

Original Research Article

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## Perception and Usefulness of Mobile Phone Based Agro-Advisories (MBAs)

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### ABSTRACT

#### Keywords

Information and communication technology (ICT), Mobile Phone Based Agro-Advisories (MBAs), Perception, Usefulness.

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The most widespread information and communication technology (ICT) in developing countries today is the mobile phone. Mobile phones are the devices that can create, store, access, and share information anytime, anywhere. But they are more than that, when teamed with extension and advisory services, they can help improve the livelihoods of rural people by getting much needed timely information to their fingertips at potentially low cost. The present study was carried out in Warangal district of Telangana state by selecting the 60 beneficiary farmers of mobile phone based agro-advisory services. The specific objectives of the study were to know the usefulness and perception towards mobile phone based agro advisories. The results showed that 48.33 per cent of respondents indicated as mobile phone based agro-advisories were moderately useful and the majority (50.00%) of the respondents had positive perception towards the mobile phone based agro-advisories.

## Introduction

The most widespread information and communication technology (ICT) in developing countries today is the mobile phone. Mobile phones are the devices that can create, store, access, and share information anytime, anywhere. But they are more than that, when teamed with extension and advisory services, they can help improve the livelihoods of rural people by getting much needed timely information to their fingertips at potentially low cost. A number of pilot experiments/studies in the use of mobile telephones in development sector have emphasized its potential and relevance in

agriculture and rural development sector although a suitable framework still needs to be evolved for its efficient and sustained use in agriculture information dissemination. For example, we need to evolve an information delivery mechanism so that farmers can take major agricultural decisions such as timely soil preparation, time of sowing, appropriate doses of fertilizers, irrigation scheduling, weeding, harvesting, and storage and marketing which have been of key concern to farmers. To provide information on these aspects the existing extension staff is very limited. According to estimates, on average

public extension personnel spends 40 minutes per year for a farmer (Dileepkumar, 2012). So called Mobile Phone Based Agro-Advisory Services are the part of ICT initiative which enables value added services, such as timely advisories to the farmers which helps to monitor their crops, livestock and farm machinery through mobile phones. Pawan Kumar (2011) reported that the information obtained through mobile phones improved soil health, which resulted in increased agricultural productivity and farm income. Rizvi (2010) observed that access to mobile based advisory services can help to reach poor farmers in remote/rural areas. Among one of the most celebrated of such studies is the Jayanthi (2016) observed that about three-fifths (61.25%) of the respondents had medium level of information seeking behaviour, medium perception (74.17%) towards mobile agricultural extension services and she also found that in total 57.50 per cent of the respondents reported that mobile agricultural extension services were useful towards mobile agricultural extension services. Kumar and Padmaiah (2012) reported significant improvements in knowledge of castor growers due to mobile phone based agro-advisories.

There is need to study the perception and usefulness of Mobile Phone Based Agro-advisories (MBAs) by the farmers. In this context, a study has been planned with the following objectives:

To study the profile characteristics of the respondents.

To study the Perception and Usefulness of Mobile Phone Based Agro-advisories (MBAs) by the respondents.

## **Materials and Methods**

The 'Ex post- facto' research design was adopted for the study. The study was

conducted in Warangal district of Telangana State, where the farmers were received SMS/Voice messages from the various mobile phone based agro-advisory services. A sample of 60 beneficiary farmers was selected by using random sampling method. A well-structured interview schedule was used to collect the data according to the objectives of the study. Statistical tools like mean, frequency and percentages were used for analysis of data.

## **Results and Discussion**

### **Profile characteristics of the respondents**

The findings presented in table 1 indicated that more than half of farmers belonged to middle age group (65.00%) followed by young (25.00%) and old (10.00%) age group. The probable reason might be that, most of the old age people were not interested to use mobile phones and middle age farmers were enthusiastic to use mobile phones for getting information related to agriculture. Majority (31.67%) of the respondents had intermediate education followed by 23.33 per cent farmers had high school education, 20.00 per cent farmers had graduates education, 15.00 per cent farmers had upper primary school education, only 6.67 per cent farmers had primary school education, very few 3.33 per cent farmers were post graduates and there is no illiterates. This might be due to that farmers have easy access to schools and realization of importance of formal education in the present situation. As they had education, they were able to gather knowledge on recent technologies disseminated through Mobile Phone Based Agro Advisory Services. Generally, in the present scenario, almost everybody is found to be literate due to the awareness brought by the government on the importance of education and the efforts of the government and non – governmental agencies. Majority

(53.33%) of the farmers were comes under large farmers followed by small (33.33%) and Marginal (13.33). This may be because of the majority of farmers who effectively using Mobile Phone Based Agro Advisory Services were only large farmers. It was observed that 40.00 per cent of the farmers had medium extension contact while 35.00 per cent of the farmers high extension contact and 25.00 per cent of the participants had low extension contact. The probable reason for this might be their eagerness in solving their cultivation problems with extension workers and also interest in extension activities to gather recent information. A little more than half (60.00%) of the farmers had medium level of information seeking behaviour followed by low (31.67%) and high (8.33%) levels of information seeking behaviour. The probable reason might be that, the farmers rely more on neighbours, friends, relatives, progressive farmers and input dealers for information rather than formal sources. Majority (55.00%) of the respondents had medium information management behaviour followed by high (28.33%) and low (16.67%). This might be due to high information evaluation by cross checking the data with past experience; friends, input dealers and they might see the perceived attribute of the technology received from the mobile phone based agro advisory services. Majority (58.33%) of the people had medium innovativeness followed by high (23.33%) and low (18.33). The reason might be respondents might be having higher education, high land holding and considerably good percentage of information seeking behaviour and information management behaviour.

### **Perception of the respondents towards Mobile Phone Based Agro-advisories (MBAs)**

From the table 2, it is indicated that more than half of the farmers (73.33%) thought that the

messages were presented in time coinciding with the crop growth and 18.33 per cent of the farmers felt, messages were late. The probable reason might be that he farmers, who had sown the crop early in *kharif* felt that the messages were late. Very few farmers (8.33%) were felt messages were early. Majority of the farmers (58.33%) reported that the content of the messages was highly relevant, easy to understand (68.33%), messages were highly technical (51.67%) and content was adequate (55.00%).

### **Overall perception of the respondents towards MBAs**

It was observed from table 4, that exactly half i.e. 50.00 per cent of the respondents had positive perception towards the mobile phone based agro-advisories followed by 30.00 per cent and 20.00 per cent of the respondents with neutral and negative perception, respectively.

The probable reason for positive perception towards mobile phone based agro-advisories due to the farmers were getting timely, highly relevant messages from mobile phone based agro advisory services based on their needs. Further the mobile phone based agro-advisories were highly treated, easy to understand and having adequate content.

### **Usefulness of Mobile Phone Based Agro-advisories (MBAs) by the respondents**

Majority (71.67%) of farmers felt that as mobile phone based agro-advisories (MBAs) were 'most useful' for improving the agriculture knowledge followed by useful (25.00%) and not useful (3.33%). Most of the farmers indicated that the MBAs were useful (50.00%) where the farmers decide on what crop to grow, how much land to allocate for each crop followed by most useful (45.00%) and not useful (5.00). Majority i.e. 60.00

percent of the farmers were felt MBAs were useful followed by most useful (23.33%) and not useful (16.66%) while seed purchase and seed bed preparation. During the land preparation and planning MBAs were useful (46.66%) followed by most useful (43.33%) and not useful (10.00%). Mobile phone based agro-advisories were useful (73.33%) in nutrient management followed by most useful (21.66%) and not useful (5.00%). Most of the respondents reported that MBAs on plant protection were most useful (73.33%) followed by useful (23.33%) and not useful (3.33%). During the harvesting/picking and

storing time the MBAs were most useful (56.66%) followed by useful (40.00%) and not useful (16.66%). Mobile phone based agro-advisories were most useful (43.33%) while selling the produce followed by useful (40.00%) and not useful (16.66%). For creating awareness about new technologies these MBAs were useful (55.00%) followed by not useful (30.00%) and useful (15.00%). Majority of the farmers felt mobile phone based agro-advisory services provide most useful (53.33%) information on extension activities followed by useful (26.66%) and not useful (20.00%).

**Table.1** Distribution of the respondents according to their profile characteristics

n=60

S. No.	Variables	Category	Frequency	Percentage
1.	Age	Young (Upto 35 years)	15	25.00
		Middle (36-50 years)	39	65.00
		Old (Above 50 years)	06	10.00
2.	Education	Illiterate	00	0.00
		Primary School	04	06.67
		Upper Primary School	09	15.00
		High School	14	23.33
		Intermediate	19	31.67
		Graduation	12	20.00
		Post-Graduation	02	03.33
3.	Farm Size	Marginal	08	13.33
		Small	20	33.33
		Large	32	53.33
4.	Extension Contact	Low	15	25.00
		Medium	24	40.00
		High	21	35.00
5.	Information Seeking Behaviour	Low	19	31.67
		Medium	36	60.00
		High	05	8.33
6.	Information Management Behaviour	Low	10	16.67
		Medium	33	55.00
		High	17	28.33
7.	Innovativeness	Low	11	18.33
		Medium	35	58.33
		High	14	23.33

**Table.2** Perception of the respondents towards Mobile Phone Based Agro-advisories

n=60

Variables	Categories	Cotton farmers	
		F	P
a. Timeliness of the messages			
	Coinciding with the crop growth	44	73.33
	Early	05	08.33
	Late	11	18.33
b. Relevance			
	Highly relevant	35	58.33
	Somewhat relevant	14	23.33
	Irrelevant	11	18.33
c. Understanding of message			
	Easy to understand	41	68.33
	Difficult to understand	13	21.67
	Not understand	06	10.00
d. Message treatment			
	Less technical	11	18.33
	Moderately technical	18	30.00
	Highly technical	31	51.67
e. Content adequacy			
	Adequate	33	55.00
	Needs more details	17	28.33
	Not at all adequate	10	16.67

**Table.3** Usefulness of Mobile Phone Based Agro-advisories (MBAs) by the respondents

n=60

S. No.	Particulars	Level of Usefulness					
		Most Useful		Useful		Not Useful	
		F	P	F	P	F	P
1.	Improving the Knowledge in Agriculture	43	71.67	15	25.00	02	3.33
2.	Decision to choose crop	27	45.00	30	50.00	03	5.00
3.	Seed Purchase and seed bed preparation	14	23.33	36	60.00	10	16.66
4.	Land Preparation and planting	26	43.33	28	46.66	06	10.00
5.	Nutrient Management	13	21.66	44	73.33	03	5.00
6.	Effective in Plant Protection Measures	44	73.33	14	23.33	02	3.33
7.	Harvesting/Picking and Storing	34	56.66	24	40.00	02	3.33
8.	Selling of Produce	26	43.33	24	40.00	10	16.66
9.	Creating awareness about new technologies	09	15.00	33	55.00	18	30.00
10.	Information on Extension Activities	32	53.33	16	26.66	12	20.00

**Table.4** Overall Perception of the respondents on Mobile Phone Based Agro-Advisories  
n=60

S.No.	Category	Respondents	
		Frequency	Percentage
1.	Positive Perception	30	50.00
2.	Neutral Perception	18	30.00
3.	Negative Perception	12	20.00

**Table.5** Overall usefulness of Mobile Phone Based Agro-advisories by the respondents  
n=60

S.No.	Category	Respondents	
		Frequency	Percentage
1.	Less useful	12	25.00
2.	Moderate useful	29	48.33
3.	Most useful	19	26.67

**Table.6** Relationship between Profile characteristics of the respondents and Their Perception towards MBAs

S. No.	Profile characteristics	Correlation coefficient (r)
1.	Age	-0.237 <sup>*</sup>
2.	Education	0.562 <sup>**</sup>
3.	Farm size	0.715 <sup>**</sup>
4.	Extension contact	0.614 <sup>**</sup>
5.	Information Seeking Behaviour	0.438 <sup>**</sup>
6.	Information Management Behaviour	0.294 <sup>*</sup>
7.	Innovativeness	0.624 <sup>**</sup>

\*\* Significant at the 0.01 level; \* Significant at the 0.05 level; NS = Non-Significant

#### **Overall usefulness of Mobile Phone Based Agro-advisories by the respondents**

It could be noted from table 5 and that, 48.33 per cent of farmers indicated as Mobile Phone Based Agro-advisories were moderately useful to them followed by most useful (26.67%) and less useful (25.00%).

It could be seen from table 5, majority of the respondents belonged to medium and high usefulness. The possible reasons could be

majority of the respondents found the information was 'most useful' because subject areas covered in mobile phone based agro-advisories 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 mobile phone based agro-advisory services. Messages related to pest protection were most useful 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 'less useful' (Table 3).

### **Relationship between Profile characteristics of the respondents and their Perception towards Mobile Phone Based Agro-advisories (MBAs)**

In order to study the relationship between the perceptions towards mobile phone based agro-advisories and the profile characteristics of the respondents, the correlation co-efficient (r) values were computed and findings were furnished here under table 6.

The finding of the table 6 revealed that variables such as education, farm size, extension contact, information seeking behaviour and innovativeness had positive and significant relationship with perception of respondents at one per cent level of significance.

Whereas, information management behaviour had positive and significant relationship with perception of respondents at five per cent level of significance. As far as age was concerned, it had negative and significant relationship with attitude of farmers at five per cent level of significance.

In conclusion, this study has clearly brought out the use of mobile phone networks for dissemination of agricultural knowledge as one of the powerful means of increasing access to quality information to farmers who may not be reached by the extension programmes. With the increased availability, access and ownership of mobile phones in India, mobile based agro-advisories would play a significant role in reducing the information gap and information asymmetry between the farmers. It can be concluded that mobile phones based agro-

advisories were useful, create awareness and make knowledge accessible to farmers.

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