (14.16%) and 12.5 per cent respondents used radio for the purpose of high yielding varieties in various crops followed by getting information about different types of soil (7.5%), insecticide and pesticide use (7%) and precautionary measures in field (3.33%).

Computer : It is evident from the data presented in Table 3 that 8.33 per cent respondents used computer to get latest agriculture information followed by 7.5 per cent respondents used for the information on price of products, information about price of products (5%), weather information (6.66%), high yielding varieties of various crops (5%), types of soil (5%), precautionary measure in field (5%) and insecticide and pesticide use (3.33%).

Internet : Data presented in Table 3 reveal that 37.5 per cent respondents used internet for the weather information followed by 32.32 per cent for the purpose of getting latest information about agriculture. Further 22.5 per cent respondents used for the purpose of knowing precautionary measures in field, information about price of product (22.5%), high yielding varieties of various crops (15%), insecticide and pesticide use (12.49%) and different types of soil (8.32%).

Purpose of ICT use for General purpose :

Mobile Phone : Perusal of Table 4 reveal that all the respondents used mobile for communication and to maintain social relationship, around 82.5 per cent used for entertainment purpose, for messaging (52.5%), for news (40%), to gather information (34.16%), for health information (30%), to know current issues (28.32%), Sanitation and environment issues (25.83%) followed by for general knowledge (19.16%).

Television : It is evident from Table 4 that most of the respondents watched T.V for news and entertainment purpose i.e. (59.16%) and (52.5%) respectively. T.V.

was watched to gather information by 57.5 per cent respondent, for health information (46.66%), to know current issues (35%), sanitation and environment issues (25.83%) and for general knowledge (20%).

Radio : Data presented in Table 4 reveal that most of the respondents listened radio to gather information and entertainment purpose i.e. (15.5%) and (13.33%) respectively. For news (8.33%), for health information (7.5%), to know current issues (6.66%), for general knowledge (5%) and sanitation and environment issues (4.16%).

Computer : It is evident from Table 4 that most of the respondents used computer to gather information and maintain social relationship i.e. (6.66%) and (6.66%) respectively. For messaging (5.82%), for health information (4.16%), for news (4.16%), for entertainment (4.16%) and for communication (4.16%).

Internet : Data presented in Table 4 reveal that most of the respondents used internet to maintain social relationship and for communication purpose i.e. (30%) and (25.83%) respectively. For messaging (24.16%), for entertainment (21.66%), to gather information (19.16%), for news (18.32%), for health information (10.83%), sanitation and environment issues (6.66%), to know current issues (5%) and for general knowledge (2.5%).

Overall it can be said that among the various ICTs, mainly used technologies by the respondents were T.V. and mobile phone. The reason for such findings could be that the respondents were having access to Television and mobile phone and not having access to the other technologies. Further these technologies are costly and require some skills to operate.

The Table 5 indicates the correlation between personal profiles of the respondents with extent of use

Table 5. Correlation between personal profiles of the respondents with extent of use of ICT tools

Independent variable	(r value)
Age	-0.268**
Education	0.750**
Family size	-0.790**
Family land holding	0.148 ^{NS}
Annual family income	0.896**
Media ownership	0.804**
Social participation	0.749**
Attitude towards ICT tools	-0.029 ^{NS}
Farming experience (years)	0.085 ^{NS}

of ICT tools. 'Correlation coefficient' between the farm women personality traits like education (0.750), annual family income (0.896), media ownership (0.804) and social participation (0.749) exhibited positive and significant correlation at 0.01 level of probability with their extent of use of ICT tools and age (-0.268), family size (-0.790) exhibited negative and significant

correlation at 0.01 level of probability with their extent of use of ICT tools. while Family land holding (0.148), attitude towards ICT tools-based extension services (-0.029), Farming experience (0.085) of the respondent did not show any significant correlation.

CONCLUSION

The results of this study indicate that a majority of farm women need capacity building programme as they possess low level of knowledge and skill in applying ICT tools. Further, the study results reveal that organizing workshop/training aiming at enhancing the farm women acquaintance with ICT tools will improve the usage of these technologies. This paper recommends that training institutions in India need to embark on tasks to integrate ICT tools in their institutions for teaching how to use ICT tools. While doing so, the drivers identified in this study need to be taken into account for successful implementation.

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