Bulletin of Environment, Pharmacology and Life Sciences
Bull. Env. Pharmacol. Life Sci., Vol 7 [7] June 2018 : 32-36

Online ISSN 2277-1808
Journal's URL:http://www.bepls.com
CODEN: BEPLAD
Global Impact Factor 0.876
Universal Impact Factor 0.9804
NAAS Rating 4.95

ORIGINAL ARTICLE **OPEN ACCESS**

Effectiveness of Mobile Agro Advisory Service as Perceived by the Members of Farmer Producer Organisation

Suriyapriya.E[1]., Kavaskar,M[2] and Santha Govind[3]
1. PG-Scholar, 2. Assistant Professor, 3.Professor
Department of Agricultural Extension, Faculty of Agriculture, Annamalai University, TN

ABSTRACT
A study was taken up to determine the effectiveness of mobile agro advisory service as perceived by the respondents. The study was taken up in Kanchipuram District with a sample of 120 registered members of Chennai Horticulture Produce Producer Company by using random sampling technique. The effectiveness of mobile agro advisory service was measured through an "effectiveness index" developed for the study, which consisted of three dimensions viz., timeliness of information, utility of information and satisfaction of information. With regard to timeliness of information, most of the (83.33 per cent) respondents perceived that information on plant protection measures, marketing information (81.66 per cent) and information on latest technologies in agriculture and seed treatment (75.00 per cent) was provided in time. Regarding utility of information, most of the respondents agreed that the technological information (80.00 per cent) and the information on technologies received through mobile advisory service were suited to both big and small farmers (77.50 per cent). 80.00 per cent of the respondents were satisfied with the technological information provided by mobile advisory service in terms of incurred cost, while 72.50 per cent of the respondents were satisfied with the information on latest technologies.
Keywords: *Effectiveness, Mobile Agro Advisory Service, timeliness, utility, satisfaction of information, Farmer Producer Organisation,*

Received 02.02.2018 Revised 10.04.2018 Accepted 20.05.2018

INTRODUCTION

In the past decade, there has been a rapid growth of mobile phone usage all over the world. As of 2018, while the world population is 7.6 billion, the international telecommunication union estimated that there were 6.8 billion mobile phones subscribers worldwide. The mobile telephony has been most recent and widely accepted mode of delivering information not only in India but throughout the world. Increasing mobile phone and its services help in improving awareness, education, better adoption of technology, better health and efficiency, reduced transaction costs, better market efficiencies, etc. These in turn will catalyse the rural agricultural sector development and economic growth. In the perspective of the mobile phones, farmers can directly communicate with buyers and customers for selling their produce at good price. Mobile phone technologies have provided a good platform for farmers to share their knowledge and information among each other in time such as market rates, new varieties and weather information etc.,

Jensen [7] found that the introduction of mobile phones decreased price dispersion and wastage by facilitating the spread of information for fishermen in Kerala. Aker and Mbit [1] studied mobile use pattern among the sub Saharan African farming community and found that mobile phones have introduced new search technologies which reduced the search cost to a great extent. When compared to the costs involved for travelling and other opportunity costs, the initial investment made to purchase a mobile seemed highly reasonable. Thus, Aker and Mbit have concluded that mobile phones reduced search costs by 50 percent in Niger as compared with personal travel. Fafchamps and Minten [5] reported on SMS-based agricultural information service, Reuters Market Light (RML), in Maharashtra, India, which provided information on market prices, weather forecasts, crop advice, and general news items. In an impact study of the SMS service of Farm Science Centre in Babhaleshwar by Bhaskar [2], 70 per cent of the people contacted reported the service was excellent and the rest 30 per cent reported it was very

good. The farmers reportedly received 25-30 messages 8 per month at a nominal charge of Rs. 100 (USD 1.7) per year. Moreover they observed that if every alert is free, the usability of the alert service is not effective.

The advent of mobile has changed the era of Information Technology. Information Technology (IT) enabled services could help in solving some of the problems that Indian farmers are facing. Hence, keeping this mind, a study was taken up to determine the effectiveness of mobile agro advisory service as perceived by the respondents.

MATERIAL AND METHODS

The research study was conducted in Kanchipuram district. The study was taken up in eight villages which were selected based on the highest number of registered farmers under FPO. A sample of 120 registered farmers was selected by using random sampling technique. The study focused mainly on members of Farmer Producer Organization (FPO). Kanchipuram district had five FPOs. Among the five FPOs, Chennai Horticulture Produce Producer Company was selected purposively. Further, more number of farmers have registered in the mobile agro advisory service in the selected Farmer Producer Organization (FPO) for the study.

Effectiveness of mobile advisory services is the degree to which the farmer was satisfied with the services which were available in time. In terms of appropriate technology that increases their production as well as their income. The effectiveness was measured through an "effectiveness index" developed for the study, which consisted of three dimensions viz., timeliness of information, utility of information and satisfaction of information.

Timeliness of information refers to the availability of the technology and the services provided by the mobile advisory service at the appropriate time to the farmers in terms of seasonality of the crops grown in that particular area and was measured against two dimensions viz., timely and not timely and score of 2 and 1 was allotted respectively. The FPO members were asked to express their opinion about utility of mobile based agro advisory service under two dimensions viz., useful and not useful and a score of 2 and 1 was allotted respectively. Satisfaction of information referred to the degree to which information was able to meet the information need of the users. The farmers' satisfaction was operationally defined as the perceived satisfaction with the use of services provided by mobile advisory service and was measured against two dimensions viz., satisfied and not satisfied and score of 2 and 1 was allotted respectively. Their opinion against these four dimensions was tabulated and percentage analysis was worked out for easy interpretation of the results.

RESULTS AND DISCUSSION

The perception of the farmers on effectiveness of mobile agro advisory service was measured under all the three dimensions of the effectiveness index. The parameters of the effectiveness index are timeliness of information (TI), utility of information (UI) and satisfaction (S) of information and the results are presented in tables from 1- 3.

Table 1. Distribution of respondents according to their timeliness of information (n=120)

S.No.	Types of services	Timely		Not timely	
		Number	Per cent	Number	Per cent
1.	Field preparation	75	62.50	45	37.50
2.	High yielding varieties	69	57.50	51	42.50
3.	Seed treatment	90	75.00	30	25.00
4.	Sowing and transplanting	84	70.00	36	30.00
5.	Nutrient management	79	65.83	41	34.17
6.	Irrigation management	68	56.66	52	43.34
7.	Weed management	66	55.00	54	45.00
8.	Plant protection measures	100	83.33	20	16.67
9.	Harvesting and storage	87	72.50	33	27.50
10.	Marketing	98	81.66	22	18.34
11.	Latest technologies in agriculture	90	75.00	30	25.00
12.	Government schemes	65	54.17	55	45.83
13.	Information on training programmes	63	52.50	57	47.50
14.	Availability of agricultural inputs	55	45.83	65	54.17
15.	Weather information	71	99.16	49	40.84
16.	Crop insurance	76	63.34	44	36.66

Timeliness of information

It referred to the availability of the technology and the service provided by mobile advisory service at the appropriate time to the farmers in terms of seasonality of the crops grown in that particular area. The perception of the farmers was collected through the schedule. The data obtained are presented in Table 1.

The data in Table 1 represents the response of the respondents to the timeliness of information provided by mobile agro advisory service. It shows that most of (83.33 per cent) respondents perceived that information regarding the plant protection measures was provided in time, while 16.67 per cent of the respondents perceived that it was not provided in time. More than three-fourth of the respondents (81.66 per cent) were satisfied with the marketing information which was provided in time while 18.34 per cent of the respondents perceived that it was not provided in time. Three-fourth (75.00 per cent) respondents assumed that the latest technologies in agriculture and seed treatment was provided in time while one-fourth of the respondents (25.00 per cent) felt that it was not provided in time. This finding is in line with the findings of De Silva and Ratnadiwakara [3].

In case of harvesting and storage information, almost three-fourth (72.50 per cent) of the respondents perceived that it was provided in time while 27.50 per cent of the respondents reported that it was in time. Nearly three-fourth (70.00 per cent) of the respondents assumed that information regarding sowing and transplanting was provided in time, while 30.00 per cent of the respondents felt that it was not provided in time. In case of nutrient management related information nearly one-third (65.83 per cent) of the respondents felt that the information was not provided in time and (34.17 per cent) of the respondents felt that it was not provided in time. Regarding crop insurance nearly two-third (63.34 per cent) respondents felt that the information was provided in time while, 36.66 per cent of the respondents expressed that it was not provided in time.

Further, the data in the Table 1 showed that 62.50 per cent of the respondents perceived that the information regarding the field preparation was provided in time while, 37.50 per cent of them perceived that it was not provided in time. Regarding weather information nearly three-fifth (59.16 per cent) of the respondents felt the information was provided in time and two-fifth (40.84 per cent) of the respondents felt that it was not provided in time. About 57.50 per cent of the respondents assumed that information on high yielding varieties was provided in time while 42.50 per cent of them felt that it was not provided in time. Regarding information about irrigation management more than half the proportion (56.66 per cent) of the respondents felt that the information was timely, while 43.34 per cent of the respondents felt that it was not provided in time more than half the proportion 55.00 per cent of the respondents assumed that information regarding the weed management was provided in time while 45.00 per cent of them felt that it was not provided in time. In case of government schemes 54.17 per cent of the respondents felt that it was provided in time while 45.83 per cent of the respondents felt that it were not provided in time. Further, the findings showed that 52.50 per cent of the respondents perceived that the information on training programmes was not provided in time while 47.50 per cent of the farmers perceived that was provided in time.

Further, (45.83 per cent) of the respondents assumed that information availability of agricultural inputs was not provided in time 54.17 per cent of the respondents that it was timely. It could be concluded that most of the respondents received the agricultural information in time. This might be due to fact that the mobile agro advisory service played a vital role in availing the various information and services needed by the farmers. The provision of timely information helps in solving many problems of farmers. It is quite efficient in delivering advisory service, weather service, market support and diagnostic services. The intervention of mobile agro advisory service has changed the scenario of farming by providing appropriate technologies, market, input and information support which has resulted in increased yield and income to the farmers to a great extent. These may be the probable reasons for most of them to express that the information provided through mobile agro advisory service was timely. This finding is in line with the findings of Madan [8].

Utility of information

It was operationally defined as the degree to which the information provided by mobile agro advisory service expert as useful in resolving the farmer problems according to their farming needs. The data obtained are presented in Table 2.

Table 2. Distribution of respondents according to their utility of information (n=120)

S.No.	Various aspects of agro advisory service	Response	
		Number	Per cent
1.	Technological information received through mobile agro advisory service is highly relevant to our farming system	96	80.00
2.	Technological information received through mobile agro advisory service is suited for both big and small farmers	93	77.50
3.	Technological information received through mobile agro advisory service has increased the yield	80	66.67
4.	Marketing information through mobile agro advisory service has increased the price of produce	74	61.66
5.	Technological information received through mobile agro advisory service reduced pest and disease incidence	84	70.00

Table 2 represents the response of the respondents to the utility of information provided by the mobile agro advisory service. It showed that 80.00 per cent of the farmers agreed with the statement that technological information provided by mobile agro advisory service was highly relevant to farming system. About three-fourth (77.50 per cent) of the respondents assumed that information on technological information received through mobile agro advisory service was suited for both big and small farmers. This finding is in contradiction with the findings of Meera *et al.,* [9]. Further, the data revealed that 70.00 per cent of the respondents perceived that information regarding the technological information received through mobile agro advisory service reduced pest and disease incidence.

Almost two-third (66.67 per cent) of the respondents assumed that the technological information received through mobile agro advisory service has increased the yield. About three-fifth (61.67 per cent) of the respondents agreed that the marketing information received through mobile agro advisory service has increased the price of produce. This finding is in agreement with the findings of Meera *et al.,* [9].

It could be concluded that most of the respondents perceived that the information provided through mobile advisory service was useful in their field situation. This might be due to fact that among the modern information and communication technology modes, mobile phone is the most recent and widely accepted mode of delivering information in most of the developing country is including India. In this context, mobile agro advisory service is more appropriate which was cheaper, affordable and suitable by the FPO members that provided information to the respondents in their local dialect. This may be the probable reason for most of the respondents perceived that the information provided through mobile agro advisory service as useful.

Satisfaction of information

The farmers' satisfaction was operationally defined as the degree to which the information is able to meet the information need of the users. The data obtained is presented in Table 3.

Table 3. Distribution of respondents according to their satisfaction of information (n=120)

S.No.	Statements	Satisfied		Not satisfied	
		Number	Per cent	Number	Per cent
1.	The technological information obtained through mobile agro advisory service is cost effective	96	80.00	24	20.00
2.	Mobile agro advisory service are more relevant to our field situation	62	51.67	58	48.33
3.	Provides proper marketing linkage	66	55.00	54	45.00
4.	Mobile agro advisory service are helpful to increase in yield and to reduce the cost	73	60.84	47	39.16
5.	Mobile agro advisory service is suitable for providing the latest information	87	72.50	33	27.50

The data in Table 3, represents the satisfaction of FPO members of the farmers towards information provided by the mobile agro advisory service. It revealed that 80.00 per cent of the respondents were satisfied with the technological information provided by mobile agro advisory service in term of incurred cost, while one-fifth (20.00 per cent) of the respondents were not satisfied with it. Regarding information for providing the latest information 72.50 per cent of the respondents felt that they were satisfied, while 27.50 per cent of the respondents stated that they were not satisfied.

Almost three-fifth (60.84 per cent) of the respondents assumed that the mobile agro advisory service was helpful to increase the yield, and to reduce the cost was satisfied, while nearly two-fifth (39.16 per cent) felt that they were not satisfied. It showed that 55.00 per cent of the respondents perceived that mobile

agro advisory service provides proper marketing linkage, while 45.00 per cent of them perceived that they were not satisfied. Regarding mobile agro advisory service are more relevant to our field situation 51.67 per cent of them felt that the information was satisfied while (48.33 per cent) farmers said that it was not satisfied. Similar finding on market information was reported by Fischer *et al.,* [6].

The mobile agro advisory service was playing a vital role in availing different kind of information and the service need of the farmers. It provided timely information which would help in solving many problems of farmers. The mobile agro advisory service is quite efficient in delivering advisory service, weather service, market support and diagnostic services. The scenario of farming has changed due to intervention of mobile Agro advisory service in the districts of Tamil Nadu by providing appropriate technologies, market, input and information support which might have resulted in increased yield and income of the farmers to a great extent. This might have resulted with high level of satisfaction among the farmers. The effectiveness of mobile advisory service can be further increased by making partnership with government and other private agencies. This finding is in line with the findings of Madan [8].

CONCLUSION

With regard to timeliness of information, most of the (83.33 per cent) respondents perceived that information on plant protection measures, marketing information (81.66 per cent) and information on latest technologies in agriculture and seed treatment (75.00 per cent) was provided in time. With respect to utility of information, most of the respondents agreed that the technological information (80.00 per cent) and the information on technologies received through mobile advisory service was suited to both big and small farmers (77.50 per cent). 80.00 per cent of the respondents were satisfied with the technological information provided by mobile advisory service in terms of incurred cost, while 72.50 per cent of the respondents were satisfied with the information on latest technologies. Majority of the respondents were found to utilize information on crop insurance, weather information and marketing information. Government at national and state levels in India have to reorient the agricultural policies so that a full-fledged strategy is formed to harness the mobile advisory service potential for promoting the overall agricultural development.

REFERENCES

1. Aker, J.C. and I. Mbit. (2010). Information from Markets Near and Far: Mobile phones and Agricultural Markets in Niger, American Economic Journal of Applied Economics, 2: 46-59.
2. Bhaskar, G. (2013). Mobile SMS Application in Agricultural Information Dissemination: A Case on KVK, Bhabaleshwar SMS Alerts, Reading Material, Training Program on Application of ICTs in Modified Extension Reforms, National Institute of Agricultural Extension Management (MANAGE), Hyderabad, India
3. De Silva, H. and D. Ratnadiwakara. (2008). Using ICT to Reduce Transaction Costs in Agriculture Through Better Communication: A Case-Study from Srilanka.
4. LTRNEasia,http://www.lirneasia.net/wpcontent/uploads/2008/11/transactioncosts,pdf, accessed on May 2011.
5. Fafchamps M. and Minten B. 2011. Impact of SMS-Based Agricultural Information on Indian Farmers, World Bank Economic Review, 26 (3): 383-414.
6. Fischer, R.A., D. Byerlee and G.O. Edmeades. (2009). Can Technology Deliver on The Yield Challenge To 2050? Expert Meeting on "How to Feed the World in 2050", Food and Agriculture Organization of the United Nations and Economic and Social Development Department, Rome.
7. Jensen R. (2007). The Digital Provide: Information (Technology), Market Performance, and Welfare in the South Indian Fisheries Sector, The Quarterly Journal of Economics, 122, (3): 879-924.
8. Madan Singh. (2014). Critical Analysis of Mobile Based Agro -Advisory Service: A Case of mKRISHI. Unpublished M.Sc. (Ag.) Thesis, Faculty of Post Graduate School, Indian Agricultural Research Institute, New Delhi.
9. Meera, S.N., Jhantani, A. and D.U.M. Rao. (2004). Information and Communication Technology in Agricultural Productivity Development: A Comparative Analysis of Three Projects from India, Agricultural Research and Extension Network, 135: 1-13.

CITATION OF THE ARTICLE

Suriyapriya.E., Kavaskar,M and Santha Govind. Effectiveness of Mobile Agro Advisory Service as Perceived by the Members of Farmer Producer Organisation. Bull. Env. Pharmacol. Life Sci., Vol 7 [7] June 2018 : 32-36