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Usages of Mobile Application Developed by Krishi Vigyan Kendra Banavasi

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ABSTRACT

A survey was conducted to assess the impact of mobile applications developed by the KrishiVigyan Kendra Banavasi with 150 farmers in Kurnool district of Andhra Pradesh in the year 2020. KVK Banavasi developed three mobile applications namely ANGRAU-ATARI CFLD, ANGRAU *Pashu Poshan* and Fertilizer Calculator for benefiting farming community. Majority (64.67%) of the respondents were found in medium usage of mobile applications, in agriculture. Fertilizer Calculator mobile application was found highest usage (74.50%) among the farmers when compared with other two applications. ANGRAU ATATRI CFLD application was used by an average of 46.83 per cent farmers for information on new improved varieties, 75 % for control measures of pest and diseases and 29 per cent for market related information. ANGRAU *Pashu Poshan* application was used by 75 per cent livestock farmers for sheep management, 56 per cent for cattle management and 45 per cent for poultry related information. Fertilizer calculator application was used by 80 per cent farmers for recommended dose of fertilizers and 10 per cent for soil test based fertilizer application.

INTRODUCTION

Providing right agricultural information to farmers at a right time is a challenge and a key tool to the agriculturalist. The traditional ways of providing information to the farmers has become inoculated, untimed and features a method communication. Research, extension, literacy and infrastructure have been identified as the most important sources of growth in productivity in literature (Mittal & Kumar, 2000; Kumar & Rosegrant, 1994). Worldwide agriculture has witnessed a shift in the past few decades and extension mechanism need to stay ahead and equip the farmers by enhancing their management and decision making skills (Singh et al., 2018; Singh et al., 2020). Many nations are arising with the innovative ideas for an equivalent. With a replacement era of Digital India Movement the introduction of the new technologies have connected people round the world and altered the way people conduct business. Among ICTs, impressive penetration of mobile phones in many of the developing countries changing the agricultural communication process and mobile phones have made personal communications readily accessible, for the first time, to women and men, poor and prosperous, rural and urban dwellers in developing as well as in industrial countries (Colle, 2011). The Government is taking effort to develop many mobile applications in India to assist farmers in several ways and supply assistance through mobile application in different field of agriculture. In this existing scenario, it is expected that the integration of ICTs in agricultural extension will provide much needed impetus to agricultural sector and ICTs can complement the traditional extension system for “Knowledge Resource” delivery to the millions of the farmers (Saravanan, 2010). Information is vital in agricultural development because it is a tool for communication. Extension services are required to improve agricultural productivity by providing farmers with requisite information helping them to optimize use of limited resources (Muyanga & Jayne, 2006; Singh et al., 2017). In India, large numbers

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of positions in public extension system are vacant, resulting in overload for extension personnel and thus, lowering their efficiency (Mukherjee & Maity, 2015). Keeping this in view Krishi Vigyan Kendra Banavasi developed three mobile applications viz.; ANGRAU-ATATRI CFLD application which covers the production technologies of pulses and oil seeds, ANGRAU PASHU POSHNA application developed for livestock farmers to cater the information needs of livestock which covers aspects like cattle management, sheep and goat management, poultry (layer & broiler), strategies that help in doubling farmer's income some best management practices and technologies along with good quality pictures and Fertilizer Calculator app imparts knowledge in Soil test based fertilizer application as well as recommended dose of fertilizer for different crops which helps in use of crop specific correct dose of fertilizers in the form of direct or complex fertilizer forms to reduce the indiscriminate and excessive use so as to reduce the cost of cultivation and to avoid the soil pollution .These mobile applications were developed with a aim to disseminate timely and user friendly information to the agricultural as well as livestock farmers.

METHODOLOGY

The study was conducted during the year 2019-20 by with objective of the usage of the mobile applications developed by Krishi Vigyan Kendra Banavasi. The investigation was carried out in Kurnool district of Andhra Pradesh. Kurnool district consists of 54 mandals / blocks. Among the 54 blocks, Gonegandla and Yemmiganur blocks were selected for the study. Among the 20 villages of Gonegandla Block, three villages were selected, and from 39 villages of Yemmiganur Block, three villages were selected. Ten respondents were selected from each identified village by random sampling technique, thereby, making a sample of 150 respondents. The data was collected by a pre-tested structured interview schedule through personal interview method. To measure the extent of use of mobile applications for seeking information on agriculture among the respondents, a tool was developed. A total of 3 mobile applications were included to find out the usage of these mobile apps. The responses were recorded on a three point continuum i.e. frequently, occasionally, and seldom which were assigned 3, 2 and 1 score respectively. To find out level of mobile application use overall score for each respondent was calculated and respondents were categorized into three groups on the basis of calculated mean and standard deviation of the scores obtained by the respondents. Frequency and percentage of respondents in each category i.e. less use, moderate use and high use were calculated. To determine the extent of use of each mobile application mean per cent score was worked out and ranked accordingly. Z' test was carried out in order to find out the difference between the respondents of Yemmiganur and Gonegandla mandals about usage of mobile application in agriculture.

RESULTS AND DISCUSSION

Among the different modes of communications, nearly 85 per cent of farmers accessed the agriculture information through mobile phones followed by Newspapers (60%). However, the information received through personal contact was limited to 20-25 per cent farmers (Table 1). Similar trend was reported by Joshi et al., (2019) on social media and on WhatsApp messenger by Nain et al., (2019) whereas different trends were reported by Bhagat et al., (2004)

Table 1. Source of agricultural information to farmers

S. No.	Particulars	Yemmiganur (%)	Gonegandla (%)
1	Radio	10	15
2	TV	20	25
3	Mobile	85	85
4	News Papers	60	45
5	Neighbour farmers	30	35
6	Personal contact with Agriculture Department & KVK	20	25

Data presented in Table 2 depict that majority (64.67%) of the respondents were found in medium usage of mobile applications, whereas 17.33 percent respondents were in low group and 18.00 per cent farmers were in the high group of mobile applications usage in agriculture. The results are in accordance with Jat et al., (2021).

Table 2. Use of Mobile applications for seeking Agricultural Information

S. No.	Level of mobile application use	Yemmiganur (%)	Gonegandla (%)	Total
1	Less (up to 12)	16.00	18.67	17.33
2	Medium (13 to 21)	65.33	64.00	64.67
3	High (above 21)	18.67	17.33	18.00
	Total	100	100	100

The data depicted in Table 3 indicate that use of "Fertilizer Calculator" mobile application was highest (74.50%) among the farmers and this tool was ranked first. Similarly the utilization of "ANRAU-ATARI CFLD" (35.25%) was accorded 2nd rank followed by, 'ANGRAU PASHUPOSHAN' (28.85%) respectively in Yemmiganur mandal. In Gonegandla mandal same trend was observed in the usage of mobile applications. Further, it was noted that respondents of Yemmiganur mandal had more use of mobile applications than respondents of Gonegandla mandal. There was no significant difference in the usage of mobile applications between the farmers of Yemmiganur and Gonegandla mandals.

From Table 4 it can be inferred that majority (85.00%) of the farmers were using this application for varietal information on groundnut indicated as rank 1, plant protection as rank II, varietal information on bengal gram as rank III, crop production related information IV, varietal information on blackgram crop as rank V, market related information VI, varietal information on redgram crop as rank VII and varietal information on safflower crop as rank VIII. The plausible reasons for the above trend might be due to the fact that the majority of the farmers were in need of knowledge and source of improved and high yielding varieties of oil seeds especially groundnut followed by varietal information on pulses mainly on bengal gram, plant protection measures and market related aspects.

ANGRAU PASHU POSHAN mobile application was used by majority (75%) of famers for sheep and goat management as rank 1. This might be due to the Sheep and goat population is more in Kurnool district as compare with other animals. Cattle management

Table 3. Utilization of mobile applications by the farmers for seeking agricultural information

S.No	Name of the mobile application	Yemmiganur		Gonegandla		Total	
		Percentage	Rank	Percentage	Rank	Percentage	Rank
1	ANGRAU-ATARI CFLD	35.25	II	34.55	II	36.75	II
2	ANGRAU PASHU POSHAN	28.85	III	26.75	III	27.50	III
3	Fertilizer Calculator	75.12	I	76.50	I	74.50	I
	Mean	46.41		45.93			
	SD	20.47		21.84			
	'Z' value		1.95^{NS}				

Table 4. Usage of Mobile Application by Farming community

S. No.	Information in the mobile application	Usage means score (%)	Rank
A)	*ANGRAU ATARI CFLD*		
1	Varietal information on ground nut crop	85	I
2	Plant protection	75	II
3	Varietal information on Bengal gram crop	65	III
4	Crop production related information	48	IV
5	Varietal information on Black gram crop	43	V
6	Market related information	29	VI
7	Varietal information on Redgram crop	25	VII
8	Varietal information on safflower crop	15	VIII
	Mean	48.125	
	SD	25.04	
B	*ANGRAU PASHU POSHAN*		
1	Sheep& goat Management	75	I
2	Cattle Management	56	II
3	Poultry Management	45	III
4	Doubling farming Income strategies	10	IV
5	Best Management practices in live stock	8	V
6	Other useful Information	5	VI
	Mean	33.16	
	SD	27.01	
C)	*Fertilizer Calculator*		
1	Recommended doses of fertilizers without soil test	80	I
2	Fertilizer doses for major nutrients	70	II
3	Fertilizer doses for secondary nutrients	25	III
4	Fertilizer doses for micro nutrients	15	IV
5	Soil Test Based Fertilizer application	10	V
	Mean	40	
	SD	29.15	

as rank II, Poultry management as rank III, Doubling farming Income strategies as rank IV, Best Management practices in livestock as rank V and Other useful Information as rank VI. Panda et al., (2019) stated that the benefits extracted by the farmers by using ICT tools mostly for communication and for general information but very low to get higher price of produce with significance level of influence on benefit extraction. The present findings are also contradictory to the findings of Rajput et al. (2009). Fertilizer Calculator was used for recommended doses of fertilizers without soil test by majority (80%) of farmers as rank I, Soil Test Based Fertilizer application, fertilizer doses for major nutrients as rank II, fertilizer doses for secondary nutrients as rank III, Fertilizer doses for micro nutrients rank IV and soil Test Based Fertilizer application as rank V.

The trend might be due to farmers are slowly getting knowledge about soil health and importance of soil testing. However after getting soil test report they are unaware of its interpretation and use of STBF accordingly. Hence most of farmers depend on recommended doses of fertilizers instead of soil test based fertilizer application. This app imparts knowledge in soil test based fertilizer application as well as recommended dose of fertilizer for different crops which helps in use of crop specific correct dose of fertilizers in the form of direct or complex fertilizer forms to reduce the indiscriminate and excessive use so as to reduce the cost of cultivation and to avoid the soil pollution. These findings were in accordance with Aker, 2011 who also stated low-cost information and communication technology tools possess the ability to deliver timely, relevant, and actionable information to farmers at lower costs than traditional extension services.

CONCLUSION

From the study it can be concluded that mobile applications developed by Krishi Vigyan Kendra Banavasi are very useful which saved the time and expenses by getting ready solution on day to day farm activities. Immediate solution to the farmers on mass level through this Apps could have been achieved by KVK and need & time based service to the farming communities were served. The mobile applications were user friendly and meet the needs of agriculture and livestock farming community. There is large scope for mobile applications to disseminate the information in local languages. Hence it can be concluded that as of mobile applications, as an omnipresent tool in future extension.

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