



Role of KVK Aligarh in Dissemination of Farming Technologies through ICT Tools

ARVIND KUMAR SINGH^{1*} AND ASHRAF ALI KHAN²



ARTICLE INFO

Received on	:	12-04-2020
Accepted on	:	05-06-2020
Published online	:	10-06-2020



ABSTRACT

The present study analyses usage of various Information Communication Technology tools and their ways of promoting different technologies to the farmers of district Aligarh by Krishi Vigyan Kendra. Social media is the new upcoming area in agricultural marketing and farming activities. This study adopted descriptive research, and primary data collection tools were structured questionnaire and in-depth interviews of farmers. The social media tools are making farmers digitally literate. About 91.20% of farmers indicated that advisories shared to them solved their challenges faced by them on time, and approximately 81.52% of farmers said that information they received by different ICT tools proved to be useful. Majority of farmers were found to be using effective agricultural techniques along with Arogya Setu and KisanRath App to enhance productivity as per advisories. The role of ICT Tools to develop agriculture in the rural areas is being established and farmers are accepting it very well.

KEYWORDS

Agricultural technologies, ICT tools, KisanRath App, KVK, Social Media in Agriculture

Digitalized farm health management and use of social media are popular amongst farmers these days and it has proved itself as a new upcoming area in agricultural marketing and other farming activities (Sharma and Singh, 2016). India is the second-largest producer of agriculture-based products. Agriculture is the primary source of livelihood for about 58 per cent of India's population (Singh *et al.*, 2017). Despite this importance of agriculture in our nation, the majority of the Indian farmers still practice agriculture using conventional methods (Akar, 2010). A country experiencing the outbreak of COVID-19, has taken an unprecedented scale of measures to contain the spread of the virus: citywide lockdown; traffic control; and closed management of villages and communities. Variety of actions has been taken immediately across the country to mitigate the vulnerability and ensure adequate food supply and distribution in cities and support the livelihoods of rural and *peri-urban* producers (Chen, 2020).

Rural regions of the developing world can be remote, with high concentrations of mass poverty (Wiggins and Proctor, 2001), food insecurity, and illiteracy (Chapagain and Raizada, 2017); hence access to food, shelter, and communication related to relief and recovery is a challenge after a disaster. In rural areas, farmers strongly rely on natural resources and have no alternative source of income or employment, making them more vulnerable to a crisis (Sabates *et al.*, 2008). Information and Communication Technologies like web portals, mobile phones and social media are the most popular and most widely used and can enhance the interaction among researchers, extension personnel and farmers. It can help farmers to seek information on farm operations, clarifying their doubts on plants/livestock disease symptoms and can have immediate access to market-related information.

However, this can be possible only when they are socially networked with human resources - agricultural researchers, extension agents, veterinarians, progressive farmers, sellers & other buyers—in virtual space (Aker *et al.*, 2010). The present paper reviews and analyses usage and efficiency of Social Media as a Information and Communication Technology Tool by the farmers and their ways of promoting different strategies in the agriculture sector. By proper coordination with district administration and line departments, promotion of best practices / technology support was ensured by Krishi Vigyan Kendra, Aligarh through ICT tools to resolve challenges faced by the farmers. Solving Lockdown problems in agriculture requires developing and diffusing new technologies. KVKs have been at the forefront of developing and applying new technologies to its farming systems. Krishi Vigyan Kendra, Aligarh conducted a study where descriptive research and the primary data collection tools were structured by questionnaire and in-depth interviews from farmers who use social media. KVK Aligarh utilized social media and Telephone for the dissemination of agricultural technology in Aligarh district. District Aligarh comprises of 12 blocks namely Tappal, Chandaus, Khair, Jawan, Lodha, Dhanipur, Gonda, Iglas, Atrauli, Bijauli, Gangiriand Akarabad.

Out of these, two villages from each block were selected randomly. A list of ICTs users was prepared from each village and three farmers were selected with the help of systematic sampling technique. Thus, 72 farmers from the 12 blocks of the district

^{1*}Chandra Shekhar Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh, India

²Krishi Vigyan Kendra, Aligarh, Uttar Pradesh, India

*Corresponding author email : aksinghcsaut@gmail.com

using ICTs were purposively selected and grouped for sending the messages of agricultural aspects. To assess the overall impact of technologies, an interview schedule was developed and responses were recorded on the telephonic conversation and data was collected. Thus collected Data was organized and tabulated using simple statistical method, tables and percentage

The KVK targets are to improve awareness and knowledge efficiency of farmers. A comprehensive ICT strategy has, therefore, been developed not only to reach out to farmers in an easy and better way but also for giving the best agricultural information to farmers during the lockdown period. It helped farmers in managing their products and get maximum economic benefit during the lockdown period and farmers can be benefited quickly. From the analysis, it is found that social media is a very useful tool in agricultural marketing. It saves time and cost of the farmers for getting information.

WhatsApp is the handy use of social media and mostly preferred for related groups. To empower different sections of rural areas, different ICT strategies have been devised and are listed below:

- Those who have access to digital infrastructure can get information through websites / web portals.
- Those who have smart phones can access the same information through mobile apps.
- Those who have basic phones can get this information through phone calls and SMS advisories sent by experts.
- Farmers can also call at the individual scientist of KVK

There are some high-impact agricultural interventions which are disseminated to farmers with different informational, technological Tools are discussed below (Table 1):

Table 1: High-impact Low-Cost Agricultural Technologies and Farming Methods Disseminated to farmers of District Aligarh by KVK Aligarh

Area	Best practices/ Technologies	Benefits to farmers	Feed Back of Farmers
Biopesticides	Weekly spray of <i>Sanjeevani Bio pesticides</i> (Prepared by Gaumutra and natural herbs) in Zaid Moong and Urd	*Developing quality fruit *Growth Promoter for Flowering *Increasing Fruit size *Improves plant health with increased tolerance to stress.	As a result, farmers saved Rs. 1000 -1500 per Hec. which they would have used to buy costly insecticides instead.
Ridge methods	Ridge and furrow sowing of Musk melon and other cucurbitacea crops	*Good quality fruits *Being better quality product, it results in higher price per unit by Rs. 5 -7. *Saving of irrigation water by 40%	*Moisture & Soil conservation *Weed free crop *Lesser or No insect-pest & diseases *Lesser water requirement of melons
Dairy	*Use of Napier Grass as green fodder to provide balanced ration in summers *Timely deworming and proper management of goats	*Consumption of Napier Grass resulted in healthy milch animals resulting in no reduction of milk during summers as well *Maintains the health as well as milk production of milch animals and goats	*Current season observed scarcity of green fodder so Napier Grass was a healthy alternative. Healthy animals and desired weight gain
Marketing	Marketing of vegetables and grains through SHGs and FIGs	During lockdown, process became easier and streamlined as a representative from a group did marketing of the products instead of whole group going to the market.	Due to this technique bargaining capacity of the buyer decreases and resulting in increase in profit percentage of the farmers.

Timeliness of agricultural information is very crucial to farmers' success. Farmers need to be provided with the information at the right time so as to apply that information in

their farming activities for better farm productivity and timely corrective action.

This study measured the timeliness as well as other important aspects of farmer's benefits. The respondents were asked to rate the information on the three grounds; always, sometimes or never. About 91.20% of the farmers (Table 2) indicated that information always solved their problems/curiosity on time and 77.77% reported they always had a discussion with an expert from time to time after the

Table 2 : Response of farmers of district Aligarh for advisories disseminated by KVK Aligarh through ICT tools like Whatsapp, Facebook, Kisan Call Centers etc.

Statements	Always (%)	Sometimes (%)	Never (%)
Timely availability of the information from KVK Aligarh	91.20	8.80	0.00
Timely discussion with expert after receiving the messages whenever required	77.77	22.23	0.00
Usefulness of Information	81.52	18.48	0.00
Beneficial information received	75.20	24.80	0.00
Using Crop wise Integrated Nutrient Management according to the advisories sent by KVK Aligarh	45.25	54.75	0.00
Practiced seed treatment as per the message sent by KVK Aligarh	71.75	28.25	0.00
Shared the information with relatives and fellow farmers	62.25	37.75	0.00
Usefulness of pictorial information against written messages	75.50	24.50	0.00
Started selecting weedicide as per crop acc. to the advisories sent by KVK Aligarh	63.20	36.80	0.00
Started selecting pesticide & insecticides as per crop acc. to the advisories sent by KVK Aligarh	89.80	10.20	0.00
Using Integrated Plant Disease Management techniques according to advisories sent by KVK Aligarh	72.50	27.50	0.00
Using Integrated Pest Management Techniques according to advisories sent by KVK Aligarh	78.50	21.50	0.00
Usefulness of Arogya Setu App	45.50	54.50	0.00
Usefulness of KisanRath App	56.30	43.70	0.00

messages have been sent. About 81.52% of farmers said that information's they received by different ICTs are always useful. Majority of farmers were using Crop wise Integrated Nutrient Management, Integrated Plant Disease Management and Integrated Pest Management techniques to enhance productivity and reduce their losses as per advisories shared by KVK, Aligarh.

When discussing regarding usefulness *Arogya Setu* App and *KisanRath* App 45.50% and 56.30% farmers respectively, said that these apps are always helpful and guide them in taking required and corrective action. The respondents also said that ICTs not only helpful just in natural disasters or social and political emergencies, ICT can be effective in agricultural crisis like pest or disease outbreaks as well facilitating faster communication among experts, farmers, and other actors helping in containing situations quickly (Suchiradipta and Saravanan, 2016).

The study also indicates that by the use of ICT (Information Communication Technology) tools, farmers can seek information on farm operations, clarify their doubts on plants/ livestock disease symptoms and are having immediate access to market-related information. The social media-enabled WhatsApp is helping farmers to solve farming-related problems more efficiently by making them digitally literate. Majority of farmers reported that messages and advisories sent to them via ICT tools were clear, satisfactory and resolved their challenges and issues well on time. WhatsApp isn't only used as a marketing tool, but it has also created a kind of support network among farmers. On the level of daily interaction, the WhatsApp groups are successful at providing a sounding board of assistance and in motivating farmers (Verma et al., 2017).

Many studies showed that the access to communication technologies have an impact on the economic, poverty reduction as well as agriculture development. The use of mobile phones could increase the efficiency of farmers by affordable access to communication technologies in rural areas of developing countries (Bhavnani et al., 2008).

CONCLUSION

The role of Information Technology to develop agriculture and quality of life in the rural area is being established and farmers are accepting it quite well. Information Technology can help an average Indian farmer to get relevant information regarding agro-inputs, crop production technologies, agro processing, market support, agro-finance and management of farm agri-business from Krishi Vigyan Kendras and related agricultural line departments. The agricultural extension mechanism is becoming dependent on IT to provide appropriate and location-specific technologies to the farmers to furnish timely and proficient advisories to the farmers. Information Technology has proved very useful not only to develop agricultural extension but also to expand agriculture research and education system.

REFERENCES

- Akar E. 2010. Social networking sites as a type of virtual communities : Processing as a marketing communication channel. *Sosyal Bilimler Dergisi* **10** (1): 107-122.
- Aker JC, Isaac M and Summer.2010. Mobile phones and economic development in Africa. *Journal of Economic Perspectives* **24** (3): 207-232.
- Bhavnani A, Chiu R, Jankiram S and Silarszky P. 2008. The Role of Mobile Phones in Sustainable Rural Poverty Reduction. World Bank Global Information and Communications Department, Washington, DC.
- Chapagain T and Raizada M. 2017. Agronomic challenges and opportunities for smallholder terrace agriculture in developing countries. *Front Plant Sci* **8**:331. doi:10.3389/fpls.2017.00331.
- Chen KZ. 2020. How China can address threats to food and nutrition security from the coronavirus outbreak.p.1. Retrieved from <https://www.ifpri.org/blog/how-china-can-address-threats-food-and-nutrition-security-coronavirus-outbreak>
- Sabates W, Devereux STM and Leavy J. 2008. Rural disaster risk: poverty interface. Institute of Development Studies UK.
- Sharma A and Singh AK. 2016. Information Needs of Farm Women for Efficient Farming in Uttarakhand. *Journal of AgriSearch* **3**(2) 122-126.
- Singh AK, Singh AK, Kumar R, Prakash V Sundaram PK and Yadav SK. 2017. Indian Cereals Saga: Standpoint and Way Forward. *Journal of AgriSearch* **4**(1): 1-10.
- Suchiradipta B and Saravanan R. 2016. Social Media: Shaping the future of agricultural extension and advisory services. *GFRAS interest group on ICT4RAS discussion paper*.
- Verma NS, Sarangdevot S, Pachauri C and Kerketta S. 2017. A Study on Role of WhatsApp in Agriculture Value Chains. *Asian Journal of Agricultural Extension, Economics and Sociology* **20**(1): 1-11.
- Wiggins S and Proctor S. 2001. How special are rural areas? The economic implications of location for rural development. *Rethinking Rural Development* **19**(4): 427-436.

Citation:

Singh AK and Khan AA. 2020. Role of KVK Aligarh in dissemination of farming technologies through ICT tools. *Journal of AgriSearch* **7**(2): 111-114