Dissemination of Agricultural Technologies through Mobile Message Service in Karnataka

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Abstract

The mobile phone technology is being used creatively to help spur development and reduce poverty, particularly in remote rural areas. A research study was undertaken to know the Agricultural Technologies disseminated through Mobile Message Service (MMS) and also to study the constraints faced by farmers in using the service. The study was conducted at Doddaballapur taluk of Bangalore Rural District of Karnataka during 2010-11. The respondents were 40 farmers selected using simple random sampling technique. Findings indicated that Agricultural technologies on crop management, marketing, Horticultural technologies on tissue culture, floriculture, veterinary technologies on dairy, poultry and others on weather information were rated as more relevant technologies disseminated through the MMS network.

Introduction

Accessing information about public services remains a major challenge for many rural communities. Mobile phones provide a new platform through which rural communities can access Government information and services, using text, data, and audio browsing techniques. Mobile phones could serve as an essential means for children to become connected to one another for educational and peer-learning activities. These are particularly important for communities that are either nomadic or transitional on account of displacements due to a natural disaster or for other reasons.

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Owning a mobile phone has been turned into a small-scale business by people in rural areas by renting the phone to others and charging for its use. This has become a reliable source of income for many poor, disenfranchised women. The Village Phone not only gives the villagers access to a phone, but empowers women operators, spurs economic activity and promotes entrepreneurship. The mobile phone based agricultural information services like IFFCO Kisan Sanchar Limited (IKSL) and Reuters Market Light (RML), launched in some states in 2007 and 2008 are now swiftly becoming popular. These services provide a variety of agricultural information through voice-messages. Various State Agricultural Universities and ICAR professors have been co-opted in the expert panel of these service providers. The information is provided to farmers in the local language, within a specified time and two-way interaction through customer care centers is also possible. With this background, this study has been planned with the following specific objectives:

1. To know the Agricultural Technologies disseminated through MMS Network in Bangalore rural district, Karnataka.
2. To study the constraints faced by farmers in using MMS network in Bangalore rural district, Karnataka.

Methodology

This study was conducted in Doddaballapur taluk of Bangalore Rural District of Karnataka during 2010-11. Doddaballapura taluk was purposively selected because there were more number of farmers using mobile message services located in that taluk. The respondents for the study were 40 farmers from Doddaballapura taluk of Bangalore rural district. The required data were collected personally from the respondents using pretested schedules. The data collected were tabulated and scored keeping in view the objectives of the study and amenability. Further, the data were analyzed using the statistical tools like percentage, mean and standard deviation, correlation test, multiple linear regressions and rank.

Results and Discussion

Dissemination of Agriculture Technologies through Mobile Message Service

The data in Table 1 reveals that technologies on Crop production (50 %), Crop management (52.50%) and Marketing (80%) were rated as more

relevant technologies disseminated through MMS Network, whereas technologies on Input management (55 %), Crop protection (50 %), Soil and water management (65 %) and Harvest and Post harvest (70.00%) were relevant technologies disseminated through MMS Network. The reason may be that currently marketing of agriculture produce is very important. However, other aspects like crop production and crop management etc. are also equally important for sustainable agriculture. The results are in consonance with the results of studies conducted by Salleh *et al.* (2009) and Basavaraj (2010).

Table 1: Dissemination of Agriculture Technologies through Mobile Message Service **(N = 40)**

Sl. No.	Agricultural Technologies	Relevancy					
		Most relevant		Relevant		Not relevant	
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
1.	Input management	11	27.50	22	55.00	7	17.50
2.	Crop production	20	50.00	17	42.50	3	7.50
3.	Crop protection	18	45.00	20	50.00	2	5.00
4.	Soil and water management	12	30.00	26	65.00	2	5.00
5.	Crop management	21	52.50	16	40.00	3	7.50
6.	Harvest and Post harvest	11	27.50	28	70.00	1	2.50
7.	Marketing	32	80.00	8	20.00	0	0.00

Dissemination of Horticulture technologies through Mobile Message Service

The data in Table 2 shows that technologies on Tissue culture technique (55.00%), Floriculture (50.00) and Food processing (42.50%) were perceived as more relevant technologies disseminated through the MMS Network whereas technologies on Nursery preparation (57.50%), Ornamental gardening (62.50%), Essential oil production (52.50%), Cold storage (47.50%) and Preservation (57.50%) were relevant technologies disseminated through the MMS Network. The reason may be advanced

technology in recent years through tissue culture to protect germ plasm for later use. Further, processing of food is very important through which the shelf life of food and price of the produce can be increased. Other technologies on nursery preparation, gardening, Essential oil production, Cold storage and Preservation were also important technologies disseminated through MMS network for sustainable horticulture under present climate change conditions.

Table 2: Dissemination of Horticulture technologies through Mobile Message Service (N=40)

Sl. No.	Horticultural Technologies	Relevancy					
		Most relevant		Relevant		Not relevant	
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
1.	Nursery preparation	15	37.50	23	57.50	2	5.00
2.	Tissue culture technique	22	55.00	17	42.50	0	0.00
3.	Floriculture	20	50.00	19	47.50	1	2.50
4.	Ornamental gardening	15	37.50	25	62.50	0	0.00
5.	Essential oil production	15	37.50	21	52.50	4	10.00
6.	Cold storage	17	42.50	19	47.50	4	10.00
7.	Preservation	10	25.00	23	57.50	7	17.50
8.	Food processing	17	42.50	15	37.50	8	20.00

Dissemination of Veterinary technologies through Mobile Message Service

Table 3 reveals that technologies in Dairy (70.00%), Poultry (52.50%), Sheep and Goat (52.50%) were perceived as more relevant technologies disseminated through the MMS Network, while technologies in Piggery (45.00%), Rabbit Rearing (57.50%) and Fishery (70.00%) were relevant technologies disseminated through the MMS Network. In the study area most of the respondents are taking up dairy, poultry, sheep and goat rearing as a subsidiary activity so the technologies disseminated about these were more relevant. Apart from this Piggery, Rabbit and Fishery technologies were also relevant for sustainable veterinary under present climate change.

Table 3: Dissemination of Veterinary technologies through Mobile Message Service

(N = 40)

Sl. No.	Veterinary Technology	Relevancy					
		Most relevant		Relevant		Not relevant	
		Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
1.	Dairy	28	70.00	3	7.50	9	22.50
2.	Poultry	21	52.50	6	15.00	13	32.50
3.	Sheep and Goat	21	52.50	6	15.00	13	32.50
4.	Piggery	10	25.00	18	45.00	12	30.00
5.	Rabbit Rearing	1	2.50	23	57.50	16	40.00
6.	Fishery	4	10.00	28	70.00	8	20.00

Dissemination of Agriculture related technologies through Mobile Message Service

The data in Table 4 indicates that Weather information (77.50%) and Government Schemes and Programmes (55.00%) were considered as relevant. Due to change in vagaries of the monsoon the information about weather is more relevant. Further, Government schemes and programmes were helpful in improving livelihood of the farmers for sustainable agriculture under present climate change. The results are in consonance with the results of studies conducted by Parab *et al.* (2009).

Table 4: Dissemination of Agriculture related technologies through Mobile Message Service

(N = 40)

Other agriculture related technologies	Relevancy					
	Most relevant		Relevant		Not relevant	
	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
1. Government Schemes and Programmes	1	2.50	22	55.00	17	42.50
2. Weather information	31	77.50	9	22.50	0	0.00

Constraints faced by Farmers in using MMS network

A glance at the sample as a whole indicates that among all the constraints faced by farmers in using the MMS network, 'Clarification is difficult if any doubt arises' (Rank I), 'Lack of practical exposure' (Rank II), 'Lack of locally relevant information' (Rank III), were the major constraints faced by farmers in using the MMS network (Table 5, Fig.1). The reason may be because mobile message to farmers may have created some doubts, sometimes there may be difficulty in understanding, lack of practical experience with technologies and also the information disseminated through them may some times not be relevant to the situation. This finding is in conformity with the findings of Molony (2008) and Wole (2009).

The moderate constraints expressed by farmers were, 'Network availability' (Rank IV), 'Cost involvement is more' (Rank V) and 'Human element is missing' (Rank VI). The reason for this is the problem of availability 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 with the farmer.

It could also be inferred, that among the constraints faced by farmers in using the MMS network, 'Electricity problems', 'Health problems', 'Fear to adopt technology' were ranked VII, VIII and IX by the farmers. The reasons for this is, due to electricity problem farmers are facing a problem in charging their mobile phone, some of the farmers think that by using the mobile they will suffer from diseases and also due to fear of failure of the technology.

Table 5: Constraints faced by Farmers in using MMS Network

(N = 40)

SL. No.	Statements	Score	Per cent	Rank
1.	Clarification is difficult if any doubt arises	101	84.16	I
2.	Lack of practical exposure	99	82.50	II
3.	Lack of locally relevant information	97	80.83	III
4.	Network availability	70	58.33	IV
5.	Cost involvement is more	64	53.33	V
6.	Human element is missing	63	52.50	VI
7.	Electricity problems	62	51.66	VII
8.	Health problems	57	47.50	VIII
9.	Fear to adopt technology	54	45.00	IX

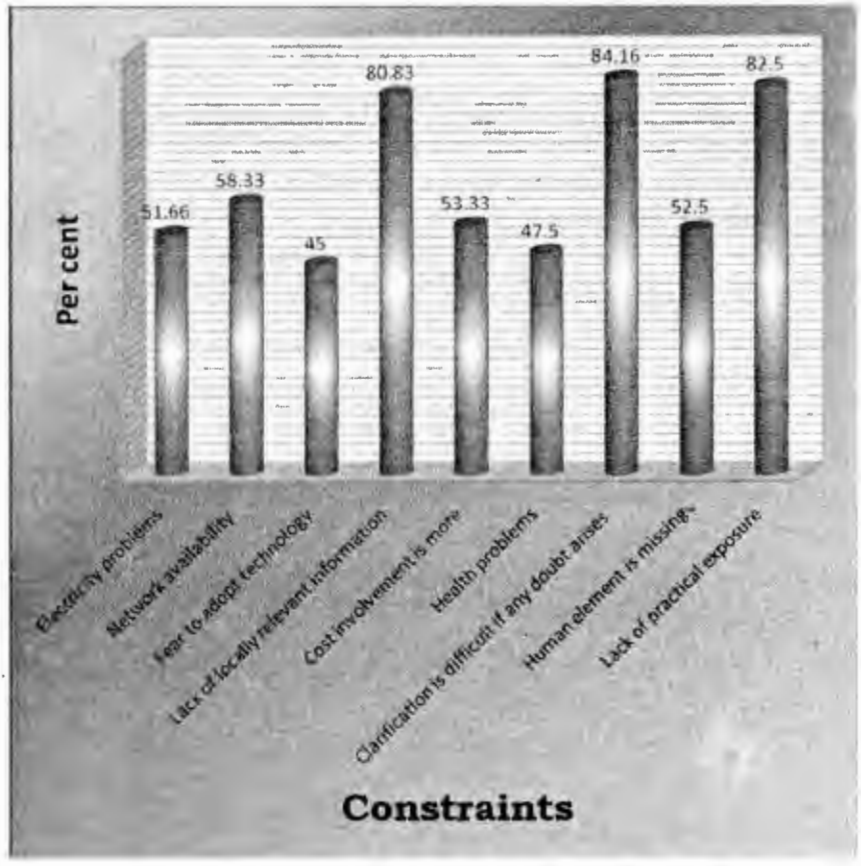

Fig.1. Constraints faced by Farmers in using MMS network

Conclusion

The agriculture sector benefits more from mobile phones in developing countries as it saves money, time and offers advantage for farmers. As mobile penetration continues to increase among farming communities and information services continue to adapt and proliferate, the scope exists for a much greater rural productivity impact in the future. However, leveraging the full potential of information dissemination enabled by mobile will require significant improvements in supporting infrastructure and capacity building amongst farmers to enable them to use the information they access effectively.

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