Effectiveness of Agricultural Knowledge Disseminated on Social Media

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Abstract

Knowledge is a primary invisible input in the agriculture production process. Knowledge helps farmers in deciding on a wide range of farm activities, i.e., selecting the crop for production to final selling the produce. The agriculture research and extension institutes constitute a significant source of agricultural knowledge and information. They are using all information dissemination methods to bridge the information gap among farmers. Social media platforms are dominating agricultural information dissemination platforms at the field level. The present study is conducted to study the effect of agricultural information on farmers' knowledge levels. The Ex-post facto research design was adopted for the study with a sample of 120 respondents, covering all three erstwhile districts from the Southern Telangana Zone of Telangana state.

Keywords: Social Media, Agricultural Knowledge Management, Agricultural Information.

Introduction

The present age is termed as Information age, where information is treated as a vital and powerful tool of socio-economic development, no less important than land, labor, and capital towards the empowerment of people towards attaining sustainable development. Sustainable development depends on attitude towards information, information sharing, and proper

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information consumption. (Sinha, 2018). ICAR institutes, SAU's, the Ministry of Agriculture and Farmers Welfare, GOI, state departments of agriculture, Ministry of Rural Development, state development departments, and voluntary organizations are the institutes that carry out first-line extension work in India. The extension worker to farmer ratio is low in India, which may be one of the main reasons for the delay in reaching the latest farm information.

Therefore, the information delivered by extension agents should be need-based. It is impossible with the traditional extension system, as farmers are spread in large areas and located in distant locations. Traditionally, agricultural information dissemination was dominated by mass media channels, i.e., newspapers, radio, television, and farm magazines, to reach many farmers. The way of communication is changing day by day, and the advancement in Information Communication Technologies (ICTs) revolutionized communication. However, technology awareness and digital literacy have been increasing among farming communities in all demographics in recent years. Various forms of social media are being used more and more by farmers searching for news, education, and other information in day-to-day life for agricultural development.

Social media is one of the latest ICT technologies that revolutionized the way of communication in the 21st century. Its usage is inevitable in the current decade, and agriculture is not an exception. Social media usage made communication faster, cheaper, and timely information to receivers. WhatsApp, Facebook and YouTube are more familiar at the field level among all social media platforms; extension personnel should develop content accordingly to reach farmers more effectively through these social media platforms (Sandeep et al.).Social media platforms like WhatsApp were familiar in the field level to connect farmers with other farmers and local extension personnel. Networking platforms like Facebook are familiar with connecting farmers' networks, and YouTube channels disseminate significant amounts of farm information in video format to benefit the farm community. With this brief background, the research is taken to study the

effectiveness of agricultural information disseminated through social media platforms regarding the extent of knowledge on agricultural technologies disseminated through selective social media platforms.

Methodology

Ex-post-facto research design was adopted for the investigation, and data was collected in 2020. The Southern Telangana Zone (STZ) was selected purposively based on the teledensity. The Southern Telangana Zone was purposively selected based on the pre-research visit, teledensity, and farmer population. All three districts of the Southern Telangana Zone were selected purposively for the study. All three viz., Mahaboobnagar, Nalgonda, and Rangareddy (Erstwhile districts), were selected for the study. Two mandals from each district were selected randomly, and two villages from each Mandal were selected using a simple random sampling procedure. For the last three years, ten farmers were selected purposively from each village based on having active accounts on selected social media platforms (YouTube, Facebook, and WhatsApp).

Thus, the total sample constitutes the sample size of one hundred and twenty (120) farmers. Knowledge is generally understood as an intimate acquittance of an individual with facts. Knowledge is a body of understood information possessed by an individual or culture. Knowledge plays a vital role in an individual's covert and overt behavior. (English and English). In the present study, the extent of knowledge was operationalized as the degree of production technologies of agriculture (Crop production, crop protection, agriculture marketing, climate-resilient agriculture, post-harvest management, and government policies) known to respondents using social media as a source for an agriculture information source. The extent of knowledge level data was collected with the help of personnel interviews conducted during 2020. The respondents were categorized into low, medium, and high by their respective score percentages. Based on the scores obtained on 35 items of five different categories of agricultural production technologies, knowledge percentages (obtained score/total score X 100) were calculated, and ranks were given accordingly.

Distribution of respondents based on their extent of knowledge of agriculture technologies

From Table 1, it can be observed that the majority of the respondent's levels of the extent of knowledge before intervention with social media is found to be low (72.50%), followed by medium (26.67%) and high (0.83). In comparison, the majority (51.70%) of the respondents had a low level of extent of knowledge followed by medium (42.50%) and high (5.80%) after the intervention to social media.

Table-1 Distribution of Respondents According to their Extent of Knowledge

S. No	Extent of knowledge	Before intervention (n = 120)		After intervention (n = 120)	
		F	%	F	%
1.	Low (Up to 33.33%)	87	72.50	62	51.70
2.	Medium (33.33 - 66.66%)	32	26.67	51	42.50
3.	High (Above 66.66%)	1	0.83	7	5.80
	Total	120	100.00	120	100.00

Difference between the extent of knowledge of respondents before and after the intervention to social media

It was evident from Table 2 that the calculated 'Z' value (8.76) was more significant than the table 'Z' value at 0.01 level of probability. It could be concluded that there exists a difference between the extent of knowledge on agriculture technologies before and after the intervention on social media platforms. It can be depicted that farmers using social media gained knowledge of agriculture technologies by using social media. The results are in agreement with Madan (2017).

Table-2 Difference between the extent of knowledge of respondents before and after intervention to social media (n = 120)

S.No	Category	Size of sample	Mean	S.D.	'Z' Value
1.	After intervention	120	60.39	9.05	8.76**
2.	Before intervention	120	49.96	9.40	

Distribution of respondents according to their extent of knowledge in each category before intervention with social media

To determine the extent of knowledge had by respondents, knowledge is divided into five categories. In each category, the respondents were grouped into low, medium, and high levels of the extent of knowledge groups based on the percentages in each group by using the class interval technique. The analyzed data contained in Table 3 revealed that (50.84%) of the respondents had medium-level knowledge of production technologies and practices, followed by low levels (48.33%) and high (0.83%). The knowledge percentage attained was 35.21; hence this category was accorded the first position in the order. The results further indicate that (65.00%) of the respondents had low-level knowledge of post-harvest, schemes, and modern concepts, followed by medium (34.17%) and high (0.83%). The knowledge percentage attained was 25.83; hence this category was accorded the second position.

Regarding the protection technologies and practices, it was observed that (80.00%) of respondents have a low level of extent of knowledge followed by a medium (20.00%). The knowledge percentage obtained was 13.10; this category was ranked third in the order. Regarding the extent of knowledge on climate-resilient agriculture technologies and practices, it was observed that the majority (85.84%) of respondents were had a low level of knowledge followed by medium (13.33%) and high (0.83%). The obtained knowledge percentage was 12.92; Hence, this category was the fourth position. The study further indicated that (84.20%) of the respondents had insufficient knowledge of the agriculture market, followed by medium (15.80%). The

knowledge percentage obtained was 10.24; hence this category was accorded the fifth position in the order. Therefore, it can be concluded that nearly three by four of the respondents had a low level of the extent of knowledge, and one by fourth had a medium level before intervention with social media. The possible reason could be that most of the respondents were young and had low farming experience.

Table-3 Distribution of respondents according to their extent of knowledge before intervention with social media (n = 120)

S. No	Categories	Groups	C.I.	F	%	Knowledge percentage	Rank
1.	Crop Production technologies (Items-10)	Low	<33.33%	58	48.33	35.21	I
		Medium	33.33-66.66%	61	50.84		
		High	>66.66%	1	00.83		
2.	Crop protection (Items-7)	Low	<33.33%	96	80.00	13.10	III
		Medium	33.33-66.66%	24	20.00		
		High	>66.66%	00	00.00		
3.	Agriculture marketing (Items-7)	Low	<33.33%	101	84.20	10.24	V
		Medium	33.33-66.66%	19	15.80		
		High	>66.66%	00	00.00		
4.	Climate resilient agriculture practices (Items-4)	Low	<33.33%	103	85.84	12.92	IV
		Medium	33.33-66.66%	16	13.33		
		High	>66.66%	1	00.83		
5.	Post-harvest management and government policies (Items-7)	Low	<33.33%	78	65.00	25.83	II
		Medium	33.33-66.66%	41	34.17		
		High	>66.66%	1	00.83		

Distribution of respondents according to their extent of knowledge in each category after the intervention to social media

The analyzed data contained in Table 4 indicates that 72.50 percent of the respondents had medium-level knowledge of post-harvest, schemes, and modern concepts, followed by low (25.00%) and high (2.50%). The knowledge percentage attained was 43.69; hence this category was accorded the first position. The study further revealed that 85.00 percent of the respondents have medium-level knowledge of production technologies and practices, followed by low (11.70%) and high (3.30%). The knowledge percentage attained was 42.50; hence this category was accorded the second position in the order. Regarding the protection technologies and practices, it was observed that 58.40 percent of respondents have a low level of extent of knowledge, followed by medium (35.80%) and high (5.80%). The knowledge percentage obtained was (35.24%) and hence this category was ranked the third position in the order.

Regarding the extent of knowledge of climate-resilient agriculture technologies and practices, it was observed that the majority (67.50%) of respondents had a low level of knowledge followed by medium (29.20%) and high (3.30%). The obtained knowledge percentage was 26.98; hence this category was the fourth position. The study further indicated that 70.00 percent of the respondents had insufficient knowledge of the agriculture market, followed by medium (28.30%) and high (1.70%). The knowledge percentage obtained was 26.31; hence this category was accorded the fifth position in the order. Therefore, it can be concluded that nearly half of the respondents had medium to high-level knowledge, and the rest half had a low extent of knowledge after the intervention with social media.

Table-4: Distribution of respondents according to their extent of knowledge after the intervention to social media (n = 120)

S. No	Categories	Groups	C.I.	F	%	Knowledge percentage	Rank
1.	Crop Production technologies (Items-10)	Low	<33.33%	14	11.70	42.50%	II
		Medium	33.33-66.66%	99	85.00		
		High	>66.66%	4	3.30		
2.	Crop protection (Items-7)	Low	Below 33.33%	70	58.40	35.24%	III
		Medium	33.33-66.66%	43	35.80		
		High	>66.66%	7	5.80		
3.	Agriculture marketing (Items-7)	Low	<33.33%	84	70.00	26.31%	V
		Medium	33.33-66.66%	34	28.30		
		High	>66.66%	2	1.70		
4.	Climate resilient agriculture practices (Items-4)	Low	<33.33%	81	67.50	26.98%	IV
		Medium	33.33-66.66%	35	29.20		
		High	>66.66%	4	3.30		
5.	Post-harvest management and government policies (Items-7)	Low	<33.33%	30	25.00	43.69%	I
		Medium	33.33-66.66%	87	72.50		
		High	>66.66%	3	2.50		

Conclusion

Hence, from the above results, it could be inferred that there is increase in farmers' knowledge after intervention than before intervention to social media. The extension system of SAUs and the department of agriculture can work on content development and disseminate information to farmers on social media platforms. The probable reason for farmers' low and medium knowledge on agriculture production technologies may be poor

knowledge about agriculture marketing and plant protection. Agricultural marketing and plant protection are the primary areas where the farmers lack the knowledge and extension system can focus more on disseminating MSP of different crops, availability of agriculture inputs, and market news for better fetching of price for the produce. Provision of more local weather information about pest and disease incidence, selective plant protection practices with an accurate dosage of application and information on the advantage of soil test-based application to farmers will help better overall management in producing optimum yield from the field.

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