

Mobile SMS Advisories: An Analytical Study among Farmers

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Abstract

Mobile phones play a major role to aid the farmers in promoting production activities. Tamil Nadu is a prime state in India witnessed huge volume of subscribers of mobile agro services from public advisories and also private advisories. Public mobile advisory system in the biggest service provider in Tamil Nadu where the Tamil Nadu Agricultural University (TNAU) and the state department of agriculture are two big monsters providing advisories to the farmers through SMS. The study was conducted in Annur and Kinthukadavu blocks of Coimbatore district of Tamil Nadu with a sample of 200 farmers subscribing the SMS based agro advisories. The study revealed that little more than two-third of the respondents (67.50%) were using ordinary mobiles. Majority of the respondents (74.00%) expressed that the technical input on advance warning of weather risks was adequate. With regard to the inadequate services, cent percent of the respondents had expressed that the information on cold storage networks and transportation were inadequate. Most of the respondents (87.00%) expressed that they received relevant of messages on plant protection. With regard to non relevancy of the messages, cent percent of the respondents pointed out messages on cold storage networks and transportation. An overwhelming majority of the respondents (95.50%) had expressed that they received timely messages on advance warning of weather risks, with regard to the untimely messages, advisories on cold storage networks and transportation (100.00%). Cent percent of the respondents' preferred only text based messages.

1. Introduction

Mobile phone is a speed communication among the ICT tools. The Government of India, like most governments in the developing world, operates a system of agricultural extension intended to spread information on new agricultural practices and technologies through a large work force of public extension agents. The World Development Report 2008 (WORLD BANK, 2007) emphasized that agricultural extension plays an important role in agricultural development and in promoting sustainable, inclusive and pro-poor economic development. Also access to ICT can have a tremendous positive impact on sustainable development and poverty reduction (TORERO and BRAUN, 2006). Mobile phone is a best way to communicating agricultural information through SMS, voice call, video call and use of different social media tools such as Whatsapp, Facebook, Instagram and so on. Farmers can easily access the agricultural information on time and their need basis. Furuho and Matutay (2011) found that mobile phones are useful to farmers during their farming preparation, farming, harvesting

and marketing in rural Tanzania. Mittal and Tripathi (2009) concluded that mobile phone can increase farm productivity should there be a reduction in the constraints that limits the use of information available to farmers through their phones.

The main objectives of the present studies are technical components of the respondents using mobile agro advisory services and preferences towards form of the messages.

2. Materials and Methods

The farmers especially those who have registered with Tamil Nadu Agricultural University for availing mobile agro advisories were the respondents for the present study. The block wise list of farmers who have enrolled for these services was obtained from the e-extension centre of Tamil Nadu Agricultural University. In Coimbatore district there are 11 blocks and it has been decided to select two blocks viz., (1) Annur, (2) Kinathukadavu purposefully on considering maximum area under crop cultivation and maximum enrollment of farmers under this mobile agro advisory services. Total number of

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farmers enrolled from the above two blocks under TNAU was 10,048 and it has been decided to select two percent of the above population as sample size. Accordingly the sample size has been fixed as 200 respondents (Annur-107, Kinathukadavu-93). The respondents from each block were selected by employing proportionate random sampling method. Ex-post facto research design was used and structured questionnaire was prepared and administered to collect data, by face to face interaction. Data were coded properly and tabulated. The statistical software SPSS was used to analyze the data.

3. Results and Discussion

3.1 Possession of Mobile Phones and Internet Access

The data were collected with respect to possession of mobile phones and internet access by the respondents were analyzed and furnished in table 1.

Table 1: Distribution of the respondents according to their possession of mobile phones and internet access

Sl. No.	Possession of mobile phones	Number	Percent
Types of mobile phones being possessed			
1	Ordinary mobile	135	67.50
2	Smart phone	65	32.50
Type of mobile network possessed			
1	2G	115	57.50
2	3G	47	23.50
3	4G	38	19.00
Internet access			
1	Internet access	67	33.50
2	No internet access	133	66.50
Total		200	100.00

It could be observed from table 1, little more than two-third of the respondents (67.50%) were using ordinary mobiles and only 32.50 percent of the respondents were using smart phones.

With regard to mobile network, majority of the respondents (57.50%) were using 2G network facilitating mobiles, followed by 23.50 percent using 3G network mobiles and the rest 19.00 percent of the respondents were using 4G network mobiles.

With regard to the internet access, it is seen that two-third of the respondents (66.50%) had no internet access in their mobiles and the remaining 33.50 percent of the respondents had internet access in their mobiles.

3.2 Technical Components

Under technical components, respondents' preferences were assessed with the response categories such as 'adequacy (adequate or inadequate)', 'relevancy (relevant or not relevant)', and 'timeliness (timely or untimely)'.

3.2.1 Message Adequacy

It is apparent from table 2, that majority of the respondents (74.00%) expressed that the technical input on advance warning of weather risks was adequate, followed by crop disease (71.00%), price of raw materials (68.00%), fertilizers application (67.50%), plant protection (62.50%) and pesticides related information (54.00%).

With regard to the inadequate services, cent percent of the respondents had expressed that the information on cold storage networks and transportation were inadequate, followed by 98.50 percent stated that the information input related with the export price, new crop varieties (93.50%), seeds (89.00%), local price (81.00%) and cultivation techniques (62.50%) were felt inadequate.

3.2.2 Message Relevancy

It could be inferred from the findings that most of the respondents (87.00%) expressed that they received relevant

Table 2: Technical components of the respondents in the mobile agro advisory services

Sl. No.	Particulars	Adequacy				Relevancy				Timeliness			
		Adequate		Adequate		Relevant		Not relevant		Timely		Untimely	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Technical Components													
1	Cultivation techniques	75	37.50	125	62.50	136	68.00	64	32.00	172	86.00	28	14.00
2	New crop varieties	13	6.50	187	93.50	43	21.50	157	78.50	67	33.50	133	66.50
3	Plant protection	125	62.50	75	37.50	174	87.00	26	13.00	186	93.00	14	7.00
4	Crop disease	142	71.00	58	29.00	173	86.50	27	13.50	189	94.50	11	5.50
5	Seeds	22	11	178	89.00	57	28.50	143	71.50	73	36.50	127	63.50
6	Fertilizers application	135	67.50	65	32.50	163	81.50	37	18.50	185	92.50	15	7.50

Table 2: Technical components of the respondents in the mobile agro advisory services

Sl. No.	Particulars	Adequacy				Relevancy				Timeliness			
		Adequate		Adequate		Relevant		Not relevant		Timely		Untimely	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
7	Pesticides	108	54.00	92	46.00	155	77.50	45	22.50	181	90.50	19	9.50
8	Advance warning of weather risks	148	74.00	52	26.00	164	82.00	36	18.00	191	95.50	9	4.50
9	Cold storage networks	-	-	200	100.00	-	-	200	100.00	-	-	200	100.00
10	Transportation	-	-	200	100.00	-	-	200	100.00	-	-	200	100.00
11	Price of raw materials	136	68.00	64	32.00	97	48.50	103	51.50	126	63.00	74	37.00
12	Local price	38	19	162	81.00	94	47.00	106	53.00	129	64.50	71	35.50
13	Export price	3	1.50	197	98.50	2	1.00	198	99.00	9	4.50	191	95.50

messages on plant protection, followed by crop disease management (86.50%), advance warning of weather risks (82.00%), fertilizers application (81.50%), pesticides (77.50%) and cultivation techniques (68.00%).

The finding derives support from the studies of Patra *et al.* (2016) who indicated that 65.33 percent of the respondents expressed that weather information messages were more appropriate, followed by 58.66 percent of messages on production practices.

They felt that the messages on cold storage networks and transportation (100.00%), export price information (99.00%), new crop varieties (78.50%), seeds (71.50%), local price (53.00%) and price of raw materials (51.50%) were not related to them.

3.2.3 Message Timings

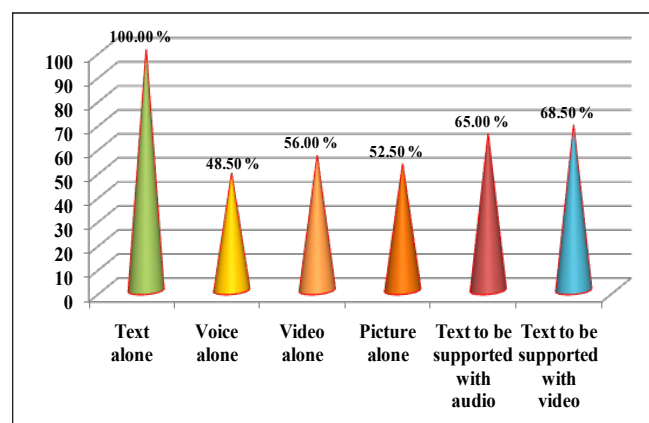
It is observed from table 2, that an overwhelming majority of the respondents (95.50%) had expressed that they received timely messages on advance warning of weather risks, followed by 94.50 percent of the respondents had message on crop diseases, technical information on plant protection (93.00%), fertilizers application (92.50%), pesticides (90.50%), cultivation techniques (86.00%), local price (64.50%) and price of raw materials (63.00%).

Further, they considered the receipt of some of the messages as untimely messages such as messages related with cold storage networks and transportation (100.00%), export price (95.50%), new crop varieties (66.50%) and the seeds (63.50%).

3.3 Form of the Messages

The figure 1, makes it clear that cent percent of the respondents preferred only text based messages, followed by nearly three-fourth of the respondents (72.50%) preferred text messages with pictures, 68.50 percent preferred as text to be supported with video, 65.00 percent preferred as text to be supported with audio. Fifty six percent of the respondents

preferred only video messages, followed by picture alone (52.50%) and 48.50 percent of the respondents preferred voice alone.



4. Conclusion

The study revealed that about seventy percentages of the respondents were using only ordinary mobile phones. But farmers now-a-days prefer to receive messages/ advisories in multimedia format. Hence they are equipped with smart phones such Hi-tech advisories are possible. State department of agriculture should take necessary steps to provide smart phones to farmers with subsidized rates. They should also be provided with concessional internet access. The service provider should adopt a uniform frequency/ timings of sending the messages and the same to be well informed to the farmer subscribers. Service provider should conduct the baseline survey to understand the needs of farmers, their cropping pattern and types of mobile phone they are using. It will be helpful to develop the relevant content, increased penetration and decreased inequality. Continuous farmers' need assessment should be done at village level so as to be able to meet the varied and increasing demands of farmers.

This would also help to provide timely and accurate messages to farmers.

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