

## Usefulness of Mobile Messages for Dissemination of Agricultural and Related Information

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### ABSTRACT

The present study was carried out during 2016-17 to analyze the attitude and usefulness of mobile messages for dissemination of agricultural and related information. One hundred and twenty registered farmers were selected for the study in Doddaballapura and Hosakote taluks of Bangalore Rural District in Karnataka state. A larger proportion of the farmers interviewed were of young age, studied up to high school, possessing semi- medium farm size with medium level of livestock possession, achievement motivation, social participation and extension participation. The results revealed that an equal number of farmers (34.17% each) expressed the usefulness of message as less and medium level, while 31.66 per cent of the farmers perceived the usefulness of messages as most useful. It was also found that majority of farmers were reading the short message service (SMS) regularly. The major constraint faced by the farmers were difficult in clarification of doubts and understanding the technical words. The important suggestion of the farmers was that the service providers should send SMS on need based and latest farm technologies.

*Keywords:* Dissemination, Mobile SMS, Constraints

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 get 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, 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 have created a revolution. In the 21st century, cost effective and efficient communication technologies are required to take lead in changing agricultural scenario. New ICT initiatives like Kisan Mobile Advisory Service and Krishi Maratha Vahini service scheme are being used in the main line extension system of Krishi Vigyan Kendra's, Karnataka State Department of Agriculture and

Karnataka State Agricultural and Marketing Board, to meet the needs and expectations of the farmers.

Keeping this in view, the present investigation was designed with the following specific objectives:

1. To find out the usefulness of the mobile messages sent by the developmental departments.
2. To document the constraints and suggestions of the farmers in enhancing the usefulness of mobile SMS.

### METHODOLOGY

The study was conducted in Bangalore rural district, where Krishi Vigyan Kendra (KVKs) and Karnataka State Department of agriculture (KSDA) are involved in transfer of technology through KMAS and Karnataka state Agricultural marketing Board (KSAMB) has also disseminated marketing price to the farmers through KMV service. One hundred and twenty registered farmers were selected for the study in Doddaballapura and Hosakote taluks of Bangalore Rural District in Karnataka state. In the light of the objectives set for the study, the two dependent

variables selected for the study were Attitude towards Mobile messages and Usefulness of mobile messages. The independent variables selected were Age, Education, Farming experience, Livestock possession, Land holding, Annual income, Cropping pattern, Decision making ability, Innovative proneness, Achievement motivation, Social participation, Cosmo politeness, Mass media utilization, Extension participation and Extension contacts. A pre-tested interview schedule was used to collect the data from the farmers by personal interview method. The data collected were scored, tabulated and analyzed by using frequency, percentage, mean and standard deviation.

RESULTS AND DISCUSSION

**Usefulness of mobile messages to the farmers  
Farmers perception on usefulness of mobile messages sent by developmental departments.**

It is observed from Table 1 that a larger proportion (40.00%) of the farmers perceived that most of the messages were useful, followed by 25.00 per cent of them who perceived that about half of the messages were useful, 16.67 per cent respondents with the perception that all of the messages were useful, 10.00 per cent who perceived that few of the messages were useful and only 8.33 per cent of them perceived that none of the messages were useful. This is all because of SMS Service were most relevant to their situation and with good educational background of the farmers they are very much interested in the new technologies disseminated through SMS service. This finding is confirmative with the Ganesan (2007).

**Usefulness of mobile messages when compared to other sources of agricultural information by farmers**

Table 2 shows that 59.17 per cent of the farmers felt that mobile messages are better when compared to other sources of agricultural information and 40.83 per cent of the farmers said that the usefulness of mobile messages is same when compared to other sources of agricultural information. The possible reasons for usefulness of mobile messages when compared to other sources of agricultural information by farmers is more may be that the respondents are interested in

TABLE 1  
Farmers perception on usefulness of mobile messages sent by developmental departments (n=120)

Usefulness of mobile messages	Number	Per cent
Yes, all of the messages	20	16.67
Yes, most of the messages	48	40.00
Yes, about half of the messages	30	25.00
Yes, few of the messages	12	10.00
Yes, none of the messages	10	08.33
Total	120	100

TABLE 2  
Usefulness of mobile messages when compared to the other sources of agricultural information by farmers (n=120)

Usefulness of mobile messages when compared to the other sources	No.	%
Better	71	59.17
Same	49	40.83
Total	120	100

agricultural and related information for their improvement by mobile messages. The result was in consonance with the result of studies conducted by Ganeshan (2007).

**Usefulness of Mobile messages as perceived by the farmers**

It is evident from the Table 3 that, Majority (60.00%) of farmers perceived as SMSs were ‘most useful’ for Enhancing the Knowledge regarding agriculture followed by useful (36.67%) and not useful (3.33%) and was accorded first rank by the registered farmers. Majority (57.50%) of farmers perceived as SMS were most useful for increasing the farm yield followed by useful (33.33%) and not useful (9.17%) and was ranked second. SMS related to information on effective in plant protection perceived as ‘most useful’ (49.17%) followed by useful (40.83%) and not useful (10.00%) by the farmers and was ranked third.

TABLE 3  
Usefulness of mobile messages as perceived by the farmers (n=120)

Particulars	Level of usefulness						Rank
	Most Useful		Useful		Not Useful		
	No.	%	No.	%	No.	%	
Enhancing the Knowledge regarding agriculture	72	60.00	44	36.67	4	3.33	I
Increases crop yield	69	57.50	40	33.33	11	9.17	II
Effective in plant protection	59	49.17	49	40.83	12	10.00	III
Improving farm and home condition	45	37.50	53	44.17	22	18.33	IV
Nursery management in different crops	44	36.67	59	49.17	17	14.17	V
Increasing adoption of technology	39	32.50	68	56.67	13	10.83	VI
Information on extension activities	39	32.50	67	55.83	14	11.67	VII
Information on Market price of different crops	36	30.00	50	41.67	34	28.33	VIII
Nutrient Management	34	28.33	72	60.00	14	11.67	IX
Creating awareness about health and hygiene	27	22.50	61	50.83	32	26.67	X

Majority (44.17%) of farmers perceived as SMS's were useful for improving farm and home condition followed by 'most useful' (37.50%) and not useful (18.33%) by the farmers. SMS related to nursery management in different crops perceived as 49.17 per cent useful followed by most useful (36.67%) and not useful (14.17%) by the farmers. Majority (56.67%) of farmers perceived as SMS,s were useful for Higher adoption followed by 'most useful' (32.50%) and not useful (10.83%) by the farmers. SMS related to information on organization of extension activities perceived as 'useful' (55.83%) followed by useful (32.50%) and not useful (11.67%) by the farmers. SMS related to information on Market price of different crops perceived as useful (41.67%) followed by 'most useful' (30.00%) and not useful (28.33%) by the farmers. SMS related to nutrient management perceived as useful (60.00%) followed by 'most useful' (28.33%) and not useful (11.67%) by the farmers Majority (50.83%) of farmers perceived as SMS,s were useful for creating awareness about health and hygiene followed by not useful (26.67%) and 'most useful' (22.50%) by the farmers

The possible reasons could be majority of the respondents found the information was 'most useful' because subject areas covered in SMS Service were most relevant to their situation and with good educational background of the farmers. They are very much interested in the new technologies disseminated through SMS service. Message related plant protection was most useful because incidence of pest & disease was high in this situation but few stated that lack of interest due to lengthy text and lack of specific information and difficult to understand technical words were reasons for finding the information as 'not useful' and they did not get information pertaining to their enterprises like beekeeping, mushroom etc. The result was in consonance with the result of studies conducted by Haradevinder Singh (2012) and Kanavi (2014).

#### Overall usefulness of mobile messages as perceived by the farmers

It could be noted from the Table 4 that, 34.17 per cent of farmers belonged to less and medium level of usefulness; followed by 31.66 per cent belonged to

TABLE 4

Overall usefulness of mobile messages as perceived by the farmers (n=120)

Category	Score	Frequency	Per cent
Less useful	< 10.43	41	34.17
Useful	10.43 - 13.59	41	34.17
Most useful	> 13.59	38	31.66
Total		120	100

$\bar{X}$  =33.33, SD=3.16

high level of usefulness. There is no much difference in all category of usefulness because subject areas covered in SMS service are most relevant to them and with good educational background of the farmers they are very much interested in the new technologies disseminated through SMS service.

#### Constraints and suggestions by the Farmers in dissemination of agricultural information received through mobile SMS

It can be observed from Table 5 that constraints faced by farmers in dissemination of agricultural information through mobile SMS. It reveals that clarification of the message is difficult if any doubt arises, difficult to understanding of technical words, Lack of practical exposer, risk in adoption of messages were the major constraints faced by the farmers with I, II, III and IV ranks, respectively. Lack of Relevant information, poor network availability, health problems caused by ICT devices, SMS not timely sent Electricity problems and Mobile operation problem were other constraints faced by the farmers with V, VI ,VII ,VIII and IX. The reason may be that the mobile messages which are reaching the farmers create some doubts in them and are sometimes very difficult to understand. There is no practical experience of technologies and also the information disseminated through them are sometime not relevant to the farmers situations, problem of network in remote areas, cost involvement in case of purchase of mobile phones is more and there is no direct contact of extension personnel to the farmer. Due to electricity problem farmers are facing problems for charging of mobile phones and risk in adoption of

TABLE 5

Constraints and suggestions by Farmers in dissemination of agricultural information received through mobile SMS (n=120)

Statements*	No.	%	Rank
<b>A. Constraints</b>			
1 Clarification of the message is difficult if any doubt arises.	106	88.33	I
2 Difficult to understanding of technical words.	87	72.50	II
3 Lack of practical exposure regarding technology sent by developmental departments.	80	66.67	III
4 Risk in adoption of messages sent by developmental departments	72	60.00	IV
5 Not relevant information (locally) is receive	58	48.33	V
6 Poor network connectivity	30	25.00	VI
7 Health problems caused by ICT devices	28	23.33	VII
8 SMSs were not timely sent by all departments	20	16.67	VIII
9 Irregular charging of Mobile phone due to electricity problem	14	11.67	IX
10 Difficult to operate mobile	10	8.33	X
<b>B. Suggestions</b>			
1 Send new technology messages	73	60.83	I
2 Messages have to be need based	70	58.33	II
3 Send updated market prices on various commodities.	68	56.66	III
4 Send messages regularly	61	50.83	IV
5 Use Kannada text or letters	54	45.00	V
6 Send messages on different topics	51	42.50	VI
7 Registration of farmers has to be increased	45	37.50	VII
8 Repeat the messages only when they applicable immediately	39	32.50	VIII

\*=Multiple response

mobile messages service. This finding is confirmative with the findings Shankaraiah (2011) and Kanavi (2014).

Table 5 also reveals that majority of farmers said send new technology messages, messages have to be need based, send updated market prices, send messages regularly were accorded the first four ranks with respect to the suggestions offered by the farmers in enhancing usefulness of mobile SMS. Use Kannada text or letters, send messages on different topics, registration of farmers have to be increased and repeat the messages only when they applicable immediately were accorded V, VI, VII and VIII ranks, respectively in respect of suggestion to overcome the problems. This might be due to the messages sent by developmental departments are not need based and locally relevant information. Since the complicated words in English are directly converted to Kannada language, it becomes difficult for the respondents to understand the messages properly as they were having medium level of education. The findings is supported with the findings of Angela (2011), Marcel and Bart (2012) and Windi (2014).

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