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WhatsApp messages: An important ICT tool in agricultural technology dissemination and its impact

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Abstract
WhatsApp is being used as mobile advisory service to disseminate agriculture information timely to the farming community. The information was sent as WhatsApp message was typed in Kannada language and information related to agronomy of crops, insect pest and disease management, horticulture, engineering and soil science etc was sent to farmers by ICAR-Krishi Vigyan Kendra Bidar (Karnataka). Totally 150 farmers were randomly selected to know their reaction about the WhatsApp agricultural messages. Results of the survey showed that majority of the farmers found agricultural information in the form of WhatsApp through mobile phone as comprehensible (88.00%), useful (90.66 %) and timely (93.33%). Some farmers who utilizing WhatsApp message service did not utilize the availed service. Some of the users expressed the given information was not useful due crop specific and time specific.

Keywords: WhatsApp, agriculture information, messages

Introduction
Agriculture in India comprising of crops, dairy, fishery, horticulture, agro-forestry along with small enterprises like beekeeping, mushroom growing etc needs the use of modern technologies to achieve the target growth. Need is to harness productivity along with sustainability, minimize post-harvest losses and getting appropriate prices for the produce. For this extension has to play expanded role including improved access to markets, research, advice, credit, infrastructure, farmer organization development and business development services.

The information and communication technologies like radio, TV, Mobile, Internet, newspaper, telephones and magazines are playing a major role in sustainable agricultural development since early decades and now the modern ICTs as mobiles and computers and have created a revolution. In the 21st century in the era, cost effective and efficient communication technologies are required to take lead in changing agricultural scenario.

New ICT initiatives tool like WhatsApp agricultural messages to meet the needs and expectations of the farmers. The growing information needs of farmers due to diversification and commercialization need to be addressed immediately but at the same time extension system need to continuously evaluate ICT initiatives to improve and improvise the delivery of information.

Materials and methods
For quick dissemination of agricultural messages ICAR-Krishi Vigyan Kendra Bidar had sent 100 WhatsApp message covering various agriculture and allied subject issues on daily basis The agricultural information was sent as WhatsApp message in Kannada language ie., each day one WhatsApp agricultural message. To study the impact of information sent as WhatsApp message from 48 WhatsApp. Among 48 WhatsApp groups 150 respondents were selected randomly from Bidar district (Karnataka State).

For collecting information a semi structure interview schedule was designed and their responses WhatsApp along with socio-personal profile were recorded. A three point continuum scale was also designed to know the level of comprehension of the message i.e. Comprehensible, difficult to comprehend and not comprehensible. Similarly, usefulness of the WhatsApp message was studies on three point continuum i.e. Very useful, Not so Useful and not useful. It was hypothesized that education level has bearing on comprehension while education level, age and land holding may have bearing on usefulness of the message. So, these hypotheses were also tested during the study.

The objectives of the present study were to know the level of comprehension and the extent of usefulness of the agricultural information sent in the form of WhatsApp message

Results and discussion

WhatsApp message service was started with the aim of passing the agricultural information to maximum number of farmers in shortest, cheapest way and also to give timely advice without any distortion of message. Information was sent in local language. A total of 100 WhatsApp messages were sent pertaining to different disciplines related to agriculture and allied subjects. Maximum 69 (69.00 %) message were sent in the field of plant protection, followed by agronomy 15 (15.00 %) similarly, information related to engineering 7 (7.00%), soil science 5 (5.00%), and horticulture (4.00%) information was sent to farmers.

Table 1: Number of SMS sent pertaining to different disciplines

S. No	disciplines	No SMS	Percentage
1	Agronomy	15	15.00
2	Plant Protection	69	69.00
3	Horticulture	4	4.00
4	Agril. Engineering	7	7.00
5	Soil science	5	5.00
		100	100.00

Socio-economic Profile

In the present study majority of the respondents i.e. 60.67% per cent were middle i.e. between 30 to 50 years age, followed by 23.33 per cent of the farmers belonged to young age category while (16.00%) were of more than 50 years of age. More than 1/3rd of the respondents (68.00%) were medium category farmers having land between 2 to 5 hectares while 18.00 per cent were small and marginal farmers and only 14.00 per cent of farmer's large category.

As per education level concerned, majority of the respondents (52.00%) were having high level of education i.e., graduation and above. followed by 34 per cent of the respondents having education between 10th to secondary or having any diploma and remaining 14 per cent of respondents had low level of education i.e., below 10th standard. Agriculture was the major enterprise of the respondents, 63.33 per cent were engaged in horticulture (including vegetable growers, orchards, bee keeping etc.) while 24.67 per cent respondent engaged in agriculture and business work categories and remaining 12 per cent of respondents were engaged in private and government jobs with part time agriculture farmers.

Table 2: Socio-economic profile of the respondents N=150

S. No	Socio-economic profile	No of respondents	percentage
1	**Age**		
	young (<35 years)	35	23.33
	Middle (36 to 50 years)	91	60.67
	old (>50 years)	24	16.00
		150	100.00
2	**Land Holding**		
	marginal and Small (<1 ha)	27	18.00
	medium (2-5 ha)	102	68.00
	large (> 5 ha)	21	14.00
		150	100.00
3	**Education**		
	low (<10th class)	21	14.00
	medium (10th to 12th)	51	34.00
	high(graduation and above	78	52.00
		150	100.00
4	**Profession**		
	Agriculture	95	63.33
	Agriculture + Business	37	24.67
	Job + Agriculture	18	12.00
		150	100.00

Level of Comprehension

The data presented in table 3 revealed that 48.00 per cent of the respondents having high level of education were able to comprehend the information sent via WhatsApp message. While in medium level of education category group 28.00 per cent could comprehend the information easily, only 10 per cent of low level educated people easily comprehend the distorted information. whereas 4 per cent respondents with medium education level opinioned that not so comprehensible followed by high and low level of educated people i.e., 3.33 and 2.67 per cent people opinioned that distorted messages not so comprehensible were able to comprehend the information only few of respondents reported could not comprehend the information properly *i.e.,* 2.00 per cent medium educated, 1.33 and 0.67 per cent high and low level educated people. Thus, it can be said that farmers with high education level were at ease in comprehending the information sent via WhatsApp messages.

Table 3: Relation between education and level of Comprehension

S. No	Education Level	Comprehensible	Not so Comprehensible	Not Comprehensible
1	low (<10th class)	15 (10.00)	4 (2.67)	2 (1.33)
2	medium (10th to 12th)	42 (28.00)	6(4.00)	3 (2.00)
3	high(graduation and above	72 (48.00)	5(3.33)	1 (0.67)

Usefulness of Information

The use of ICT in Agriculture especially that WhatsApp messages usefulness compared with respondents land holding, education and age. From the present studies it was reported that majority of medium category farmers (62.00%) opined the information as useful followed by 12.00 and 9.33 per cent respectively the marginal and small and large farmers found the information was useful. The 4.67 per cent medium farmers opined that the information was not so useful followed by 4.00 per cent marginal and small farmers and 3.33 per cent of large farmers opined that distorted information was not so useful (Table 4).

Table 4: Relationship between education and land holding and age with usefulness of information N=150

5	Parameter	Useful	Not so useful	Not useful
1	**Land Holding**			
a	marginal and Small (<1 ha)	18 (12.00)	6 (4.00)	3(2.00)
b	medium (2-5 ha)	93 (62.00)	7 (4.67)	2 (1.33)
c	large (> 5 ha)	14 (9.33)	5 (3.33)	2 (1.33)
2	**Education**			
a	low (<10th class)	14 (9.33)	4 (2.67)	3 (2.00)
b	medium (10th to 12th)	44 (29.33)	5 (3.33)	2 (1.33)
c	high(graduation and above	71 (47.33)	5 (3.33)	2 (1.33)
3	**Age**			
a	young (<30 years)	29 (19.33)	4 (2.67)	2 (1.33)
b	Middle (30 to 50 years)	82 (54.67)	6 (4.00)	3 (2.00)
c	old (>50 years)	19 (12.67)	3 (2.00)	2 (1.33)

As expected respondents with level of education it was observed that respondents who had graduation and above education qualification expressed that 47.33 per cent opined the information as useful followed 29.33 and 9.33 per cent respectively the marginal and small farmers found the information was useful. The high and medium graduation level respondents equally 3.33 per cent expressed that the information was not so useful. Whereas only 2.67 per cent low educated farmers expressed that the given information was not so useful. Among the total respondents only 4.66 per cent farmers opined that distorted information was not so useful (Table 4).

In relation with age of the respondent that is 54.67 per cent farmer belongs to middle age (30 to 50 year) respondent told given information was useful followed by 19.33 and 12.67 per cent of farmers respectively who have the age group of less than 30 year and more than 50 year opined that the given information was useful, whereas 4.00 per cent of middle age group respondents faced little difficulty in understanding information followed by 2.67 and 2.00 per cent of young and old age farmers respectively who expressed the given information was not so useful. Among the total respondents only 4.66 per cent farmers opined that distorted information was not so useful (Table 4).

The overall analysis of the WhatsApp messages sent to the farmers using ICT tool mobile to the study comprehension, its usefulness and timeliness was given in table 5. From the study It was observed that the comprehensible Comprehension, its Usefulness and Timeliness opined that 88.00, 90.66 and 93.33 per cent respectively since the information sent was in simple local language and need based. Low education was the major reason for low comprehension (21.34%) and few respondents expressed the information was not Comprehensible (6.67%) as they did not get information pertaining to their enterprise.

Table 5: Overall analysis of the WhatsApp messages

S. No	Indicator	Comprehensible	Difficult of Comprehend	Not Comprehensible
1	Comprehension	132 (88.00)	13 (8.66)	5 (3.34)
2	Usefulness	136 (90.66)	11 (7.34)	3 (2.00)
3	Timeliness	140 (93.33)	8 (5.34)	2 (1.33)

Conclusion

The WhatsApp agricultural messages through mobile to different farmers group had a greater role in enhancing the efficiency of the information to reach large number of farmer. This need of technology dissemination was timely and in a short period of time reaches large number of farmers to solve their problem. The information sent should be specific, brief and clear so that interest of the targeted group could be maintained. The information has to be tailored according to the enterprises, crops adopted by the farmers and based on the assessment of felt needs of the farmers.

References

1. Shivappa Kanavi R. An analysis of Kisan mobile advisory service (KMAS) of Krishi Vignyan Kendra. M. Sc. (Agri.) Thesis, Univ. Agric. Sci., Dharwad, Karnataka (India), 2014.
2. Omprakash Parganiha SK, Shrivastava Chaubey AK, Nag JL. Impact of Kisan Mobile Advisory (KMA) On Agricultural Technology Dissemination. Indian Research Journal of Extension Education, 2012; (2):175-178.