P-ISSN: 2618-0723
E-ISSN: 2618-0731

Extension Journal

NAAS Rating (2025): 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 12; December 2025; Page No. 656-659

Received: 11-09-2025
Accepted: 14-10-2025

Indexed Journal
Peer Reviewed Journal

Attitude of Farmers towards Mobile Apps in Andhra Pradesh

[1]P Lakshmi Priya, [2]G Sivanarayana [3]Mathi Girishma, [4]Vishalakshi Choubey and [5]Penadyala Keerthi

[1]M.Sc. Scholar, Department of Agricultural Extension Education, Agricultural College, Bapatla, Andhra Pradesh, India

[2]Senior Professor (Extension) & University Librarian, Administrative Office, ANGRAU, Lam, Guntur, Andhra Pradesh, India

[3]PhD Research Scholar, Indira Gandhi Krishi Vishwavidyalaya, Andhra Pradesh, India

[4]PhD Research Scholar, Indira Gandhi Krishi Vishwavidyalaya, Andhra Pradesh, India

[5]M.Sc. Scholar, Department of Agricultural Extension Education, Agricultural College, Bapatla, Andhra Pradesh, India

DOI: https://www.doi.org/10.33545/26180723.2025.v8.i12i.2821

Corresponding Author: P Lakshmi Priya

Abstract

The development of mobile phone applications offers a real-time and efficient platform for sharing agricultural information among farmers, extension officers, and institutions. These apps serve as a promising tool to enhance agricultural productivity in the country. The main target of the study was on the attitude of farmers towards mobile apps in the Kakinada district of Andhra Pradesh. The study was performed in a simple randomly chosen district and respondents were selected purposively who are using mobile apps. Data was collected from the respondents with the help of well-structured interview schedule during the year 2024. The acquired data was analysed by using mean and standard deviation. The findings showed that majority (68.33%) of the farmers had favourable attitude towards mobile apps, followed by highly favourable (22.5%) attitude and rest (9.17%) of the farmers had least favourable attitude towards mobile apps.

Keywords: Attitude, Mobile application, Agriculture, Technology

Introduction

Agriculture is the mainstay of Indian economy. About 70 per cent of rural households still depend primarily on agriculture for their livelihood, with 82 per cent of farmers being small and marginal (FAO, India at a glance, 2024). The majority of the farmers are low-tech, small-scale subsistence farmers with low productivity. Many reasons contribute to low productivity, such as high labor costs, erratic crop yields and a lack of understanding about new technology applications and techniques. Therefore, it is necessary to develop a user friendly system from where the essential information is accessible by farmers.

One solution to curb this problem is with the usage of smartphones as internet connectivity has largely increased in rural areas. The third party software that most smart phones have installed is often known as mobile applications (or mobile apps). The world is humming to the tune of mobile apps which is a solution for everything. Mobile application is also known as an app, smartphone app, web app, online app or iPhone app. It is a computer program designed to run on a mobile device such as a phone/tablet or watch and often stand in contrast to desktop applications that run on desktop computers and with web applications which run in mobile web browsers rather than directly on the mobile device. Mobile apps in the field of farming can be the most excellent option to boost farming production in country. Farmers can now readily download agricultural mobile applications to their smartphones in order to access a variety of amenities that were before unavailable to them. Hence, mobile applications are an amiable option for transmitting information to people in villages and rural areas.

Farmers can access all this information at the very touch of a button. There are various types of agricultural mobile applications, ranging from market information platforms and weather prediction tools to digital finance and supply chain management solutions. These apps can be downloaded from the Google Play store or on the official website mkisan.gov.in. Additionally, there are apps created by NGOs, the corporate sector, and agricultural organisations. Some of agri mobile applications are Kisan Suvidha, Pusa krishi, Crop insurance, Agri market, IFFCO kisan, Kheti- badi, Krishi Gyan, AgriApp, Organic farming, Farm-o-pedia, mKisan, e-Rythu, mana Verusanaga App, Agritech, Angrau-KVK Banavasi CFLD, angraurbk, Fertilizer Calculator, ANGRAU-Pashu Poshan, NaPanta, AgriCentral, Vyavasayam, BigHaat, KisanKonnect, IFFCO bazar etc.

In a country like India, where agriculture serves as the backbone of the economy and employs a significant portion of the population, understanding the attitudes towards mobile applications by farmers had become a matter of paramount importance and the success of these apps depends on farmers attitude towards their adoption and utilization. The fusion of traditional farming practices with cutting-edge technology has the potential to enhance productivity, streamline processes and empower farmers

with valuable insights.

Methodology

The present study was conducted in Kakinada district of Andhra Pradesh for the duration of the year 2022-2024. An *Ex-Post Facto* research design was used in the present investigation. Kakinada district was selected by using simple random sampling procedure. Three mandals namely Kajuluru, Karapa and Pedapudi were selected by using simple random sampling procedure from Kakinada district. From each mandal four villages were selected by using random sampling procedure. T.Mamidada, Jaganadhagiri, Sila and Gollapalem from Kajuluru mandal; Karapa, Penuguduru, Nadakuduru and Gurajanapalli from Karapa mandal; Domada, Atchutapuratrayam, Pedapudi and Puttakonda from Pedapudi mandal were selected for the study. Thus a total of twelve (12) villages were selected for the study. From each selected village, ten farmers were selected purposively who were using mobile apps, thus making a total of 120 farmers. Data was collected through a well-structured interview schedule which was developed keeping in view of the objective of the study. For this objective, scale consists of 26 statements. Out of 26 statements, 20 were positive and 6 were negative statements and rated on a five-point continuum 'Strongly Agree', 'Agree', 'Undecided', 'Disagree', and 'Strongly Disagree' with scores of 5, 4, 3, 2 and 1 respectively for positive statements. For negative statements the score of 1, 2, 3, 4 and 5 were assigned for 'Strongly Agree', 'Agree', 'Undecided', 'Disagree', and 'Strongly Disagree', respectively. On the groundwork of attitude scores obtained, farmers were categorized into three categories as less favourable, medium favourable and highly favourable. The collected data were coded, classified and tabulated. The statistical tools like Frequency, Percentage, Mean and Standard Deviation were used.

Results and Discussion

It was inferred from Table 1 that majority (68.33%) of the farmers had favourable attitude towards mobile apps, followed by highly favourable (22.5%) attitude and rest (9.17%) of the farmers had least favourable attitude towards mobile apps.

Table 1: Distribution of farmers according to their attitude towards mobile apps (n=120)

S. No.	Attitude	Frequency	Percentage
1.	Least favourable attitude (<76.50)	11	9.17
2.	Favourable attitude (76.50-91.11)	82	68.33
3.	Highly favourable attitude (>91.11)	27	22.5
Total		120	100

The possible reason for this kind of result might be that majority of farmers were aware of the various functions of mobile apps like providing market information, weather reports, majority of farmers were using mobile apps and other ICT tools frequently. They are getting timely and accurate information round the year without time and space barriers from mobile apps. This kind of attitude might have influenced to develop favourable attitude towards mobile apps. Slightly less than one-tenth of the farmers having least favourable attitude towards mobile apps might be due to lack of knowledge to use mobile apps, illiteracy among farmers and also difficulties in clarification of doubts. The result was in accordance with findings of Bhosale and Kadam (2022) [2], Abdullahi *et al*. (2021) [1], Serawat (2021) [13], Naik (2018) [11], Islam and Rashid (2016) [6], Lokeswari (2016) [9], Palaiah *et al.* (2016) [12], Verma *et al.* (2016) [15], Kabir (2015) [7], Kumar *et al*. (2012) [8], Shankaraiah and Narayana Swamy (2012) [14], Verma *et al.* (2012) [16], Dhaka and Chayal (2010) [3], Ganeshkumar *et al.* (2008) [5] and Madhubabu (2008) [10].

Table 2: Item wise analysis of farmers according to their attitude towards mobile apps (n=120)

S. No.	Statements on Apps	SA		A		UD		D		SD		Mean Score	Rank
		F	%	F	%	F	%	F	%	F	%		
1.	Apps have access to current information on improved farming activities	8	6.66	111	92.5	1	0.84	0	0	0	0	4.06	IV
2.	Apps have helped to facilitate transferring information within farm families	4	3.33	64	53.33	51	42.5	1	0.84	0	0	3.58	VII
3.	Apps have greatly help us to improve the quality of our produce	4	3.34	52	43.33	28	23.33	36	30	0	0	3.2	XIII
4.	Apps have enhanced contact with extension workers.	3	2.5	25	20.84	45	37.5	47	39.16	0	0	2.86	XIX
5.	Apps help us to understand market situations effectively	54	45	54	45	2	1.67	10	8.33	0	0	4.26	II
6.	Apps help in speedy spread of information amongst farmers	30	25	77	64.16	10	8.34	3	2.5	0	0	4.11	III
7.	Availability of Apps has no impact on our production (*)	0	0	15	12.5	49	40.84	56	46.66	0	0	3.34	XI
8.	Apps aid significantly in input sourcing at good price.	1	0.84	65	54.16	22	18.34	32	26.66	0	0	3.29	XII
9.	Apps help to monitor weather conditions	80	66.6	37	30.9	0	0	3	2.5	0	0	4.61	I
10.	Apps help to get update information on global trend on agriculture development	6	5	76	63.33	2	1.67	36	30	0	0	3.43	IX
11.	Apps help to easily access government initiatives on agriculture	3	2.5	40	33.34	11	9.16	66	55	0	0	2.83	XX
12.	With apps members of the farmer group are effectively carried along	0	0	1	0.84	44	36.66	75	62.5	0	0	2.38	XXV
13.	International organizations can easily reach to farmers with the aid of apps	0	0	34	28.33	9	7.5	77	64.17	0	0	2.64	XXIII
14.	Apps help to monitor trend of growth in the farm	3	2.5	87	72.5	17	14.16	13	10.84	0	0	3.66	VI
15.	Apps help to timely detect production problem for prompt response	3	2.5	68	56.66	36	30	13	10.84	0	0	3.50	VIII
16.	With apps it is easy to access insurance cover for our farming process	1	0.84	13	10.83	4	3.33	33	27.5	69	57.5	1.7	XXVI
17.	Apps help in timely delivery of farm inputs	4	3.34	51	42.5	28	23.33	37	30.83	0	0	3.18	XV
18.	Apps not necessary in farming (*)	0	0	3	2.5	32	26.67	80	66.66	5	4.17	3.72	V
19.	Apps are detrimental to our local ways of farming (*)	0	0	4	3.34	89	74.16	27	22.5	0	0	3.19	XIV
20.	Apps are causing complexity in farming operations generally (*)	27	22.5	5	4.16	45	37.5	42	35	1	0.84	2.87	XVIII
21.	I do not need apps to be able to enhance my production (*)	30	25	19	15.83	8	6.67	46	38.33	17	14.17	3.0	XVI
22.	Apps not significant in improving quality of production (*)	0	0	35	29.16	8	6.67	75	62.5	2	1.67	3.36	X
23.	Apps have greatly enhanced extension activities in our area	0	0	19	15.83	46	38.34	55	45.83	0	0	2.7	XXII
24.	With apps, it is now easy to get information on any new problem in farming	0	0	23	19.16	64	53.34	33	27.5	0	0	2.91	XVII

25.	Apps have helped speedy transfer of funds for timely input delivery	2	1.67	34	28.33	15	12.5	69	57.5	0	0	2.74	XXI
26.	Apps have helped in speedy disposal of farm produce at desirable price	0	0	14	11.67	43	35.83	63	52.5	0	0	2.59	XXIV

SA- Strongly Agree, A- Agree, UD- Undecided, DA- Disagree, SDA- Strongly Disagree.

The results from the table 2 denoted the attitude of the farmers towards mobile apps. The attitude statements were ranked accordingly revealing farmers' attitude towards mobile apps. The statement 'apps help to monitor weather conditions' was ranked first with a mean score of 4.61, followed by 'apps help us to understand market situations effectively' with a mean score of 4.26 (rank II), 'apps help in speedy spread of information amongst farmers' with a mean score of 4.11 (rank III), 'apps have access to current information on improved farming activities' with a mean score of 4.05 (rank IV), 'apps not necessary in farming' with a mean score of 3.72 (rank V), 'apps help to monitor trend of growth in the farm' with a mean score of 3.66 (rank VI), 'apps have helped to facilitate transferring information within farm families' with a mean score of 3.58 (rank VII), 'apps help to timely detect production problem for prompt response' with a mean score of 3.50 (rank VIII), 'apps help to get update information on global trend on agriculture development' with a mean score of 3.43 (rank IX), 'apps not significant in improving quality of production' with a mean score of 3.36 (rank X), 'availability of apps has no impact on our production' with a mean score of 3.34 (rank XI), 'apps aid significantly in input sourcing at good price' with a mean score of 3.29 (rank XII), 'apps have greatly help us to improve the quality of our produce' with a mean score of 3.2 (rank XIII), 'apps are detrimental to our local ways of farming' with a mean score of 3.19 (rank XIV), 'apps help in timely delivery of farm inputs' with a mean score of 3.18 (rank XV), 'I do not need apps to be able to enhance my production' with a mean score of 3.0 (rank XVI), 'with apps, it is now easy to get information on any new problem in farming' with a mean score of 2.91 (rank XVII), 'apps are causing complexity in farming operations generally' with a mean score of 2.87 (rank XVIII), 'apps have enhanced contact with extension workers' with a mean score of 2.86 (rank XIX), 'apps help to easily access government initiatives on agriculture' with a mean score of 2.83 (rank XX), 'apps have helped speedy transfer of funds for timely input delivery' with a mean score of 2.74 (rank XXI), 'apps have greatly enhanced extension activities in our area' with a mean score of 2.7 (rank XXII), 'international organizations can easily reach to farmers with the aid of apps' with a mean score of 2.64 (rank XXIII), 'apps have helped in speedy disposal of farm produce at desirable price' with a mean score of 2.59 (rank XXIV), 'with apps members of the farmer group are effectively carried along' with a mean score of 2.38 (rank XXV) and 'with apps it is easy to access insurance cover for our farming process' with a mean score of 1.7 (rank XXVI).

An appraisal of the content analysis of 26 statements as shown in the table 4.19 that the majority of the farmers had more favourable attitude towards mobile apps. So there might be an urgent need to organize effective training programmes and demonstrations for farmers on mobile apps usage.

However, it is crucial to acknowledge that challenges such as limited internet connectivity, digital literacy and data privacy must be addressed to ensure that the benefits of these apps are accessible to all farmers, regardless of their location or background.

Conclusion

The findings indicated that the majority of respondents had a positive attitude towards agricultural mobile apps and utilized them to a great extent for various services provided through mobile apps. This was a good sign and this has to be still improved by conducting more training programmes about the beneficial use of these apps. Improvement in internet connectivity, reduction in internet data tariffs, use of mobile apps by state line departments on sharing agricultural information, minimizing the irrelevant posts, providing only certified and high-quality inputs on purchasing platforms, time of responding the query should be minimal were suggestions for effective use of mobile apps.

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