*Original Research Article*

# USE OF SOCIAL MEDIA BY FARMERS OF UTTARAKHAND


**Abstract**

Agriculture is one of the most important sectors of the Indian economy and can benefit tremendously from the application of Information and Communication Technologies (ICTs). ICTs can be especially important in bringing changes to socio-economic conditions of small and marginal farmers. A study was conducted in using Accidental sampling method with a sample size of 99 in Udham Singh Nagar District of Uttarakhand to find the characteristics of the farmers and to assess the use of ICTs by the farmers. The finding of the study revealed that majority of the farmers belonged to middle age group, practiced farming as their main occupation and maximum number of farmers were educated upto graduation level. Majority of them owned smart phones and had internet connectivity on their mobile phone. Samsung mobile phones were used by maximum number of the farmers. It was also found that majority of the farmers used WhatsApp, Facebook, YouTube frequently and mainly for entertainment purpose. However, majority of them were not using email, agricultural websites/ portals, agricultural apps and Twitter.



Keywords: ICT, Social Media, Farmers, extent of use, purpose of use.




## INTRODUCTION

Information and Communication Technologies (ICTs) open new ways of communicating and exchanging information. ICTs can be broadly understood as the technologies that facilitate communication, processing and transmission of information by electronic means (Zijp, 1994). ICTs can be utilized for providing timely, accurate, relevant information and services to the farmers, thereby creating an environment for more remunerative agriculture (Mangesi, 2010). They can revolutionize Indian farming sector and can benefit all farmers, including small landholders. Agriculture sector provides employment and livelihood to majority of the population in India. The traditional approaches to agriculture lead to numerous challenges in today's world in terms of production, marketing and profitability. These challenges can be addressed by using ICTs and they play an important role in improving the livelihood of the small landholder farmers.

ICTs can help in empowering the rural people by providing them better access to information on effective production strategies, improved agricultural technologies, banking and financial services, markets, etc. The use of ICTs is an important pillar of agriculture extension in today's rapidly changing scenario. It has been recognized as an essential mechanism for delivering information and advice as an input for modern farming. The use of ICTs in agricultural extension services, especially, mobile phones is been used to provide information on weather, market, transport and agricultural techniques to farmers (Aker, 2011). Mobile phones significantly reduce transaction costs for the farmers and provide new opportunities for rural farmers to obtain knowledge and information about agricultural issues, problems and its usage for the development of agriculture. Use of mobile phones can also lead to greater social cohesion and improved social relationships among farmers and business community.

In rural India, mobile phone penetration is much higher than TV. According to Telecom Regularity Authority of India, currently there are 500.68 million mobile subscribers in rural India (October, 2017). As per a report by Internet and Mobile Association of India (IAMAI) and Kantar IMRB, rural internet penetration has grown from 18 per cent in December 2016 to 20.26 per cent in 2017. The use of ICTs has also led to the rise and development of mobile apps which are helping existing government schemes, and other agriculture-based information to reach farmers in rural India. This digital change is acting as a game-changer for Indian agricultural conditions. Some of the mobile apps making agriculture easy are Kisan Suvidha, Krishi mitr, IFFCO Kisan Agriculture, Krishi Gyan, Pusa Krishi, AgriMarket, etc. Though Digital India is paving its way into rural India, the underlining digital gap still persists. Reaping the benefits of ICTs in the field of agriculture remains an ongoing challenge and favorable attitude of farmers towards ICTs is essential for obtaining the benefits of information provided by extension agencies using mobile phones. Therefore, the present study was undertaken to assess the extent of use and the purpose of use of mobile phones by the farmers.

## REVIEW OF LITERATURE

Dhaka and Chayal (2010) in a study on farmers' experience with ICTs on transfer of technology in changing agri-environment found that 50.67 per cent of farmers used the ICT services frequently as and when they needed information.

In a study on use of ICTs by farmers in Andhra Pradesh, Samatha (2011) found that all ICT tools were not being used. Only radio, TV and mobile phones were being used by the farmers. It was further found that majority (65.83%) of the farmers used ICTs to a medium extent.

Raghuprasad *et al* (2012) in a study on attitude of farmers towards utilization of ICT tools in farm communication in Karnataka found that 40.83 percent of the farmers had favorable attitude towards use of ICT tools.

A study in Uttarakhand also revealed that mobile phones were the only ICT tools used by the farmers for seeking market information frequently. Further, there was very little use of ICTs by majority (71.6%) of the farmers (Tomar, 2004).

Aravind *et al.* (2020) in a study about the farmers perception of farmers towards the use of ICT tools found that it was not easy to access internet/laptop, magazines, radio and televisions by the majority of respondents (96.00, 62.00, 56.66, 58.66 per cent respectively), whereas majority of the respondents (77.30%) found easy to access smart phone.

Sethy and Mukhopadhyay (2020) in a study on Use of ICTs by farmers in Odisha found that radio was ranked first by the respondents for getting market information while TV was ranked second. The study also revealed that farmers were having high perception about appropriateness of different ICTs, usefulness of different ICTs and also, they have perceived high level of constraints in using different ICTs. It was also seen that level of knowledge of devices, education, level of knowledge about service providers and extent of use of ICTs for different purposes had significant and positive association with the extents of use of ICT devices by the respondents.

## METHODOLOGY

The present study was conducted in Udham Singh Nagar District of Uttarakhand. Twice a year, G.B.Pant University of Agriculture and Technology, which is located in the district, conducts Kisan Mela (Farmers'Fair) for the farmers of the state and neighboring areas. The farmers were contacted for data collection during the Rabi Kisan Mela. Accidental sampling method was used for the selection of the respondents as the total number of farmers visiting the Kisan Mela was not known. In all, a total of 99 farmers were interviewed using an interview schedule. The statistical techniques used for data analysis were frequency and percentage.

## RESULTS AND DISCUSSION:

Major findings of the study have been divided into two parts. Part one describes the characteristics of the sampled farmers and part two deals with the usages of mobile phones by the farmers in the region.

### a)Characteristics of farmers:

It was found that majority of the farmers (67.67%) belonged to middle age group followed by old age group (21.21%) and young age group (11.1%). Maximum numbers of farmers (31.31%) were educated up to graduation, followed by intermediate (29.29%), high school (14.14%), post-graduation (11.11%), middle school (7.07%) and primary school (4.04%). Around 3.03 per cent farmers were illiterate. These findings are in line with the literacy rate in the state of Uttarakhand. It was further found that majority of the farmers (78.79%) primarily relied on

farming for earning a livelihood. It was observed that 11.11 per cent farmers were engaged in farming along with service and another 10.10 per cent were engaged in farming along with business.

The study showed that around three fourth farmers possessed smart phone and had internet connectivity on their mobile phone. About quarter of them (23.23) had feature phones with no internet connectivity. Maximum number of farmers (31.31%) owned Samsung phone followed by Nokia phone (16.16%) and Vivo phone (12.12%). Other mobile phone brands possessed by them include Micromax, Oppo, Redmi, Motorola, Lenevo, Intex, I-Phone, Mi, Spike, Videocon, Xiomi and Honor. Maximum number of farmers (44.44%) subscribed to Idea network followed by BSNL (11.11%) and Jio (10.10). Other service providers were Airtel, Vodaphone and NCL. Some of the farmers were also using double sim (24.24%) such as Jio+BSNL,Idea+BSNL, Jio+Vodaphone, Jio+Idea, Airtel+BSNL and Jio+Airtel.

**Table 1: Characteristics of Farmers**

| ATTRIBUTES | CATEGORY | PERCENTAGE |
|---|---|---|
| Age | < 33 | 11.11 |
| | 33-55 | 67.67 |
| | >55 | 21.21 |
| Education | Illiterate | 3.03 |
| | Primary School | 4.04 |
| | Middle School | 7.07 |
| | High School | 14.14 |
| | Intermediate | 29.29 |
| | Graduate | 31.31 |
| | Post-Graduate | 11.11 |
| Occupation | Farming | 78.79 |
| | Farming and Service | 11.11 |
| | Farming and Business | 10.10 |
| Mobile type | Smart | 76.76 |
| | Feature | 23.23 |
| Internet connectivity | Yes | 76.76 |
| | No | 23.23 |



**b) Utilization of social media:**

**i) Extent of usage:** Of all the ICT applications available on the smart phones of the farmers, it was found that WhatsApp was used by maximum number of farmers (97.39%) followed by Facebook (76.61%) and YouTube (67.51%). On the other hand, Twitter was used by least number of farmers (6.48%).

During the study it was found that majority of the farmers (66.23%) were using WhatsApp frequently. This was because they found it easy to use this app as it does not require high degree of expertise. It was revealed that 23.37 per cent of the farmers were using WhatsApp sometimes and 7.79 percent of the farmers were using WhatsApp rarely. It was also found that only 2.59 percent of the farmers were not using WhatsApp even though they had smart phone. This was due to lack of awareness, low level of education and poor technical skills.

The study revealed that 38.96 percent farmers were using Facebook frequently followed by 25.97 percent farmers who were using Facebook sometimes and 11.68 percent of the farmers were using Facebook rarely. Further, 23.37 percent of the farmers were not having Facebook account. This was mainly due to lack of time.

**Table 2: Extent of use of mobile phone**

| S.NO. | Application | Users | | | Non users |
|---|---|---|---|---|---|
| | | Frequently | Sometimes | Rarely | |
| 1. | WhatsApp | 66.23 | 23.37 | 7.79 | 2.61 |
| 2. | Facebook | 38.96 | 25.97 | 11.68 | 3.37 |
| 3. | YouTube | 40.25 | 22.07 | 5.19 | 32.49 |
| 4. | E-mail | 6.49 | 15.58 | 12.98 | 64.95 |
| 5. | Agricultural websites/portals | 1.29 | 12.98 | 2.59 | 83.14 |
| 6. | Agricultural apps | 3.89 | 10.38 | 1.29 | 84.44 |
| 7. | Twitter | 3.89 | 2.59 | 0 | 93.52 |

Out of total YouTube users, it was found that maximum numbers of the farmers (40.25%) were using YouTube frequently, 22.07 percent of the farmers were using YouTube sometimes and 5.19 percent of the farmers were using it rarely. A substantial number of farmers (32.49%) did not access YouTube because farmers were not aware of it and also they lacked the skills to access it.

Majority of the farmers (64.95%) did not have an email account. This was due to the fact that most of the farmers belonged to the age group of 33-55 years. As they were mainly engaged in farming they felt that it was irrelevant to them. It was seen that 15.58 percent of the farmers were using email account sometimes; followed by 12.98 percent farmers who were rarely using email and only 6.49 percent of the farmers were using email accounts frequently.

A large number of agricultural website and portals have been developed in the country in an effort to make information instantaneously available to the farmers. However, it was found that majority of the farmers (83.11%) never used any agricultural websites and portals because they lack awareness about the websites and portals. Language also acted as a barrier as most of these sites are in English language. It was found that 12.98 percent of the farmers were using

agricultural websites and portals sometimes, 2.59 percent of the farmers were using it rarely and only 1.29 percent farmers used agricultural websites/portals frequently.

With the widespread use of smart phones, apps have become a popular application especially with urban youth. However, little is known about their use in rural areas by other demographic groups. This study revealed that majority of the farmers (84.41%) had never used any agricultural apps as they lack information and skills needed to use these apps. The apps were also not used as many of them considered themselves well equipped with enough information required for carrying out farming. It was seen that10.38 percent of the farmers were using agricultural apps sometimes and only 3.89 percent of the farmers were using agricultural apps frequently.

It was found that education level of the farmers played a decisive role in the use of various ICT applications by farmers. For example, in case of Sukhjeet Singh, a graduate from Bari village, U.S.Nagar district of Uttarakhand, it was seen that he accessed Facebook, WhatsApp and YouTube frequently as he found them easy to install and use. He had also installed agricultural app and found it easy to access information. On other hand, Rajkumar, an illiterate farmer from Pilibhit, Uttar Pradesh used his smart phone only for making calls. He did not use his smart phone for any other purpose as he found it hard to understand, install and use various applications.

**ii) Pattern of usage:** In this study, an attempt was also made to understand the pattern of usage of various ICT applications and social networking sites by farmers. It was found that agricultural websites/ portals and apps were mainly used for accessing information. YouTube and Facebook were mainly used for entertainment purpose. Email and agricultural websites/ portals were mainly used for work related functions. Lastly, WhatsApp and Twitter were used for networking and personal communication. WhatsApp is a free app that provides messaging and calling services free of cost throughout the world. While WhatsApp can be used for both messaging and calling; it is mostly used for messaging. The app also has the provision of attaching photographs, documents, videos, etc. The study showed that maximum of the farmers (36.30%) used WhatsApp for entertainment purpose followed by 26.11 percent for personal networking, 24.84 percent for information purpose and 12.73 percent of the farmers were using WhatsApp for work related activities. This is not surprising as WhatsApp was mainly developed as a messaging tool which is often used by people to share jokes, videos, etc as attachments. Facebook is an online social networking service that helps people connects with others; share update, photos, videos, etc and become a part of common interest groups. In the present study, it was found that maximum use of Facebook (44.32%) was for entertainment purpose. It was also found that 23.71 percent of the farmers were using Facebook for personal networking, 20.61 percent of the farmers were using Facebook for getting information and only 11.34 percent used Facebook for work purpose. This was because they largely believed that social media was “not for serious

business". It was felt that the use of Facebook was limited to entertainment and sharing personal photos and general information.

**Table 3: Purpose of Use of mobile phone:**

| S.No | Social media/ICT tool | Personal networking | Work | Information | Entertainment |
|---|---|---|---|---|---|
| **1.** | WhatsApp | 26.11 | 12.73 | 24.84 | 36.32 |
| **2.** | Facebook | 23.71 | 11.34 | 20.61 | 44.34 |
| **3.** | YouTube | 02.98 | 04.47 | 31.34 | 61.21 |
| **4.** | Email | 11.42 | 57.16 | 25.71 | 05.71 |
| **5.** | Agricultural websites/portals | 0 | 40.00 | 53.34 | 06.66 |
| **6.** | Agricultural apps | 06.25 | 31.25 | 56.25 | 06.25 |
| **7.** | Twitter | 25.00 | 0 | 37.50 | 37.50 |

YouTube is a video and music sharing website. Users can upload, view, rate, share and comment on videos on YouTube. Additionally, users can also subscribe to content that they like. Given the nature of the content on YouTube, it is not surprising that majority of the farmers (61.19%) were using YouTube for entertainment purpose followed by 31.34 percent for information, 4.47 percent for work purpose and only 2.98 percent of the farmers were using YouTube for personal networking. This was because majority of the farmers were not able to search for agricultural channels and videos on YouTube. Also, it was found that many agricultural videos on YouTube were too general whereas farmers were looking for solution to specific problems.

During the study it was also found that majority of the farmers (57.14%) were using email accounts for work purpose; especially those engaged in farming along with service or business occupations. Around 25.71 percent of the farmers were using email accounts only for information purpose, 11.42 percent of the farmers for personal networking and 5.71 percent farmers were using email for entertainment purpose.

A substantial number of ICT for Agriculture projects have web presence and agricultural websites and portals try to fulfill a wide variety of information needs of the farming community. While a large number of respondents were not familiar with agriculture website and portals. It was found that majority of the users (53.00%) were using them for information purpose followed by 40.00 percent of the farmers who were using it for work purpose and 6.66 percent of the farmers were using agricultural websites and portals for entertainment purpose.

An app is a small and specific computer software or program meant to be used on mobile devices. In recent years, apps have become very popular as they provide specific information to the users at low cost. The study revealed that majority of the farmers (56.25%) were using

agricultural apps for information followed by work purpose (31.25%), personal networking and entertainment (6.25%).

The studies showed that majority of the farmers (93.50%) were not using Twitter, due to lack of awareness and difficulty in using it as it was a text based application. Also most of them did not find it relevant and had never heard of it before. Only 3.89 percent of the farmers were using Twitter. It was also seen that 37.50 percent of the farmers using Twitter were using it for information and entertainment purpose and 25 percent were using Twitter for personal networking.

During the study it was found that a few farmers also used a wide variety of ICT tools for a range of applications. They were, however, few in number and an exception to the general trend of limited usage of ICT tools by farmers. In case of Dharmpal from Baheri in Uttar Pradesh, it was seen that he used WhatsApp, YouTube and Facebook for personal networking, entertainment purpose as well as for seeking information related to agriculture. He also visited agricultural sites for updated information related to agriculture and government schemes. He used email exclusively for work. The other case is of Gurpal Singh from Nakatpura, U.S.Nagar district of Uttarakhand who used only WhatsApp and Facebook for personal networking and entertainment. He did not find time to use other apps and sites for information. These two apps are also used very rarely by him as most of his time is taken up by farming.

## CONCLUSION

Availability and accessibility of ICTs has gradually increased in the developing countries. The rural areas have seen a significant penetration of ICT devices in the last decade. While their use by other occupational groups is widespread and well known, there is little information on ownership and use of ICTs by the farming community. This study revealed that the use of ICTs by the farmers is limited by lack of awareness about the application of various social media. Further, it was seen that they use different ICT tools for specific functions. The study shows that there is a need to increase the farmers' awareness about potential application of ICT tools and social media to reap the full benefits.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## REFERENCES


Aker, J. C. (2011). Dial "A" for agriculture: a review of information and communication technologies for agricultural extension in developingcountries. *Agricultural Economics*, 42 (6), 631-647.

Aravind, A., Rajasekaran, R. and Bhavadharani, M. (2020). Study about the Perception of Farmers towards the Use of ICT Tools for Farm Communication in Tirunelveli District of Tamilnadu, India. *International Journal of Current Microbiology and Applied Sciences*, 9(11): 3011-3015.

Dhaka, B.L. and Chayal, K. (2010) Farmers' Experience with ICTS on transfer of Technology in Changing Agri-rural Environment. *Indian Research Journal of Extension Education*, 10 (3): 114-118.

Mangesi K. 2010. A comparative study of approaches to ICT policy formulation and implementation in Ghana and South Africa. *M. Sc. Thesis*, University of Kwa-Zulu Natal.

Raghuprasad, K.P., Devaraja, S.C. and Gopala, Y.M. (2012) Attitude of Farmers towards Utilization of Information Communication Technology (ICT) Tools in Farm Communication. *Research Journal of Agricultural Sciences*, September 2012, 3(5): 1035-1037.

Samatha, J. 2011. Extent of Use of Information and Communication Technologies (ICTs) in Selected Crops by the Farmers of Guntur district in Andhra Pradesh.Unpublished M.Sc. Thesis.ANGRAURajendranagar, Hyderabad (India).

Sethy, S., and Mukhopadhyay, S. D. (2020). Use of ICTs by Farmers: A Study in Odisha. *Asian Journal of Agricultural Extension, Economics & Sociology*, *38*(5), 74-86.

Tomar, A. 2014.A Study on the Use of ICTs for Obtaining Market Information by the Farmers of Udham Singh Nagar District of Uttarakhand.unpublished M.Sc. Thesis. GBPUA&T Pantnagar (India).

Zijp W. 1994. Improving the transfer and use of agricultural information – a guide to Information Technology. Washington DC: World Bank.