Int.J.Curr.Microbiol.App.Sci (2018) Special Issue-7: 208-217

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7692 **Special Issue-7 pp. 208-217**
Journal homepage: http://www.ijcmas.com

Original Research Article

A Comparative Study on Impact of ICT (KMAS) and Social Media (Whats App) on Transfer of Agricultural Technologies for Development of Farming Community

Monika Jaiswal[1*], Ajeet Singh[1], Kartikey Singh[1], Mohd. Mustafa[2] and Bhupendra Singh[1]

[1]Krishi Vigyan Kendra, Burhanpur, Madhya Pradesh, India
[2]KVK-Ratlam, Madhya Pradesh, India
**Corresponding author*

Keywords

ICT, KVK, Whats App, KMAS (Kisan Mobile Advisory Services)

A B S T R A C T

Social media and ICT has emerged as one of the most powerful platforms for exchange of communication and technology dissemination. In present scenario agriculture being highly skill oriented and technical intensive sector needed to high priority. Social Media is key to development. Various Social Media tools such as Facebook, Twitter, You Tube, Whats App etc. are becoming greater ways of sharing information about agricultural technology. To educate the farmers related to improved agricultural technologies and need based plant protection issues, Kisan Mobile Advisory Services (KMAS) and Whats app was launched by KVK for sending information In this respect, Krishi Vigyan Kendra, Burhanpur create a farmers group and selected 100 farmers for sending the messages on agricultural aspects in their mobile through Whats App and KMAS. The study was conducted in five villages of Burhanpur district in 2015-17 where KVK, Burhanpur involved in transfer of technology through Whats App and KMAS. Result of survey showed that Whats App technology imposes high impact on 53.8% on knowledge followed by 49.8% on adoption and 48.4% on usefulness whereas, KMAS technology imposes high impact on knowledge (48.6%) followed by usefulness (46.6%) and adoption (45.2%). This finding shows that farmers applied the technology sent through KMAS and Whats App as they found the information useful.

Introduction

Social media is becoming a very important tool in farming because it has the ability to connect with farmers and agribusiness people from around the world over large geographical distances. In present scenario agriculture being highly skill oriented and technical intensive sector needed to high priority. Social Media is key to development. It can be highly effective as a rural development tool by making the rural society more competitive nationally as well as internationally. The benefits of this can be as large or as small as the farmers choose, depending on how much time we wish to spend on it. Social media plays a very important role in enhancing interactions and information flows among different actors involved in agricultural innovation and also enhance capacities of agricultural extension and advisory service providers. Social media has become so popular because it taps into one of humans most basic natural needs – forming groups and sharing information, providing entertainment and

communicating. In a sense, it goes back to the days of storytelling, where everyone in a group has the opportunity to add to the story or share another point of view, except now you can do that globally. Compared with agriculture sector in developing countries, agriculture is becoming increasingly knowledge intensive. As agriculture systems become more complex, farmers' access to reliable, timely and relevant information sources becomes more critical to their competitiveness. Information must be relevant and meaningful to farmers, in addition to being packaged and delivered in a way preferred by them *(Diekmann, Loibl & Batte, 2009).*

Farmers constantly manage and adapt their farm businesses in order to remain competitive in a changing world. This is done by among other ways, fine tuning existing practices and technologies or by adopting innovations, such as novel products, technologies or practices. Where there are a number of alternatives, it is necessary for the farmer to choose which innovation, or suite of innovations, will provide the most benefit and best meet the needs of the farm business. Introduction to ICT in the field of agriculture has brought many changes in traditional methods of extension. It enables the dissemination of requisite information at the right time. The revolution in ICT has made access to the information easy and cost effective to the farming communities. The reports indicated that 45% of the world's ICT projects implemented in India. Asia's highest number of information kiosks implemented across rural India. *(Chattopadhyay, 2004).* In addition, Government of India policy proposed a knowledge centre in every village by 2007. *(Swaminathan, 2005).*

However, the most of the ICT projects are implemented in the socio-economically developed states of India. Series of broadcasts on a particular topic through the Krishi Community Radio Station has significantly increased the knowledge of the listeners on need-based aspects of agriculture. *(Nitya Shree etal. 2013).*

KMAS and Whats App had been found very effective tool for dissemination of information among different categories of respondents for making agriculture sustainable in the use of social media. From the study it shows clearly that at present the Whats App and KMAS is becoming the largest social media initiative in Burhanpur providing farm advisory services to the farmers. The Whats App and KMAS delivers real-time agricultural information and knowledge to improve farmer's decision making ability so that they are able to introduce and aware new technology, solve their problems timely, increase their production & productivity, better support the farm output to market demands, securing better quality & improved price recovery in a globally competitive agrarian economy.

Keeping in view the importance of Whats App and KMAS and the constraints in farmer's field, the present study was conducted with following objectives:

To study the profile of beneficiaries of KMAS.

To study the Knowledge, usefulness and adoption of Whats app and KMAS among Burhanpur farmers.

To assess the impact of KMAS and Whats App on technology dissemination.

Materials and Methods

Krishi Vigyan Kendra, Burhanpur has utilized KMAS and Whats App for the

dissemination of agricultural technology in Burhanpur district of Madhya Pradesh. Time to time agro advisories, weather report, new varities, sowing method, seed availability, mandi rates, new technologies and how to take precaution from the coming disease and pest outbreak to the farmer's group. For collecting information by a semi structure interview schedule was designed. Data were collected by telephonic or personal interaction with all the respondents.

After sending messages for two years, feedback was taken in July, 2017. For the feedback of KMAS and Whats App, five villages were selected, and from each village 20 farmers were selected randomly and interviewed to know the impact and their satisfaction on Whats App and KMAS To access the overall impact of technology a devices was developed and responses of the respondents were recorded on four point continuum scale for each aspect and scores assigned.. Finally an index was worked out to assess the overall impact of technology with the help of following equation.

$$TI = \frac{O}{S} \times 100$$

Where,

TI = Technology Impact Index of a respondent
O = Total scores obtained by respondent
S = Total obtained score

The data were analyzed by using frequency, mean and percentage.

Results and Discussion

Impact of Whats App and KMAS on transfer of agricultural technology was assessed and being discussed as under

Distribution of the respondent according to their personal and socio economic variables

Table 1 reveals that majority of farmers (83 %) were under middle age group followed by young (10%) and old (7%) age group. More respondent from middle age group indicated their enthusiasm and involvement in ICT & social media for getting/ updated agricultural knowledge. Similar observation was also reported by *Kanavi and Jahagirdar (2013).* In terms of their education, it is noticed that 30% farmers were intermediate, 28% were higher secondary, 27% were under/ post graduate, 10% were middle school followed by 4% primary school whereas, only 1% farmers were illiterate. As they are educated they were able to gather knowledge on recent technology disseminated through KMAS. This finding is close confirmative with the findings of *Subhashingh et al., (2010).* Table 1 also indicated that 60% of the farmers belong to medium category followed by small (30%) and big (10%) on the basis of land holding. This may be due to majority of the farmers who are using KMAS are only medium farmers. The study for annual income showed that 50% farmers belong to medium level income category followed by high (30%) and low (20%) level income category. The reason for varied income among different categories of the farmers, might be due to the size of the land holding, asset possession, involvement in allied activities and subsidiary occupations by the farmers.

Distribution of the respondents according to Knowledge level

It could be noted from Table 2 that 53.8% farmers indicated as Whats App was highly useful to gain agricultural based knowledge followed by medium (36.6%) and low

(9.6%) whereas, majority of the respondents who followed KMAS (48.6%) followed by medium (30.6%) and low (24.3%). This findings was similar to findings reported by *Kanavi & Jahagirdhar (2013)* and *Haradevinder Singh (2012)*

Distribution of the respondents according to Usefulness of Technology

It could be noted from Table 3 that 48.4% farmers indicated as Whats App was highly useful to them followed by medium useful (32.6%) and low (19%) useful whereas, majority of the respondents who followed KMAS belong to high (46.6%) and medium (32.6%) followed by low (20.8%) usefulness.

Areas covered through KMAS & Whats app are most relevant to them and with good educational background of the farmer's. This findings was similar to findings reported by *Bite, Deshmukh (2017).*

Table.1 Distribution of the respondent according to their personal and socio economic variables

S. No	Variable	Category	Frequency (N=100)	Percentage (%)	Rank
1	Age	Young (<=35)	10	10	II
		Middle (36-50)	83	83	I
		Old (>=50)	07	07	III
2	Education	Illiterate	01	01	VI
		Primary	04	04	V
		Middle	10	10	IV
		High School	28	28	II
		Intermediate	30	30	I
		UG/ PG	27	27	III
3	Land Holding	Small (<=1 ha)	30	30	II
		Medium (1-2 ha)	60	60	I
		Big (>=2 ha)	10	10	III
4	Income	Low (>= 50000)	20	20	III
		Medium (50000-100000)	50	50	I
		High (>100000)	30	30	II

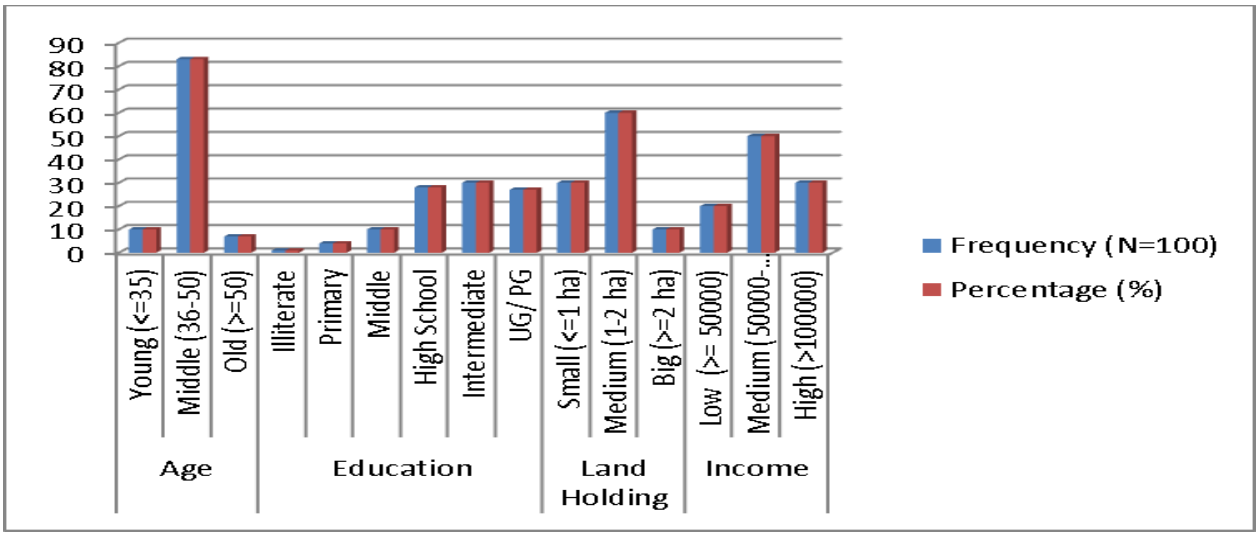


Table.2 Distribution of the respondents according to Knowledge level

S. No	Particulars	Whats App (N= 50)						KMAS (N= 50)					
		High		Medium		Low		High		Medium		Low	
		Frq	%	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
1	Land Preparation/ Improve Farm Condition	30	60	15	30	05	10	23	46	20	40	07	14
2	Soil Test	32	64	13	26	05	10	32	64	10	20	08	16
3	Seed Availability & Variety	23	46	23	46	04	08	34	68	11	22	05	10
4	Seed Treatment	18	36	27	54	05	10	05	10	11	22	34	68
5	Sowing Method	24	48	19	38	07	14	21	42	19	38	10	20
6	Nursery Management	30	60	17	34	03	06	17	34	22	44	11	22
7	Nutrient Management	30	60	16	32	04	08	29	58	17	34	04	8
8	Weed Management	24	48	21	42	05	10	27	54	19	38	04	8
9	Plant Protection Measures	36	72	08	16	06	12	38	76	10	20	02	4
10	Post-Harvest Management	22	44	24	48	04	08	17	34	14	28	19	38

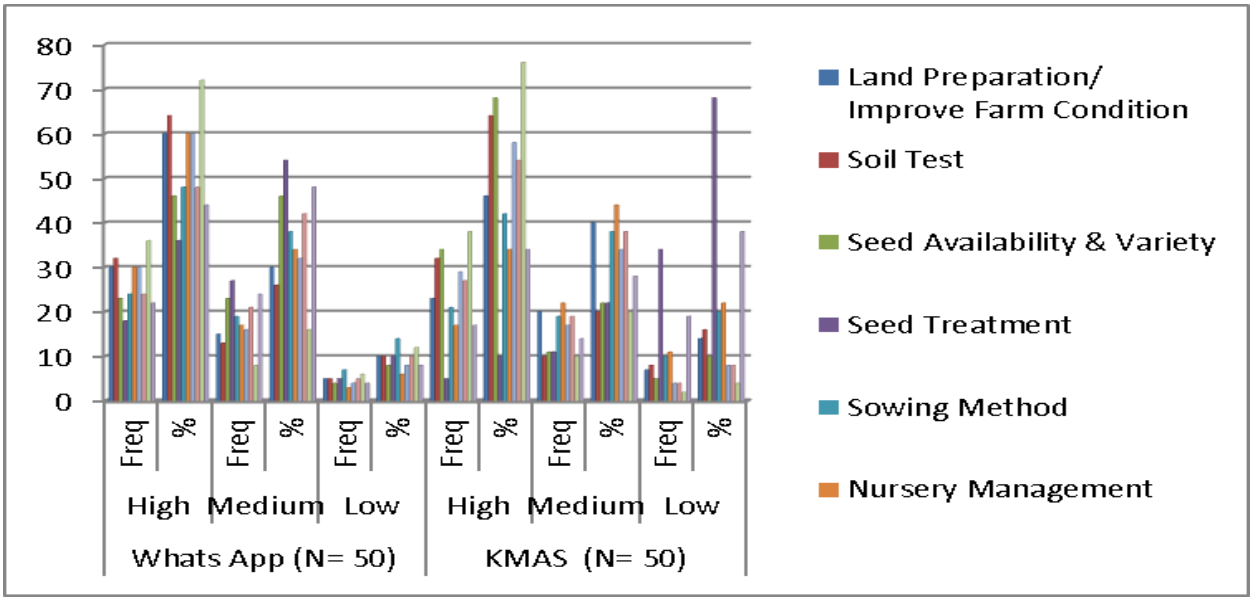


Table.3 Distribution of the respondents according to Usefulness of Technology

S. No	Particulars	Whats App (N= 50)						KMAS (N= 50)					
		High		Medium		Low		High		Medium		Low	
		Frq	%	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
1	Land Preparation/ Improve Farm Condition	24	48	21	42	5	10	21	42	19	38	10	20
2	Soil Test	31	62	10	20	9	18	27	54	10	20	13	26
3	Seed Availability & Variety	33	66	11	22	6	12	31	62	13	26	6	12
4	Seed Treatment	7	14	19	38	24	48	6	12	17	34	27	54
5	Sowing Method	21	42	17	34	12	24	20	40	19	38	11	22
6	Nursery Management	16	32	23	46	11	22	17	34	25	50	8	16
7	Nutrient Management	27	54	19	38	4	8	29	58	17	34	4	8
8	Weed Management	29	58	17	34	4	8	31	62	18	36	1	2
9	Plant Protection Measures	35	70	13	26	2	4	33	66	12	24	5	10
10	Post-Harvest Management	19	38	13	26	18	36	18	36	13	26	19	38

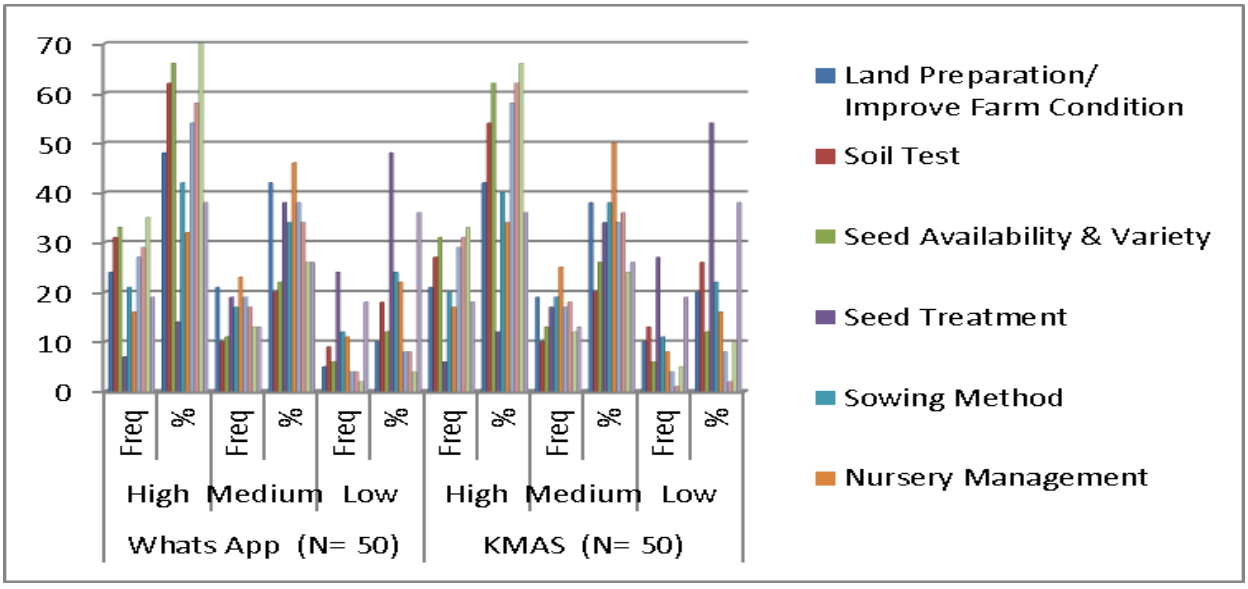


Table.4 Distribution of the respondents according to Adoption of technology

S. No	Particulars	Whats App (N= 50)						KMAS (N= 50)					
		High		Medium		Low		High		Medium		Low	
		Frq	%	Frq	%	Frq	%	Frq	%	Frq	%	Frq	%
1	Land Preparation/ Improve Farm Condition	29	58	17	34	4	8	26	52	13	26	11	22
2	Soil Test	23	46	13	26	14	28	23	46	17	34	10	20
3	Seed Availability & Variety	27	54	15	30	8	16	21	42	16	32	13	26
4	Seed Treatment	11	22	17	34	22	44	13	26	19	38	18	36
5	Sowing Method	23	46	19	38	8	16	19	38	15	30	16	32
6	Nursery Management	26	52	21	42	3	6	21	42	22	44	7	14
7	Nutrient Management	27	54	21	42	2	4	23	46	23	46	4	8
8	Weed Management	30	60	19	38	1	2	29	58	17	34	4	8
9	Plant Protection Measures	34	68	11	22	5	10	31	62	11	22	8	16
10	Post-Harvest Management	19	38	13	26	18	36	20	40	13	26	17	34

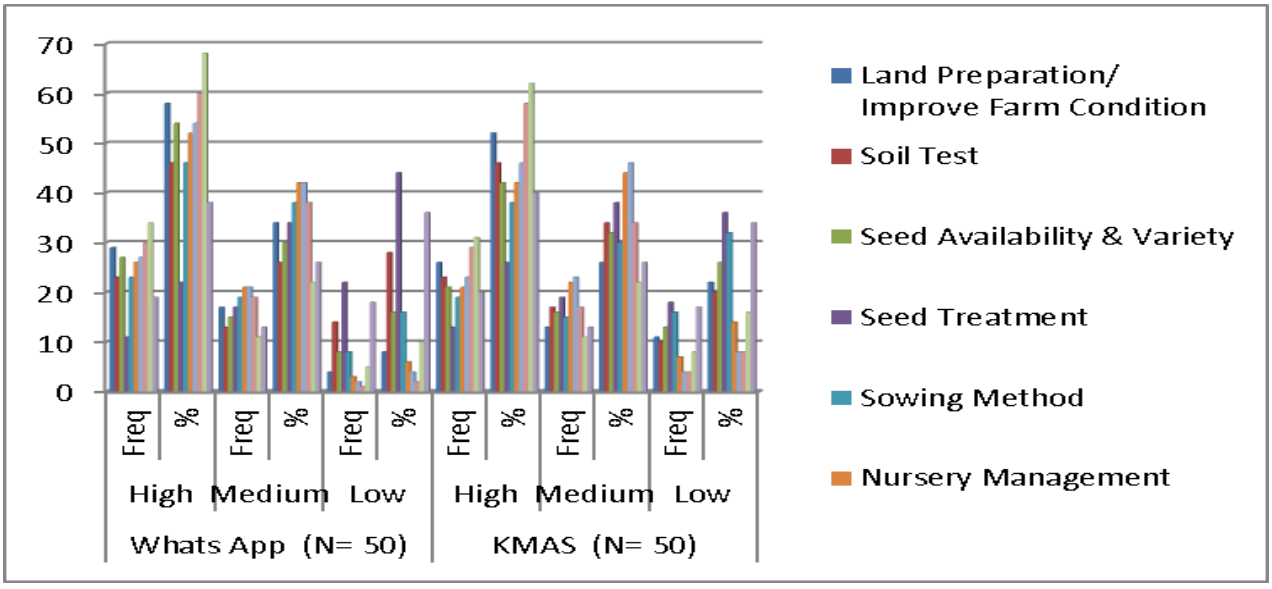
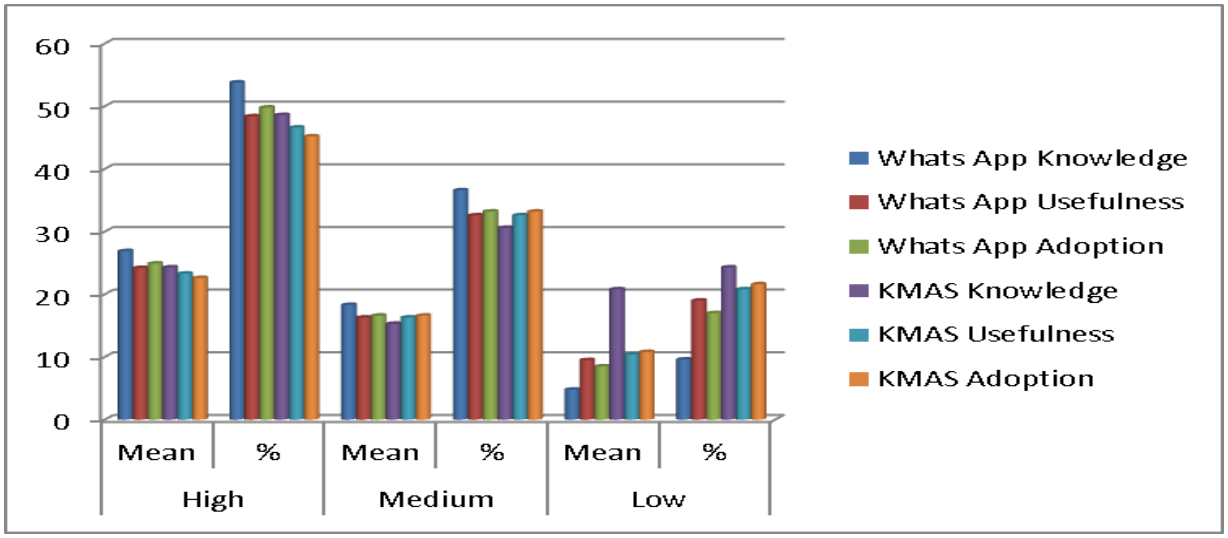


Table.5 Distribution of the respondents according to Overall Impact of Technology

Particulars	Category	High			Medium			Low		
		Mean	%	Rank	Mean	%	Rank	Mean	%	Rank
Whats App	Knowledge	26.9	53.8	I	18.3	36.6	I	4.8	9.6	III
	Usefulness	24.2	48.4	III	16.3	32.6	III	9.5	19	I
	Adoption	24.9	49.8	II	16.6	33.2	II	8.5	17	II
KMAS	Knowledge	24.3	48.6	I	15.3	30.6	III	20.8	24.3	I
	Usefulness	23.3	46.6	II	16.3	32.6	II	10.4	20.8	III
	Adoption	22.6	45.2	III	16.6	33.2	I	10.8	21.6	II



Distribution of the respondents according to Adoption of technology

It could be noted from Table 3 that 48.4% farmers indicated as Whats App was highly useful for adoption of technology to them. Majority (49.8%) followed by medium useful (33.2%) and low (17%) useful whereas, majority of the respondents who followed KMAS for technology adoption were belong to high (45.2%) and medium (33.2%) followed by low (21.6%).

Subject areas covered in KMAS & Whats app are most relevant to them and with good educational background of the farmer,s they are very much interested in the new technologies disseminated through KMAS and Whats App by KVK, Burhanpur. This findings was similar to findings reported by *Kuppuswamy, Narayan (2010).*

Distribution of the respondents according to Overall Impact of Technology

The Table 5 indicates that Whats App technology imposes high impact on 53.8% on knowledge followed by 49.8% on adoption and 48.4% on usefulness whereas, KMAS technology imposes high impact on knowledge (48.6%) followed by usefulness (46.6%) and adoption (45.2%). This finding shows that farmers applied the technology sent through KMAS and Whats App as they found the information useful. Similar results were found by *Tayade, et al., (2011), Parganiha et al., (2012)* and *Sarvesh Kumar et al., (2014).*

The information given through ICT & social media is very useful for farming community and timely solve farmer query through what's app. Farming community accept this technology for gaining technical knowledge for better production. Most of the farmers were satisfied with the use of information sharing app. The results revealed that recommendation of this app should be expanded by the farmers for effective communication between scientist/ expert-farmers as well as farmers-farmers. But there are some problems which were faced by the farmers were that they do not use Whats app regular due to lack of sufficient balance and network connectivity problems in some of the villages. The study also indicates that KMAS messages were highly useful and having high impact on beneficiaries. Thus, KMAS was found the novel & innovative step to transform the present agricultural information communication system at grass-root level to educate the farmers, extension workers or field workers on regular basis as per grand level development. This is also very effective tool for sending do's & don'ts to the farmers at the time of any emergencies or contingencies like disease epidemics, floods, draught or under extreme weather situation. The study further concludes that a majority of famers have a positive attitude towards the use of social media in seeking agricultural information hence the assumption that social media is largely beneficial as a source of agricultural information and that it is also cheap and convenient.

References

Bite. B.B, Deshmukh. A.A. 2017. A study on role of social media in agriculture marketing and its scope. Global Journal of management and business research: E-Marketing. Vol.17, Ver.1.0, PP.33-36.

Chattopadhyay, B.N., 2004. Value Added e-learning for Quality Extension Education, Presented and Published in the Resource Document of the ICAR Sponsered Winter School on "Advanced Extension Strategies for Agricultural Management with Quality Issues" during 17th November to 16th December, 2004 at BCKV, Kalyani, India.

Diekmann, F., C. Loibl, & M. T. Batte. 2009. "The Economics of Agricultural Information: Factors Affecting Commercial Farmers' Information Strategies in Ohio." Review of Agricultural Economics 31 (4): 853–872.

Hardevinder, S., Gurdeep, S. and Jagadish, G., 2012. Analysis of Kisan Mobile Advisory Service in South Western Punjab, J. Krishi Vigyan., pp. 1-4

Kanavi & Jahagirdar, 2016. Usefulness of Kisan Mobile Advisory Services (KMAS) by the farmers in Dharwad and Gadag district of Karnatak. Journal of Global Communication, Vol. 9, 215-223.

Kipkurgat. T, Onyiego. M and Chemwaina. S, 2016. Impact of social media on agricultural extension in Kenya: a case of kesses district. International Journal of Agricultural Extension and Rural Development Studies Vol.3, No.1, pp.30-36.

Kumar. S, Singh SRK, Sharma R.C., 2014. Impact of Kisan Mobile Advisory Service on Transfer of Agricultural Tecnologies, International J. of Exten. Edu. Vol. 10: 70-72.

Kuppuswamy. S, Narayan. P 2010. The impact of Social Networking websites on the education of youth. IJVCSN, vol. 2(1), 67-79.

Nithya Shree, Devendrappa and Nagnur Shobha 2013. Impact of KCRS

Programmes on Science for Women Health and Nutrition. J. of Global Communication, Vol. 6(2): 116-119.

Omprakash Parganiha; S.K. Shrivastava; A.K. Chaubey and J.L. Nag. 2012. Impact of KMA on Agricultural Technology Dissemination. Indian. R. J. Ext.Edu., special issue volume-II, 175-178.

Subhashsingh, P., Bharat, M. and Rai, D. P., 2010. Sustainable models of Information Technology for agriculture and rural development. Indian Res. J. Ext. Edun., 10(1), 20-23.

Swaminathan, M.S. 2005. Rural Knowledge Revolution: A Road Map, The Hindu, 9th July, 2005, New Delhi.

Tayade. A, *ET AL.*, 2011. Information & Communication technology used by the scientists in KVK & regional research centre, Journal of Global Communication. Vol. 4(1), 16-26.