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Feasibility of agricultural advisory services through SMS to the farmers of Pratapgarh district

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Abstract
Farmer Portal is a part of the ICT tools employed by the most of the Krishi Vigyan Kendra's of India. In the district about 2269073 farmers got the text SMSs from July 2017 to June 2018 through the farmer portal of Krishi Vigyan Kendra, Pratapgarh. The usual messages are timely information/ advices communicating as per the need of the situation. The study was conducted in district Pratapgarh in year 2017 – 18, where Krishi Vigyan Kendra is involved in transfer of technology through farmer's portal. From the study it was observed that maximum SMS send regarding Plant protection techniques which was got rank I, followed by Crop production (II), Sanitation message (III), Integrated nutrient management (IV), Weather information (V) etc. It was also observed that 60.83 per cent SMS related to plant protection perceived as 'very much useful' (60.83%), followed by crop production (59.17 %) of farmers perceived as SMSs were 'most useful' for improving the agriculture knowledge. Majority (57.50 %) of farmers perceived as SMSs were very much useful for integrated weed management. This study has shown that a majority of the farmers perceived information on pest and disease control as most important and least important message is agricultural implement. They also felt that accessing information through mobile phone is easy and convenient.

Keywords: SMSs, mobile phone, KVK, information and communication technology (ICT)

Introduction
Mobile phone technology has penetrated to such a large extent in India today; it is the primary mode of communication for many farmers. Mobile phones emphasize the importance of two way communication need and potential for customized information. Farmers require a wide range of continuous and reliable information on the best types of seed varieties, weather forecast, best cultivation practices, market information and logistical information throughout the growing season.

The 'Task Force on India as Knowledge Superpower' (GOI, 2001) [1] emphasized the necessity of developing the capacity to generate, absorb, disseminate and protect knowledge and exploit it as a powerful tool to derive societal transformation. Recent developments in information and communications technology (ICT) offer a great opportunity to facilitate the flow of information and technology services delivery especially to the farmers (Maningas, 2006) [3]. It is comprehensible that on the one hand agriculture is becoming highly science driven and knowledge intensive, but on the other hand the existing public extension system has become less effective, more time consuming and costly and fails to meet the expectations of those involved in agricultural production. The use of ICT is an important pillar of agriculture extension and in the current scenario of a rapidly changing world has been recognized as an essential mechanism for delivering knowledge (information) and advice as an input for modern farming (Jones, 1997) [2]. For this, extension has to play expanded role including improved access to markets, research, advice, credit, infrastructure, development of farmer organization and business development services (Sulaiman, 2003) [5]. While involving in farming operations, farmer's need for different types of information during each stage of the development process, ranging from weather forecasts, pest attacks, inputs, cultivation practices, pest and disease management and prices (Jenny, 2011) [7]. However, Marcel and Bart (2012) [9] reported that the main source of information for agricultural prices, weather forecast and advice on agricultural practice is the farmer's own observation and experimentation followed by a conversation with other farmers. Radio and television are also common sources of information particularly for weather aspects. Majority of farmers in India do not have access to any source of information.

Information and communication technologies (ICTs) these days play a crucial role in agricultural extension services meeting the information requirement for farmers. There are several organizations extensively using modern information technology in India to promote communication between researchers, extension workers and their farmer clients to transfer of technologies and information more effectively (Saravanan, 2010; Kameswari, 2011; Nikulsinh, 2010) [11, 8, 10]. In this context, a study has been planned with the objectives of to study the usefulness of KMAS by the Farmers.

Methodology

Ex post – facto' research design was used for the present study. Pratapgarh district was selected purposively because of the Raja Dinesh Singh Krishi Vigyan Kendra mainly focused by sending the SMS from farmer portal are involved in transfer of technology through KMAS in Pratapgarh district. From the district three blocks were selected randomly. From each block four villages were selected randomly and from each village 10 respondents were selected randomly. Thus, in total 120 farmers were selected, as the respondents for this study. Farmers who received the SMS from the portal select as the respondents. A pre-tested structured interview schedule was developed for the data collection. Data were collected by the personnel interview from the respondents. The data were analyzed using appropriate statistics tool (Frequency, percentage, mean and standard deviation) and make appropriate result for that.

Result and Discussion

Table 1: Distribution of the information pattern sends by the KVK through farmer portal in 2017-2018

S. No.	Type of information	Number of message	No. of Beneficiaries	Rank
1	Plant protection techniques	11	309798	I
2	Crop production practices	6	233413	II
3	Sanitation Message	5	233057	III
4	Integrated Nutrient management	4	232749	IV
5	Weather information	3	215678	V
6	Soil Health	4	208870	VI
7	Fruit production	2	168907	VII
8	Vegetable production practices	2	156157	VIII
9	Awareness message	2	145630	IX
10	Soil Testing	3	134081	X
11	Animal husbandry practices	1	76844	XI
12	Integrated weed management	3	56789	XII
13	ICT	1	47947	XIII
14	Residue management	1	27135	XIV
15	Agricultural implement	1	22018	XV

It is evident from table 1 that SMS related to plant protection techniques was ranked first by the respondents because farmers were not aware about appropriate plant protection measure of the crops. Second most important SMS was crop production practices perceive by the farmers because rice-wheat cropping pattern exist in the locality and farmers want information about this pattern. Third most important SMS was sanitation related message perceived by the farmers because sanitation practices is the most important practices for reducing animal as well as human health problem from the surrounding area. SMS related to integrated nutrient management (fourth) perceived by the farmers, followed by weather information ranked fifth, Soil Health ranked sixth, fruit production ranked seventh, vegetable production practices ranked eighth, awareness message ranked ninth, soil testing ranked tenth, animal husbandry practices ranked eleventh, integrated weed management ranked twelfth, ICT ranked thirteenth, residue management ranked fourteenth and agricultural implement ranked fifteenth according to importance of message which was communicated as per the need of the farmers.

Table 2: Distribution of the respondents according to usefulness of the information received through farmer portal as perceived by the farmers (n=120)

S. No.	Type of information	Very much useful	Useful	Partially useful	Not at all useful
1	Plant protection techniques	73 (60.83)	29 (24.17)	17 (14.17)	1 (0.83)
2	Crop production practices	71 (59.17)	33 (27.50)	16 (13.33)	0 (0.00)
3	Integrated weed management	69 (57.50)	31 (25.83)	13 (10.83)	7 (5.83)
4	Weather information	67 (55.83)	31 (25.83)	17 (14.17)	5 (4.17)
5	Vegetable production practices	63 (52.50)	33 (27.50)	18 (15.00)	6 (5.00)
6	Integrated Nutrient management	57 (47.50)	39 (32.50)	21 (17.50)	3 (2.50)
7	Soil Health	55 (45.83)	37 (30.83)	19 (15.83)	9 (7.50)
8	Awareness message	54 (45.00)	29 (24.17)	21 (17.50)	16 (13.33)
9	Sanitation Message	53 (44.17)	41 (34.17)	16 (13.33)	10 (8.33)
10	Soil Testing	51 (42.50)	43 (35.83)	19 (15.83)	7 (5.83)
11	Fruit production	49 (40.83)	43 (35.83)	23 (19.17)	5 (4.17)
12	Animal husbandry practices	47 (39.17)	44 (36.67)	23 (19.17)	6 (5.00)
13	Residue management	47 (39.17)	39 (32.50)	23 (19.17)	11 (9.17)
14	Agricultural implement	43 (35.83)	45 (37.50)	22 (18.33)	10 (8.33)
15	ICT	41 (34.17)	51 (42.50)	11 (9.17)	17 (14.17)

*Figures in parentheses indicate percentage

From the above table, it implied that the 60.83 per cent of respondents reported that they most of time got the very useful plant protection techniques related SMS. While, 24.17 per cent respondents reported it as useful and 14.17 per cent perceived partially useful. Whereas only 0.83 per cent said that the SMS was not at all useful because farmer also want the information about plant disease and insect pest control measure methods from the KVK. In case of crop production practices 59.17 per cent respondents were falls in very useful category, followed by 27.50 per cent useful and 13.33 per cent partially useful. In case of integrated weed management about 57.50 per cent of respondents reported that they most of the time perceived it as very useful because most of the farmers were busy in their agricultural practices because agriculture was their main occupation so they had not sufficient time to waste in travel for accessing information from distant sources. While 25.83 per cent reported it as useful because they traveled sometime whenever free. Whereas 10.83 per cent respondents report it as a partially useful because they were very curious to know new things so they took time for perceiving information from the KVK. Only 5.83 percent respondents reported it as not at all useful. Weather information was very useful as 55.83 per cent respondents reported that, it was followed by 25.83 per cent respondents who reported it as useful and 14.17 per cent partially useful. Only 4.17 per cent respondents reported it as not at all useful. 52.50 per cent respondents reported about vegetable production practices was very useful SMS send by the KVK, followed by 27.50 per cent useful and 15.00 per cent partially useful. Only 5.00 per cent respondents reported it as not at all useful. 47.50 per cent respondents reported about Integrated Nutrient management was very useful SMS send by the KVK, followed by 32.50 per cent useful and 17.50 per cent partially useful. Only 2.50 per cent respondents reported it as not at all useful. 45.83 per cent respondents reported about soil health was very useful SMS send by the KVK, followed by 30.83 per cent useful and 15.83 per cent partially useful. Only 7.50 per cent respondents reported it as not at all useful. About 45.00 per cent respondents reported regarding awareness message was very useful SMS, followed by 24.17 per cent useful and 17.50 per cent partially useful. Only 13.33 per cent respondents reported it as not at all useful. About 44.17 per cent respondents reported regarding sanitation Message was very useful SMS, followed by 34.17 per cent useful and 13.33 per cent partially useful. Only 8.33 per cent respondents reported it as not at all useful. About 42.50 per cent respondents reported regarding soil testing was very useful SMS, followed by 35.83 per cent useful and 15.83 per cent partially useful. Only 5.83 per cent respondents reported it as not at all useful. About 40.83 per cent respondents reported regarding fruit production was very useful SMS, followed by 35.83 per cent useful and 19.17 per cent partially useful. Only 4.17 per cent respondents reported it as not at all useful. About 39.17 per cent respondents reported regarding animal husbandry practices was very useful SMS, followed by 36.67 per cent useful and 19.17 per cent partially useful. Only 9.17 per cent respondents reported it as not at all useful. About 34.17 per cent respondents were reported regarding information communication technology was very useful SMS send by the KVK, followed by 9.17 per cent useful and 19.17 per cent partially useful. Only 14.17 per cent respondents reported it as not at all useful because most of the farmers were not aware about operating system of mobile phones, smart phones etc.

Table 3: Distribution of the respondents according to extent of usefulness of the information received through farmer portal as perceived by the farmers (n=120)

S. No.	Category	Frequency	Percentage
1	Low	21	17.50
2	Medium	43	35.83
3	High	56	46.67
	Total	120	100.00

Results in Table 3 indicated that about half of the respondents (46.67%) were in high usefulness category, followed by 35.83 per cent in medium usefulness category and rest belonged to low usefulness category. It might be due to the fact that majority of respondents were more interested towards perceiving the SMS through the farmer's portal and got benefit from the SMS.

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Conclusion
Information communication technology plays a significant role in dissemination of information in the context of agriculture. There are so many information sources available in India and them serving the facilities to farmers as best. In that series KVK Pratapgarh also facilitate the information to the farmers through providing the timely SMS regarding agriculture, dairying, fisheries and weather. From the study it was observed that SMS related to plant protection techniques was ranked first by the respondents and agricultural implement ranked last according to importance of message which was communicated as per the need of the farmers. It was also observed that the 60.83 per cent of respondents reported that they most of time got the very useful plant protection techniques related SMS. While, 24.17 per cent respondents reported it as useful and 14.17 per cent perceived partially useful. Whereas only 0.83 per cent said that the SMS was not at all useful. Finally the data about extent of usefulness category shows that about half of the respondents (46.67%) were in high usefulness category.

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