Indian Journal of Extension Education
Vol. 56, No. 1 (January-March), 2020, (54-58)

Effectiveness of WhatsApp Messages Regarding Improved Agricultural Production Technology

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ABSTRACT

Agricultural information can play very important role in the development of small farmers. By using communication technologies farmers can increase their production and income. In the perspective of the mobile phones farmers can directly communicate with buyers and customers for selling their produce at good price. In remote areas farmers are still facing many problems in using technologies due to lack of infrastructure and awareness. Most of the farmers still depend on old traditional methods in agriculture due to lack of knowledge, illiteracy and trainings. WhatsApp technology has provided a platform for farmers to share their knowledge and information among each other on crucial time for market rates and weather information. WhatsApp messenger is a proprietary, cross platform instant messaging application for smart phones. In addition to text messaging, users can send images, video, and audio media messages. The study conducted in Dewas district showed that the WhatsApp was able to increase the knowledge of the farmers on soybean production technology and was farmers were at high to low level of knowledge regarding social media based technical information.

Keywords: Effectiveness, Knowledge, Social media

INTRODUCTION

Integration of ICT is rapidly transforming the way of agricultural technology transfer. The special features of participation, openness, conversation, community and connectedness makes social media a unique user experience (Mayfield, 2008). The Information and Communication Technology is not only one of the driving forces of globalization but it played important role in liberalization of world trade in the field of agriculture development across the world. Information and Communication Technology is ruling the world in all walks of life and access to mobile phones and internet facility is growing in India at a rapid rate in recent years. Social media is becoming popular way of communication. Facebook has 195.16 million active users in India, YouTube gets more than 50 million unique users each month, Twitter has 23.2 million users, WhatsApp has 70 million users in India and the highest monthly active users in the world (www. statista.com, 2016). All these statistics prove the huge potential that social media can be exploited by extension practitioners to reach out to the people. India is a huge market for social media that is constantly expanding into the rural areas and that improves the scope of reaching not only to the farmers but the farm families and youth altogether for higher impact.

India is a land of diversity and thus package of practices for raising crops differ significantly from place to place, today most of the farmer do not have access to information at right time, so farmers' approach towards receiving agricultural information has been completely

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changed by getting ICT base-tool in their hand. ICT interventions may set the valuable feedback of the farming community to get channelized towards building up new frontier areas in agricultural education and research (Nallusamy *et al.*, 2015).This innovative method utilize ICT technologies, social medias like WhatsApp in delivering information to farmer by personal calls, voice and text SMS, pictures, videos etc. The role of ICT in agriculture for management decision in modern farming require to be up to date and localalised for information on weather forecasts, regional recoding of crop disease and pests, plant protection, irrigation management, harvesting and marketing. As the social media use for agriculture sector and extension has gained momentum in the recent times, WhatsApp is a major platform that is being used by extension professionals to communicate with peers or client farmers but the communication (individual and group) being personal in nature, not much information is available about the groups other than when highlighted by the media. Currently there are more than one billion users of the app in 180 countries. Though initially used for personal messaging, it is gaining more popularity among agricultural professionals and practitioners to share information. The Communication technology enables user-to-user interactivity and interactivity and promotes the creation of social wealth in the form of discussion forums of Innovative farmers for learning exchange (Nain *et al.*, 2019). The present study explored the knowledge level of farmers towards social media based technical information, effectiveness of WhatsApp messages for knowledge updattion of farmers regarding improved agricultural technology.

METHODOLOGY

The present study was conducted in Dewas district of M.P. which comprises of six blocks and all six blocks namely Dewas, Tonk Khurd, Sonkatch, Bagli, Kannod and Khategaon were selected for the study. One village panchayats was selected from each block. 20 WhatsApp user farmers were randomly selected from each village Panchayat. Thus the total no. of respondents were selected making a total of 120. A pretested interview schedule was used as the research instrument in order to collect relevant information from the farmers. The parameters selected for assessing the effectiveness of WhatsApp messages regarding improved agricultural production technology included kknowledge level towards social media based technical information, effectiveness in terms of Understanding of the message, need and time based information, dissemination of technical information and applicability of the content of WhatsApp messages along with level of knowledge upgraded through the WhatsApp messages disseminated by KVK Dewas on Soybean production technology.

RESULT AND DISCUSSION

Knowledge level of farmers towards social media based technical information

The result revealed that the huge majority of e-farmers/WhatsApp users had high knowledge level towards social media based technical information about soybean production technology *i.e.* sowing methods (67.70%), improved varieties of soybean (71.30%) and seed treatment method (73.30%). Knowledge level of maximum farmers towards information of soil testing (72.50%), recommendation of manures fertilizers (63.30%), weed management (66.30%), pre & post emergence herbicide (57.70%) was also found high followed by medium to low. Most of the farmers had high knowledge level towards disease management (76.70%), insect management (74.50%) and post harvest management (62.00%). On the basis of all parameters of knowledge level the overall Knowledge of soybean

Table 1: Knowledge level of e-farmers towards social media based technical information

Parameter	High	Medium	Low
Sowing Method	67.7	26.3	6.0
Improved varieties of soybean	71.3	15.7	13.0
Seed Treatment Method	73.3	16.7	10.0
Information of Soil Testing	72.5	22.7	4.8
Recommendation of Manures Fertilizers	63.3	23.3	13.4
Weed Management	66.3	22.3	11.4
Pre & Post emergence Herbicide	57.7	25.6	16.7
Disease Management	76.7	20	3.3
Insect Management	74.5	21.7	3.8
Post Harvest Management	62.0	31.3	6.7
Average	**69.17**	**22.50**	**8.33**

growers towards social media based technical information was found high in level (69.17%) followed by low and medium level of knowledge. Data in respect of knowledge level of e-farmers towards social media based technical information are presented in Table 1 and 2.

Effectiveness of WhatsApp messages regarding improved agricultural practices

The role of information with use of WhatsApp in agriculture development has its own importance with

Table 2: Overall Knowledge level of soybean growers towards social media based technical information

Attributes	Categories	No. of respondents	Percentage
Knowledge level	Low Knowledge level	10	08.33
	Medium Knowledge level	27	22.50
	High Knowledge level	83	69.17
	Total	**120**	**100**

Table 3: Effectiveness of use of WhatsApp messages in improved agricultural practices

Effectiveness of WhatsApp	Low	Medium	High
Understanding of the message	**40(33.33)**	**50(41.67)**	**30(25.00)**
The language of massages is simple and understandable	39(32.50)	58(48.30)	23(19.20)
The technical terms used in the message are sent by translating them into your regional language	39(32.50)	45(37.50)	36(30.00)
Pictures and videos are useful in messages	41(34.50)	44(36.70)	35(29.20)
Full knowledge is obtained by collecting messages	45(37.50)	49(40.80)	26(21.70)
Messages are factual and concise	38(31.70)	55(45.80)	27(22.50)
Need and time based information	**38(31.66)**	**50(41.66)**	**32(26.67)**
The knowledge gained at the right time is beneficial for you	41(34.20)	48(40.00)	31(25.80)
Time limit is shown	37(30.80)	57(47.50)	26(21.70)
Weather related messages to your area are useful	34(28.30)	59(49.20)	27(22.50)
Provide localized agricultural information can help to reduce crop losses	39(32.50)	46(38.30)	35(29.20)
WhatsApp offers a communication approach that can be quite flexible	40(33.30)	42(35.00)	38(31.70)
Dissemination of technical information	**35(29.17)**	**64(53.33)**	**21(17.50)**
The easiest way to expand technical knowledge	38(31.70)	60(50.00)	22(18.30)
Techniques can be popularized after application	35(29.20)	66(55.00)	19(15.80)
It is easily transmitted in comparison to books or other means	32(26.70)	71(59.20)	17(14.20)
By this means yours problems are resolved	32(26.70)	68(56.70)	20(16.70)
It increases the scope and coverage of agricultural extension	36(30.00)	55(45.80)	29(24.50)
Applicability of the content (image/audio quality)	**41(34.16)**	**50(41.66)**	**29(24.17)**
Text content is sufficient	37(30.80)	60(50.00)	23(19.20)
Suitable for reading	41(34.20)	48(40.00)	31(25.80)
Successfully learning through image and video	43(35.80)	58(48.30)	19(15.80)
It is easy to tell other member/friends	44(36.70)	42(35.00)	34(28.30)
It is an easy and convenient way of communicating with the other farmers	40(33.33)	43(35.80)	37(30.80)
Applicability of the message	**35(29.16)**	**56(46.66)**	**29(24.17)**
Easier for farmers to communicate with peers, extension professionals and experts in real time	32(26.70)	68(56.70)	20(16.60)
Potential to enhance the coverage and scope of extension	32(26.70)	51(42.50)	37(30.80)
Relatively high applicability	40(33.33)	50(41.70)	30(25.00)

Table 4: Change in knowledge level of farmers from WhatsApp messages by KVK

Parameters	Before (2016-17)			After (2017-18)		
	Low	Medium	High	Low	Medium	High
According to local requirement	32(26.70)	51(42.50)	37(30.80)	27(22.50)	38(31.70)	55(45.80)
Information of advanced practices	39(32.50)	58(48.30)	23(19.20)	31(25.80)	38(31.70)	51(42.50)
Ability to increase knowledge	40(33.33)	50(30.00)	30(25.00)	20(16.70)	35(29.20)	65(54.10)
Increase accessibility of agricultural technology	39(32.50)	45(37.50)	36(30.00)	33(27.50)	38(31.70)	49(40.80)
Sharing of content amongst farmers	40(33.33)	42(35.00)	38(31.70)	33(27.50)	39(32.50)	48(40.00)
According to current need	41(34.20)	44(36.70)	35(29.20)	35(29.20)	39(32.50)	46(38.30)
Usefulness of crop production related messages	38(31.70)	60(50.00)	22(18.30)	36(30.00)	40(33.33)	44(36.70)
Usefulness of seed and fertilizer related messages	45(37.50)	49(40.80)	26(21.70)	36(30.00)	44(36.70)	40(33.33)
Usefulness of medicine, pesticides and herbicide related messages	35(29.20)	66(55.00)	19(15.80)	26(21.70)	36(30.00)	58(48.30)
Usefulness of harvesting & storage related message	38(31.70)	55(45.80)	27(22.50)	26(21.70)	30(25.00)	64(53.30)

development of technology and sources of information. The role of WhatsApp to disseminate the agricultural research, education and extension to improve technological development of agriculture is well established. Data in respect of effectiveness of use of WhatsApp messages in agricultural development are presented in Table 3. Regarding "Understanding of the message" a huge majority of the WhatsApp users (41.67%) found medium understand of the messages while, 33.33 per cent of them found low and 25.00 per cent found high understanding of the messages. Majority of the e-farmers i.e. 41.66 per cent found medium "Need and time based information" whereas, 31.66 per cent of them found low and 26.67 per cent found high on need and time based information parameter, respectively. About "Dissemination of technical information" majority of e-farmers i.e. 53.33 per cent found medium followed by 29.17 per cent as low and only 17.50 per cent had found that it had high effect for technical information. Most of WhatsApp users (41.66%) found medium effected for "Visibility of content" followed by 34.16 per cent and 24.17 per cent WhatsApp users found low and high effected, respectively. In case of "Applicability of messages", the maximum of the WhatsApp users (46.66%) found medium followed by 29.16 per cent found low and 24.17 per cent found high respectively. The results are similar to Nargawe (2017) who reported that majority of the respondents indicate medium level impact of Kisan Mobile Advisory.

Knowledge upgradation of farmers through WhatsApp messages disseminated by KVK

The level of knowledge of the farmers towards WhatsApp messages disseminated by KVKs Dewas was measured as how frequently they are using the tools and how efficiently they understand it. Data in respect of level of knowledge upgradation of WhatsApp messages in improved agricultural production technologies has been presented in Table 4. For measuring knowledge upgradation from WhatsApp messages in agriculture development, 10 components of technological information were considered for which the information from farmers were collected for two different conditions (time frame) before use of message and after use of messages and it is clear from data that in almost every parameter the positive change was observed which was in line with Kabir (2015).

CONCLUSION

From the study it can be concluded that WhatsApp is very useful which saved the time and expenses for solving the problem. Immediate solution to the farmers on mass level through this App could have been achieved by KVK and need & time based service to the farming communities were served. It was found that maximum farmers applied the advisories given by KVK on day to day farming activities. The most farmers were satisfied with the use of information sharing app.

Paper received on : January 22, 2020
Accepted on : February 12, 2020

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