Biological Forum – An International Journal **14(4): 1111-1114(2022)**

ISSN No. (Print): 0975-1130
ISSN No. (Online): 2249-3239

Perception and Utilization Pattern of Information and Communication Technology Tools by the Farmers of Nagarkurnool District

B. Rajashekar[1*], K. Aruna[2], M. Rajashekhar[3], T. Prabhakar Reddy[4], M. Jagan Mohan Reddy[5] and G. Shiva Charan[6]

[1]SMS(Extension), KVK, Palem, PJTSAU, Nagarkurnool (Telangana), India.
[2]Assistant Professor, Department of Agricultural Extension, College of Agriculture, Rajendranagar (Telangana), India.
[3]Scientist (Entomology), AICRP on Ornithology, PJTSAU, Hyderabad (Telangana), India.
[4]Programme Coordinator, KVK, Palem, PJTSAU (Telangana), India.
[5]Director, EEI, PJTSAU, Rajendranagar (Telangana), India.
[6]SMS(Extension), KVK, Adilabad, PJTSAU, Adilabad (Telangana), India.

(Corresponding author: B. Rajashekar)*
(Received 13 September 2022, Accepted 29 October, 2022)
(Published by Research Trend, Website: www.researchtrend.net)

ABSTRACT: Information and Communication Technology (ICT) can revolutionize Indian farming sector and can benefit all farmers. ICT's today serving many purposes like agriculture, business and social development activities etc., especially in agriculture from crop production technologies to marketing, facilitating forward & backward linkages to the farm produce. ICTs is digital interactive platform assisting farmers and other stakeholders in agriculture. The study reported more than (63.33%) half of the farmers indicated that information is highly relevant to the particular location and need based, Majority (55.00%) of the farmers expressed that information is technical and applicable, locally feasible to our situation and acted as a preventative measures of yield losses. Majority of respondents (58.33%) farmers were expressed that the available information is easy to understand, 60.00 per cent of the respondents expressed that ICT tools provided information were adequate and enough to adopt and practice in field situations and 48.33 per cent of the farmers expressed that available information is compatable and applicable in field conditions. In content availability majority (78.33%) of the expressed that crop protection measures followed by crop management technologies and input information. Whereas usage of ICT tool most (70.00%) of the farmers expressed that daily followed by need based. In reasons for using of ICT tools most (88.33%) of the farmers expressed that app having diversity data followed local language of the content.

Keywords: ICT, Perception, content and Extent of usage.

INTRODUCTION

Agriculture plays a vital role in the Indian economy with more than 58 per cent of rural households depending on agriculture as their primary occupation of livelihood. Agriculture, is subsistence in nature with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP) in India. Its need to give more emphasis for timely access to information for decision making in agriculture and allied sectors. Keeping this view various options have been explored for transferring information to farmers in timely and cost-effective manner. The potential of Information and Communication Technologies (ICTs) in enabling access and exchange of information for farmers is evident. Among ICTs, there has been increasing use of mobile phones which is changing the agricultural communication process in recent times. The introduction of ICT tools has resulted in new services and applications. In the agriculture sector, these include access to market information, weather information, monitoring plant health, education, other services etc.

The introduction of ICT tools has led to the development of new services and applications in agriculture for the benefit of farmers and other stakeholders. These services are addressing the information and communication gap between farmers and extension personnel and giving a bargaining position to farmers (Saravanan, 2014). Access to information on new varieties, inputs such as seed, fertilizers, machinery, price information, weather, pests and diseases, nutrient management at the right time can help farmers get access to crucial information to support activities from production to marketing. The

growth of mobile communication technology is creating a number of opportunities for social empowerment, and grassroots innovation in developing countries. One of the areas with potential impact is in the contribution of mobile applications to Agricultural and Rural Development (ARD), by providing access to information, markets, and services to rural inhabitants (World Bank, 2012).

Studies reveal that mobile phones have a positive impact on sustainable poverty reduction and identify accessibility as the main challenge in harnessing the full potential (Bhavnani and Asheeta 2008). According to 'The Rising Connected Consumer in Rural India', a study by the Boston Consulting Group, up to 300 million Indian consumers are expected to be online by 2020. More than half of the new internet users are expected to come from rural communities. Cheaper mobile handsets, spread of wireless data networks, and evolving consumer preferences will all drive rural penetration and usage. The advantages of mobile phones include: affordability, wide ownership, voice communication, and instant and convenient service delivery. Due to these, there is explosion across the world in the number of mobile apps, facilitated by the evolution of mobile networks and by the increasing functions and falling prices of mobile handsets (World Bank, 2012).

ICT's today serving many purposes in farming like crop production technologies to marketing, facilitating forward & backward linkages. The ICT based digital platform assisting farmers and all other stakeholders in agriculture. Their main aim to make the farmers well informed added features like farm advisory services, Agri e-commerce and crop expenditure analysis, equipment procurement and several farm related aspects in a user-friendly way (Digital Green, 2017). ICT tools, such as e-mails, groupware, networking tools and others can support and boost for effective knowledge sharing (Tan and Wong 2015) in agriculture to address the Inefficiencies in pre-harvest management for residue free agri produce with superior market linkages across villages in India. ICTs can complement the traditional extension system for 'Knowledge Resource' delivery to the millions of farmers (Saravanan, 2010). By using ICT tools, a farmer can access real time and dynamic information like crop management techniques, almost allcrops pest control, agri equipment rental, sale or buy, weather forecast, crop insurance, cold storage and related agri-dealer information of the farmer location but still the utilization pattern of mobile phone information is not up to the mark expected and accessibility of ICT tools. In this context present study revealed to know the extent of usage of ICT mechanism and constraints faced by the respondents.

METHODOLOGY OF THE STUDY

The 'Ex post- facto' research design was chosen for the study. The state of Telangana was selected purposively. Telangana state consist three agro climate zones like Southern Telangana zone, Northern Telangana zone and Central Telangana zone. The Nagarkurnool district was selected purposively for the study. A sample of 60 beneficiary farmers were selected by using random sampling method. A well-structured interview schedule was used to collect the data and statistical tools like mean, frequency and percentages were used for analysis of data.

RESULTS AND DISCUSSION

In this research study to explore that perception of the farmers on information acquiring through ICT tools like plant protection, Agriculture marketing aspects, crop management practices and fertilizers management techniques etc.

Table 1: Perception of farmers towards ICTs N=60.

Sr. No.	Thematic area		F	%
1.	Relevance	Highly relevant	38	63.33
		Moderately relevant	14	23.34
		Irrelevant	8	13.33
2.	Message treatment	Less technical	9	15.00
		Somewhat technical	18	30.00
		Highly technical	33	55.00
3.	Understanding the message	Easy to understand	35	58.33
		Difficult to understand	14	23.33
		Not understand	11	18.33
4.	Traits of the content	In considering its economic, technological and local feasibility of the information	22	36.66
		In considering the advantages of the information	26	43.33
		In considering the degree of complexity of the information	13	21.66
		In considering the degree of compatability of the information	29	48.33
		In considering the degree of trialability of the messages	24	40.00
5.	Content adequacy	Adequate	36	60.00
		Need more information	13	21.67
		Not at all adequate	11	18.33

Here we studied the farmers perception on information available in ICT tools in terms of relevant, content adequacy, traits of the information and understanding of the information. Table 1 revealed that more than half of the (63.33%) farmers indicated that information highly relevant to the particular location and need based and 13.33 per cent of the thought that the information not at all relevant to the particular situation.

Majority of the farmers (30.00%) expressed that available information is easy to applicable and locally feasible to our situation and advantage of the available information for taking as a preventative measures of crop damage. Half of the (55.00%) farmers were expressed that information is scientific nature and technically sound followed by somewhat technical (30.00%). Whereas attributes of the technical information 48.33 per cent of the farmers expressed that highly compatable followed trialable of the available information in the ICT tools.

Most of the farmers (60.00%) thought that available information adequate and enough matter for timely operations in farming and 58.33 per cent of the farmers expressed that the information easily understandable.

Utility pattern of farmers towards ICT tools. Table 2 indicated that most of the respondents expressed that availability of the content like 'Crop protection measures (78.33%), crop management technologies (75.00%), followed by input related information, crop calendar, market price and weather information. The probable reason is farmers get instant information on timely pest and disease control measures and market related information play very critical role in minimizing cost of cultivation of the farmers.

Frequency of usage or utility of the app Table 3 reported that most of the members using every day (70.00) followed by need based (65.00%), weekly (58.34%), Seasonal basis (53.33%) and others. Under every day utilization pattern of ICT tool majority (41.67%) of the respondents using in morning times followed by evening times. The probable reason is every day farmers visited the field in morning hours after visiting they observe some problems and search the information as per the problem and need based.

Reasons for using ICT tools Table 4 revealed that most of the members expressed that app having diversity data (88.33%) followed by content delivery in local language (85.00%), easily accessible procedures (81.67) according Panjshiri *et al*. (2018), multimedia aspects (78.33%) and technical words (75.00%).

Table 2: Content availability.

Sr. No.	Content availability	Frequency(F)	Percentage (%)
1.	Crop protection measures	47	78.33
2.	Crop management technologies	45	75.00
3.	Market price	38	63.33
4.	Crop calendar	39	65.00
5.	Input information	42	70.00
6.	Weather information	36	60.00
7.	Post-harvest management practices	39	65.00
8.	Others	35	58.33

Table 3: Extent of utilization / Frequency of usage.

Sr. No.			Frequency(F)	Percentage (%)
1.	**Daily**		42	70.00
	Time of usage in day	a. Morning	25	41.67
		b. Evening	15	25.00
		c. As and when required	12	20.00
		d. During free time	8	13.33
2.	**Need based**		39	65.00
3.	**Weekly**		35	58.34
4.	**Seasonal basis**		32	53.33
5.	**Irregularly**		26	43.33

Table 4: Content specifications.

Sr. No.	Content analysis	Frequency(F)	Percentage (%)
1.	Content language (vernacular)	51	85.00
2.	Accessibility (Easy)	49	81.67
3.	Diversity of the data	53	88.33
4.	Multimedia (pictures, Images and Visual etc.)	47	78.33
5.	Font size and colour	40	66.67
6.	Technical words used etc.	45	75.00

The reason might be farmers can get multidiscipline information with regional (local) language. Avoiding usage of jargon words in technical information with good quality visuals for real time exposure of the farmers on specific issues.

Constraints elicited by the farmers regarding on ICT tools service. Table 5 could be, referred that, the majority of farmers facing constraints like Lack of practical exposure (I), followed by Clarification is difficult if any doubt arises(II) and incomplete messages & Lack of locally relevant information (III).

Suggestions advised by the farmers to enhance of the ICT tools service for effective manner. Table 6 inferred that, the majority of farmers suggested the suggestions or strategies like Use simple language and avoid complex word in text (I), followed by, short video messages (II), Provide information on integrated technologies (III).

Table 5.

Sr. No.	Statements	Frequency(F)	Percentage (%)	Rank
1.	Lack of practical exposure	63	70.00	**I**
2.	Clarification is difficult if any doubt arises	69	76.67	**II**
3.	Incomplete messages & Lack of locally relevant information	53	58.89	**III**

Table 6.

Sr. No.	Statements	Frequency(F)	Percentage (%)	Rank
1	Use simple language and avoid complex word in text	77	85.56	**I**
2	Short video messages	62	68.89	**II**
3	Provide information on integrated technologies	46	51.11	**III**

CONCLUSION

The ICT tools important for dissemination of agricultural information to the farmers and can play a greater role in enhancing efficiency of extension services by reaching the unreached farmers in remote areas. The study revealed that mobile app services are highly relevant to the farm situation, locally feasible, economic, understandable, needful, saves time and money, practically applicable in field conditions. ICT era serves as a boon to the welfare of the farming community.

REFERENCES

Bhavnani and Asheeta (2008). The Role of Mobile Phones in Sustainable Rural Poverty Reduction. Washington DC, World Bank.

Digital Green (2017). Digital Green's LOOP Pooling Technology and Extension Networks for Market Access. Digital-Green-Loop-brief-June2017).

Panjshiri, K., Nagappan, S. and Suganthkumar, P. (2018). Perceived Level of Importance and Competency of Agricultural Extension Officers in Agriculture and Allied Activities. *Journal of Extension Education*, *30*(2): 6079-6082.

Saravanan Raj (2014). Mobile Phones for Agricultural Extension; Worldwide m-Agri Innovations and promise for future. New Delhi, NIPA.

Saravanan, R. (2010). ICTs for Agricultural Extension: Global experiments, Innovation and Experiences. *New India publishing agency*, New Delhi 115-168.

Tan, L. P. and Wong, K. Y. (2015). Linkage between knowledge management and manufacturing performance: a structural equation modeling approach. *Journal of Knowledge Management, 19*(4), 814-835.

World Bank (2012). ICT in agriculture connecting smallholders to knowledge, networks and institutions. Report number 64605.

How to cite this article: B. Rajashekar, K. Aruna, M. Rajashekhar, T. Prabhakar Reddy, M. Jagan Mohan Reddy and G. Shiva Charan (2022). Perception and Utilization Pattern of Infrormation and Communication Technology Tools by the Farmers of Nagarkurnool District. *Biological Forum – An International Journal, 14*(4): 1111-1114.