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Sarita
PhD Research Scholar, Department of Extension Education and Communication Management, College of Home Science, CS Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh, India

Dr. Sangeeta Gupta
Assistant Professor, Department of Extension Education and Communication Management, College of Home Science, CS Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh, India

Dr. Neelma Kunwar
Associate Professor, Department of Extension Education and Communication Management, College of Home Science, CS Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh, India

Corresponding Author:
Sarita
PhD Research Scholar, Department of Extension Education and Communication Management, College of Home Science, CS Azad University of Agriculture and Technology, Kanpur, Uttar Pradesh, India

Role of online communication in disseminating the agri-based information for rural community

Sarita, Dr. Sangeeta Gupta and Dr. Neelma Kunwar

Abstract
The present study entitled, "Role of Online Communication in Disseminating the Agri-based information for Rural Community." was undertaken in the year August 2019- February 2020. In this study two types of organizations, government and private are running the online communication services in the state. One center, each from both types of organizations was selected randomly. District Kanpur Nagar was purposively selected. Two blocks was selected randomly from the selected district. So from selected blocks twelve villages selected on random basis from each village, 25 farmers randomly selected. Thus total 300 farmers from all the selected villagers were chosen for study which was using different on-line information services. Most of the on-line information users belonged to 31 to 40 age group majorities of them were male members, mostly on-line users were educated up to primary and high school and most of them were belonged to OBC having annual income between Rs. 50001 to Rs. 150000. Mostly farmers belonged to small and marginal size of land holding.
The relevance of information provided by the private services was higher than the information provided by the government services. Both private and government services provide deliver the information timely. The overall effectiveness of the private on-line communication services has been found more than the government online communication services.

Keywords: Agri-based information, dissemination, on-line, communication, rural community

Introduction
The role of online communication is to develop agriculture research, education and extension to improve quality of life in rural area. In recent years there has been a great revolution in the world in online communication. For increasing the effectiveness of extension work online communication has proved to be a very effective tool. It supports new methods for precision in agriculture like computerized farm machinery that applies for fertilizers and pesticides. Farm animals are fed and monitored by electronic sensors and identification systems. Selling or buying online began to become popular in the world. However, it's most important role remains communication and the Internet has provided us with an ideal opportunity to do so.

Objectives
1. To study the socio-economic status of farmers using on-line communication services.
2. To find out the role of government and private interventions in on-line communication services.

Research methodology
To complete the above objectives, by employing the appropriate research methodology, the study was conducted in district Kanpur Nagar during the year August 2019- February 2020. In this study two types of organizations, government and private are running the online communication services in the state. One center, each from both types of organizations was selected randomly. District Kanpur Nagar was purposively selected. Two blocks was selected randomly from the selected district. So from selected blocks twelve villages selected on random basis from each village, 25 farmers randomly selected. Thus total 300 farmers from all the selected villagers were chosen for study which was using different on-line information services. Dependent and independent variables, namely awareness, opinion and constraints of farmers about online communication and age, caste, education, religion, occupation, type of family, size of family, annual income etc. the data so collected were subjected to analyses for which statistical tools, such as percentage, weighted mean, rank, standard deviation, chi-square, correlation coefficient were used.

Results and Discussion

Table 1: Distribution of farmers according to age group

Age group	Government		Private		Total	
	N	Mean ± SD	N	Mean ± SD	N	Mean ± SD
Up to 30 years	14 (9.3)	29 ± 2	27 (18.0)	28 ± 2	41 (13.6)	28 ± 2
31 to 40 years	56 (37.3)	36 ± 3	61 (40.7)	35 ± 3	117 (39.0)	36 ± 3
41 to 50 years	60 (40.0)	45 ± 3	50 (33.3)	44 ± 2	110 (36.7)	45 ± 3
51 and above	20 (13.3)	56 ± 3	12 (8.0)	57 ± 3	32 (10.7)	56 ± 3
Total	150 (100.0)	42 ± 8	150 (100.0)	39 ± 8	300 (100.0)	40 ± 8
χ^2	7.845*					P<0.05

N = 300

The perusal of table 1 reveals the distribution of farmers according to age group, maximum 40.0 per cent of farmers belonged to age group of 41 to 50 years with mean age 45 years and SD 3 years, 37.3% of farmers belonged to age group of 31 to 40 years with mean age 36 years and SD 3 years, 13.3% of farmers belonged to age group 51 years and above with mean age 42 years and minimum 9.3% of farmers were belong 30 years of age with mean age 29 years and SD 2 years taking agri-based information from government organizations. Maximum 40.7% of farmers belonged to age group of 31 to 40 years with mean age 35 years and SD 3 years, 33.3% of farmers belonged to age group of 41 to 50 years with mean age 44 years, 18.0% of farmers were having age up to 30 years with mean age 28 years and minimum only 8.0% of farmers belonged to 51 years and above age group with mean age 57 years in the research study area getting information from private organizations. The observed value of chi square was significant at 5% level of significance. Hence, age group plays an important role and is significantly associated with both interventions.

Thus, it can be concluded that most of the online communication services users were found to be in middle age group in both intervention government as well as private.

Table 2: Distribution of farmers according to land holding

Land holding	Government		Private		Total	
	N	%	N	%	N	%
Landless	7	4.7	7	4.7	14	4.7
Up to 2.5 acres (Marginal farmers)	82	54.7	69	46.0	151	50.3
2.5 to 5 acres (Small farmers)	59	39.3	54	36.0	113	37.7
5 acres & above (Large farmers)	2	1.3	20	13.3	22	7.3
Total	150	50.0	150	100.0	300	100.0
χ^2	2.371					p>0.05

N = 300

The perusal of data in table 2 reveals the distribution of farmers as per land holding size, 54.7% of farmers receiving information from government organization were having land up to 2.5 acres as a marginal farmers, 39.3% of them were having 2.5 to 5 acres land as a small farmers, 4.7% of them were landless and only 1.3% of farmers have 5 acres and above land. 46.0% of farmers who used on-line communication services were from private sector having land up to 2.5 acres, 36.0% of small farmers were having land between 2.5 to 5 acres, and 13.3% of farmers were having land of 5 acres and above as large farmers and only 4.7% of respondents were found to be landless in the research study area. The observed value of χ^2 was non-significant at 5.0% level of significance.

Thus, it can be concluded on the basis of above data that overall majority of the online communication service users were having small and marginal size of land holding and maximum number of online communication services users were marginal farmers.

Table 3: Role of government and private interventions of on – line communication services for farmers

S. No.	Statements	Government					Private					χ^2 b/w Govt. & Pvt.	P level
		Always	Sometimes	Never	Mean score	Rank	Always	Sometimes	Never	Mean score	Rank		
1.	E-agriculture facilitate the outreach of agricultural extension system in country	46.0	51.3	2.7	2.43	I	65.3	30.0	4.7	2.61	I	11.359**	<0.01
2.	Valuable and cheap information is available to farmers in less time	26.7	68.7	4.7	2.22	III	28.0	63.3	8.7	2.19	IV	2.172	>0.05
3.	Knowledge about advanced agricultural techniques is provided	24.7	55.3	20.0	2.05	IX	19.3	72.7	8.0	2.11	VII	12.205**	<0.01
4.	There has been an increase in crop yield per hectare due to adoption of appropriate farming techniques available online	18.0	66.0	16.0	2.02	X	19.3	41.3	39.3	1.80	XIII	23.334**	<0.01
5.	Provide knowledge about proper and easy handling of new technology	26.7	46.7	26.7	2.00	XI	28.7	61.3	10.0	2.19	IV	14.460**	<0.01

6.	Adoption of advanced irrigation techniques has reduced water wastage and increased crop productivity	27.3	59.3	13.3	2.14	VI	28.0	55.3	16.7	2.11	VII	0.777	>0.05
7.	Effective methods of pest and disease control available online have led to reduction in crop failure	24.7	39.3	36.0	1.89	XIV	22.0	58.0	20.0	2.02	X	12.456**	<0.01
8.	Farmers gain knowledge about market demand of various agri-products and grow crop accordingly	38.7	40.7	20.7	2.18	IV	29.3	45.3	25.3	2.04	IX	3.012	>0.05
9.	Farmers get information about various government subsidies and minimum support price for their crops	12.7	71.3	16.0	1.97	XII	21.3	39.3	39.3	1.82	XII	31.952**	<0.01
10.	It provides appropriate regulatory framework to ensure fair competition and maintain quality standards	31.3	54.7	14.0	2.17	V	33.3	58.7	8.0	2.25	III	2.759	>0.05
11.	It serve as a feedback mechanism for the policy makers	22.0	49.3	28.7	1.93	XIII	30.7	52.7	16.7	2.14	V	7.067*	<0.05
12.	Weather forecast helps farmers to protect their crops from upcoming dangers	25.3	58.0	16.7	2.09	VII	30.0	50.0	20.0	2.10	VIII	1.934	>0.05
13.	It has been working with farmers for making intervention for agricultural value chain	23.3	60.7	16.0	2.07	VIII	31.3	50.7	18.0	2.13	VI	3.280	>0.05
14.	It provides information regarding inputs to farmers	40.7	51.3	8.0	2.33	II	38.7	56.0	5.3	2.33	II	1.180	>0.05
15.	Farmers could seek expert advice on soil testing maintaining soil quality and crop rotation	14.7	72.7	12.7	2.02	X	12.0	76.0	12.0	2.00	XI	0.539	>0.05

N = 300

The perusal of table 3 reveals the role of government online communication service for farmers, 46.0% of farmers always and 51.3% of farmers sometimes access E-agriculture facilities to outreach the agriculture extension system in country with mean score 2.43 and rank I followed by 40.7% of farmers who always and 51.3% of farmers who sometime information regarding input to farmers with mean score 2.33 and rank II. 26.7 of farmers always and 68.7% of farmers sometimes used online communication services for valuable and cheap information with mean score 2.22 and rank III whereas 38.7% of farmers always and 40.7% of them sometimes gain knowledge about market demand of various agri-products and grow crop accordingly with mean score 2.18 and rank IV in the research study area. 31.3% of farmers always and 54.7% of them sometimes came across appropriate regulatory framework to ensure fair competition and maintain quality standards with mean score 2.17 and rank V whereas 27.3% of farmers always and 59.3% of them sometimes felt that adoption of advanced irrigation techniques has reduced water wastage and increased crop productivity with mean score 2.14 and rank VI. 25.3% of farmers always and 58.0% of them sometimes used online communication to know weather forecast that helped them to protect their crops from upcoming dangers with mean score 2.09 and rank VII while 23.3% of farmers always used online services for making intervention for agricultural value chain with mean score 2.07 and rank VIII. 24.7% of farmers always and 55.3% of them sometimes got knowledge about advanced agricultural techniques with mean score 2.05 and rank IX whereas 18.0% of farmers always and 66.0% of them sometimes got information by government about how to increase crop yield per hectare due to adoption of appropriate farming techniques which is available online and farmers seek expert advice on soil testing and maintaining soil quality and crop rotation with mean score 2.02 and rank X respectively. 26.7% of farmers always and 46.7% of them sometimes took knowledge about proper and easy handling of new technology with mean score 2.00 and rank XI whereas 12.7% of farmers always got online information about various government subsidies and minimum support price for their crops with mean score 1.97 and rank XII.

The role of private intervention providing online communication services for farmers, 65.3% of farmers always and 30.0% of sometimes communicated access E-agriculture facilities to outreach the agricultural extension system in country with mean score 2.61 and rank I followed by 38.7% of farmers who always and 56.0% of them sometimes took information regarding inputs with mean score 2.33 and rank II. 33.3% of farmers always and 58.7% of them sometimes got appropriate regulatory frame work to ensure fair competition and maintain quality standards in the research study area with mean score 2.25 and rank III whereas 28.0% of farmers always and 63.3% of them sometimes found valuable and cheap information in less time and knowledge about proper and easy handling of new technology through online communication with mean score 2.19 and rank IV respectively, 30.7% of farmers always and 52.7% of them sometimes used in to provide feedback for the policy makers in the study area with mean score 2.14 and rank V while 31.3% of farmers always and 50.7% of them sometimes used online services for making intervention for agricultural value chain with mean score 2.13 and rank VI. 19.3% of farmers always and 72.7% of them sometimes gained knowledge about advanced agricultural techniques and adoption of advanced irrigation techniques has reduced water wastage and increased crop productivity with mean score 2.11 and rank VII respectively whereas 30.0% of farmers always and 50.0% of them sometimes found that weather forecast helps farmers

to protect their crops from upcoming dangers with mean score 2.10 and rank VIII. 29.3% of farmers always and 45.3% of them sometimes got knowledge about market demand of various agri-products and grew crop accordingly with mean score 2.04 and rank IX whereas 22.0% of farmers always and 50.0% of them sometimes methods of pest and disease control online which lead to reduction in crop failure with mean score 2.02 and rank X. 12.0% of farmers always and 76.0% of them sometimes seeked advise on soil testing & maintaining soil quality and crop rotation with mean score 2.00 and rank XI while 21.3% of farmers always and 39.3% of them sometimes found information about various government subsidies and minimum support price for their crop with mean score 1.82 and rank XII. 19.8% of farmers always and 41.3% of them sometimes found method to crop yield per hectare by adoption of appropriate farming techniques online with mean score 1.80 and rank XIII in research study area.

The role of government and private intervention providing on-line communication services to farmers and their association test, E- agriculture facilitate the outreach of agriculture – extension system in country, knowledge about advanced agricultural techniques is provided, increase in crop yield per hectare due to adoption of appropriate farming techniques. Knowledge about proper and easy handling of new technology is available online, effective method of pest and disease control is available online which lead to reduction in crop failure and farmer get information about various subsidies and minimum support price for their crop which was found to be significant and associated at 1.0% level of significance between government and private interventions providing online communication services and agro-based information for rural community. Government and private intervention serve as a feedback mechanism for the policy maker which is associated significantly at 5.0% level. Valuable and cheap information is available to farmers in less time, adoption of advanced water wastage and increase in crop productivity due to proper information it, provide regularity framework to insure for competition and maintain quality standards, weather forecast help farmers to protect crop from upcoming changes, helps farmers for making intervention for agricultural value chain and provide information regarding inputs to farmers who can seek expert advice on soil testing, maintaining soil quality and crop rotation from both government and private intervention providing on line communication services which was non-significant at 5.0% level. So, farmers got same information with both interventions.

From this table it appears that online communication plays an important role in E-agriculture which services from both government and private interventions in the highest in the agricultural sector. E-agriculture promotes agricultural extension system in the country and also provides information regarding inputs i.e. seeds, insecticides and fertilizers. Similar findings were also reported by Jayade (2014) and Chauhan (2015) [1, 2].

Conclusion

Online communication and information dissemination is done free of cost. Answering of the questions through telephone help lines numbers, reply of question directly on farmers helps them a lot. Mostly farmers belonged to middle age group. Most of the farmers possessed to small and marginal size of land holding. The relevance of information provided by the private services was higher than the information provided by the government services. Both private and government services provide deliver the information timely. The overall effectiveness of the private on-line communication services has been found more than the government online communication services.

Recommendation and Suggestions

1. Mostly farmers are illiterate, the knowledge and skill of the farmers should be improved by training.
2. Extension works should be competent in imparting practical useful skill through effective and timely communication.
3. Farmers should give proper information and promotion about the use of android apps like iffco kisan app, agri app, plantix etc., so that they can easily get the technical information related to agriculture through online communication.
4. Farmers training camps should be organized like Kisan mela in the presence of agri-tech experts at district level, tehseel level to connect the farmers of rural environment with the mainstream of online agriculture technology.
5. Every village should be connected with broadband internet connection by the government, so that farmers get rid of the problem of poor internet speed and there is no problem in getting information about technical agriculture online.

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