

To Assess the Knowledge Level of Farmers on ICT Interventions in Agri-Allied Enterprises

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Abstract:- Agriculture is a major part of our economy and the related industries that support it are essential to giving farmers more advantages. Modern agriculture depends on timely and reliable information regarding market access, weather forecasting, and agricultural inputs, among other things. But farmers do not receive adequate information about the market, weather forecasts, etc. because of a lack of physical infrastructure, awareness, and information. Information and Communication Technology (ICT) is an effective way for develop and raise the agriculture standard. The main objective of this study was to access the knowledge level of ICTs among farmers for getting different Agriculture Information. There in regards, extensive use of information technologies must be promoted to farm level for transfer of technologies. The study was conducted during the year 2019 to assess the attitude of farmers towards information and communication technology tools in two blocks i.e., Baliana and Balipatna of Khurda district of Odisha. Pre-structured interview schedule was used for data collection from the farmers and appropriate statistical tools were used to analyse the collected data. Proportionate random sampling was used in the selection of one hundred and twenty (120) farmers as the sample of the study. The outcomes confirmed that majority of the respondents had good knowledge on television with a mean score of 2.83. Majority of the respondents had awareness on advisory services from Kisan Call Centre and ama krushi with mean score of 2.83. It was observed that majority of the respondents had learned new skill from ICT interventions with a mean score of 2.83 and knowledge gap of 5.57%. majority of the respondents had full information on weather i.e. cyclone with mean score of 3. Majority of the respondents had full information on disease management practices of crop with mean score of 3. Majority of the respondents had good information on MSP with mean score of 2.67, followed by regulated market and unregulated market and local market mandis with mean score of 2.17 and lowest on market incentives. Majority of the respondents had good information on calf, milch and pregnant animal with a mean score of 2.53 and lowest with heifer and bull and bullocks with mean score of 2. Majority of the respondents had good information on breeds, proper feed, different diseases of the animals and veterinary clinic located nearby with mean score of 2.21 and lowest with the vaccination schedule of the animals with mean

score of 2.17. There is maximum knowledge gap on Community Radio, tablet and laptop that can be minimized through skill-oriented training programmes, various successful case studies may also be cited to the respondents for motivation and adoption.

Keywords:- Agriculture, Awareness, Farmers, ICT, Knowledge, Information.

I. INTRODUCTION

A broad range of services, applications, and technologies utilizing a variety of hardware and software configurations are referred to as information and communication technology, or ICT. ICT tools are starting to become more significant tools for the nation's economic development. These days, ICTs aren't just employed for research and development; they're also widely used for extension services globally. With India's economy increasing at the quickest rate in the world, the services that ICT tools can provide have had a major influence on the country's economic progress. Utilizing ICT technologies for agricultural communication has several benefits, one of which is its increased efficiency in recent years. When it comes to using ICT to give farmers the information they need, India has not fallen behind. According to Bhatnagar and Vyas (2001), bringing ICT to underdeveloped rural regions can spur transformation. However, certain requirements, such reliable electricity and software, are necessary to make this introduction affordable and long-lasting. If these crucial elements are absent, it might be wiser to look for more suitable, low-tech fixes. The efficient use of ICT by extension services, along with a strong linkage and perfect information flow, can greatly increase agricultural productivity and improve rural livelihoods in developing nations. Being the first point of contact between farmers and other participants in the agricultural knowledge and information system, front line extension workers are in a good position to use ICT to access expert knowledge or other kinds of information that could help them carry out their daily tasks. According to one study by Bell et al. (2004), middle-class and upper-class individuals are more likely to utilize ICTs in both urban and rural settings. The availability of ICT tools for farmers is what matters most. The policy makers should address issues that are critical to the growth of the rural community, such as security, empowerment, and opportunity gaps. Access to ICT can significantly help overcome these limitations (OECD, 2007).

Dissemination, exchange, and sharing of knowledge are components of the larger subject of knowledge management. Creating long-lasting value out of information and intellectual assets is the main goal of knowledge management. In light of this, the study was conducted to assess the knowledge level of farmers on ICT interventions in agri-allied enterprises.

II. METHODOLOGY

Ex-post-facto research design was used in the present investigation. The study was undertaken in Balianata and Balipatna blocks of Khurda district (Fig. 1) during the year 2019 with 120 respondents taken randomly for data

collection. A total of four villages were covered under the study. From each selected gram panchayat, two villages from each gram panchayat namely Atala and Balabhadrapur villages of Balianata block and Arilo and Baradapada villages of Balipatna block were selected randomly based on maximum ICT activities undertaken. The primary data was collected with the help of well-structured and pre-tested interview schedule, designed especially in the light of objectives, whereas secondary data was collected from sources like thesis, journals, literature etc. The statistical measures like frequency, percentage, mean, standard deviation, were used to analyse the data to draw tangible inferences.

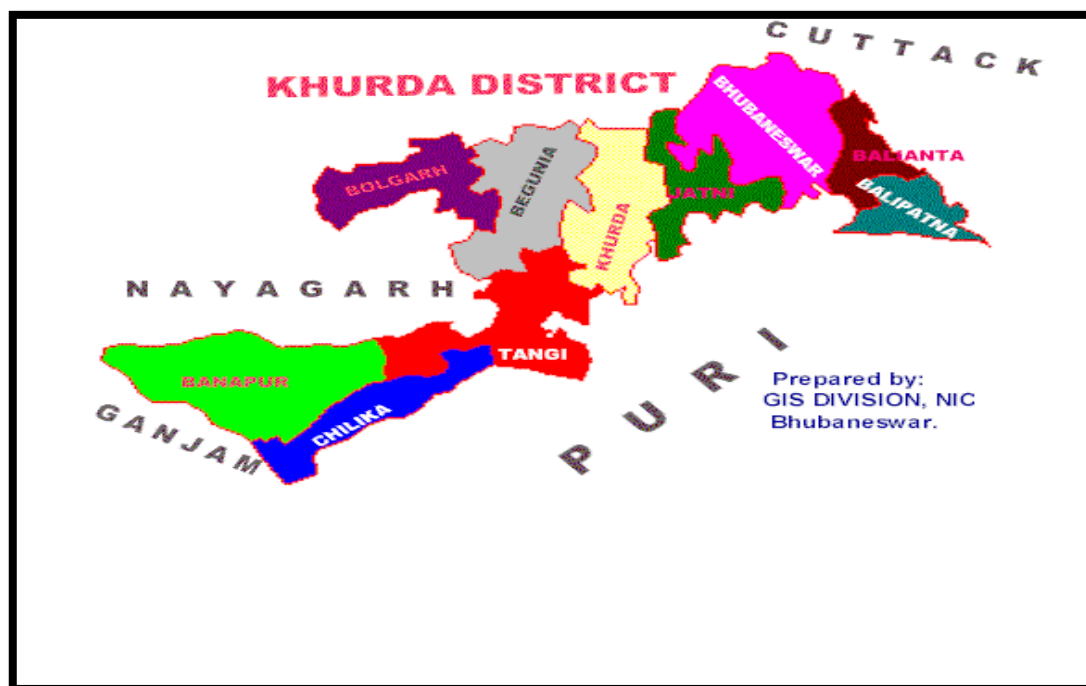


Fig. 1. Sample Area (Khurda district).

III. RESULTS AND DISCUSSION

Here an attempt has been made in the chapter to analyse the knowledge level of the respondents on ICT interventions in agri-allied activities. The responses on knowledge level of the respondents were analysed and presented in the table below.

Table 1 Knowledge Level of Respondents on Contact with ICT tools(n=120)

SI No	Statements	Mean Score	Gap%
1)	Do you have the contact with the following ICT tools?		
	Radio	1.92	36.10
	Television	2.83	5.57
	Landline	1.58	47.23
	Mobile	2.21	26.40
	Community radio	1.00	66.67
	Newspaper	2.58	13.90
	Tablet	1.00	66.67
	Computer	1.42	52.77
	Laptop	1.00	66.67
	Farm journals	1.33	55.57

From the above table it was observed that majority of the respondents had good knowledge on television with a mean score of 2.83, followed by newspaper 2.58, mobile with mean score of 2.21, radio with mean score of 1.92, landline with mean score of 1.58, computer with mean score of 1.42, farm journals with mean score of 1.33 and the lowest with community radio, tablet and laptop with a mean score of 1.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of Community Radio, tablet and laptop of 66.67 % followed by farm journals with a knowledge gap of 55.57 %, knowledge gap on computer of 52.77 %, landline of 47.23 % and radio of 36.10%, knowledge gap on mobile of 26.40%, knowledge gap on newspaper of 13.90% and the lowest on television of 5.57%.

Table 2 Knowledge Level of Respondents on Awareness on ICT Tools(n=120)

SI No	Statements	Mean Score	Gap%
2)	Do you have awareness on the following ICT interventions?		
	e-kisan	2.42	19.43
	GKMS	2.17	27.77
	ama krushi	2.83	5.57
	Kisan Call Centre	2.83	5.57
	e-choupal	2.21	26.40
	SAMRUDHI	2.25	25.00
	CRS (Community Radio Station)	2.17	27.77
	RFIS (Reliance Foundation Information Services)	2.16	27.77

From the above table it was observed that majority of the respondents had awareness on advisory services from Kisan Call Centre and ama krushi with mean score of 2.83, e-kisan with a mean score of 2.42, SAMRUDHI with a mean score of 2.25, e-choupal with mean score of 2.21 and the lowest with GKMS, CRS (Community Radio Station) and RFIS (Reliance Foundation Information Services) with mean score of 2.167.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of GKMS, CRS (Community Radio Station) and RFIS (Reliance Foundation Information Services) of 27.77, followed by e-choupal of 26.40, SAMRUDHI of 25%, e-kisan of 19.43%, ama krushi of 5.57% and no gap in case of Kisan Call Centre.

Table 3 Knowledge Level of Respondents on Skills with ICT Tools (n=120)

SI No	Statements	Mean Score	Gap%
3)	Do you gain new skill from the ICT interventions?	2.83	5.57

From the above table it was observed that majority of the respondents had learned new skill from ICT interventions with a mean score of 2.83 and knowledge gap of 5.57%.

Table 4 Knowledge Level of Respondents on Information Related to Agriculture (n=120) Information on Weather

SI No	Statements	Mean Score	Gap%
a)	Do you have the information on weather for each day?		
	Rainfall	2.83	5.57
	Hailstorm	2.17	27.77
	Cyclone	3.00	0
	Lightening	2.42	19.43
	Windspeed	2.00	33.33
	Humidity	2.00	33.33

From the above table it was observed that majority of the respondents had full information on weather i.e. cyclone with mean score of 3, followed by rainfall with mean score of 2.83, lightening with mean score of 2.42, hailstorm with a mean score of 2.17 and lowest on windspeed and humidity with mean score of 2.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of windspeed and humidity of 33.33%, followed by hailstorm of 27.77%, lightening of 19.43%, rainfall of 5.57% and no gap in case of cyclone.

Table 5 Information Related Topackage of Practices

SI No	Statements	Mean score	Gap%
b)	Do you have the knowledge on the package of practices of crops you are growing i.e.,		
	Land preparation	2.83	5.57
	Nursery raising	2.83	5.57
	Sowing	2.83	5.57
	Transplanting	2.83	5.57
	irrigation	2.83	5.57
	Disease management	3.00	0
	INM	2.75	8.33
	IPM	2.75	8.33
	Harvesting	2.83	5.57
	Post-harvest management	2.33	22.23

From the above table it was observed that majority of the respondents had full information on disease management practices of crop with mean score of 3, followed by land preparation, nursery raising, sowing, transplanting, irrigation and harvesting with mean score of 2.83, INM and IPM with mean score of 2.75 and lowest with post-harvest management with mean score of 2.33.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of post-harvest management of 22.33%, INM and IPM of 8.33%, land preparation, nursery raising, sowing, transplanting, irrigation and harvesting of 5.57 and no gap in case of disease management practices of crop.

Table 6 Information on Market

SI No	Statements	Mean score	Gap%
c)	Do you have the information on market?		
	MSP (minimum support price)	2.67	11.10
	Regulated market and Unregulated market	2.17	27.77
	Local market mandis	2.17	27.77
	Market incentives	2.00	33.33
	Market demands	2.00	33.33

From the above table it was observed that majority of the respondents had good information on MSP with mean score of 2.67, followed by regulated market and unregulated market and local market mandis with mean score of 2.17 and lowest on market incentives and demands with mean score of 2.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of market incentives and demands of 33.33%, followed by regulated market and unregulated market and local market mandis of 27.77% and lowest in case of MSP of 11.10%.

Table 7 Knowledge Level of Respondents on Information Related to Animal Husbandry (n=120) Information Related Tocare and Management

SI No	Statements	Mean score	Gap%
a)	Do you know the care and management of dairy animal?		
	Calf	2.53	13.90
	Heifer	2.00	33.33
	Milch animal	2.53	13.90
	Pregnant animal	2.53	13.90
	Bulls and bullocks	2.00	33.33

From the above table it was observed that majority of the respondents had good information on calf, milch and pregnant animal with a mean score of 2.53 and lowest with heifer and bull and bullocks with mean score of 2.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of heifer and bull and bullocks of 33.33% and lowest in calf, milch and pregnant animal of 13.90%.

Table 8 Information Related to Animal Husbandry

SI No	Statements	Mean Score	Gap%
b)	Do you know the breeds of animals?	2.208	26.400
c)	Do you have the information on the vaccination schedule of the animals?	2.167	27.767
d)	Do you know the proper feed of the animals?	2.208	26.400
e)	Do you have the information on the different diseases of animals?	2.208	26.400
f)	Do you have knowledge on the veterinary clinic located nearby?	2.208	26.400

From the above table it was observed that majority of the respondents had good information on breeds, proper feed, different diseases of the animals and veterinary clinic located nearby with mean score of 2.21 and lowest with the vaccination schedule of the animals with mean score of 2.17.

The analysis of knowledge gap indicates that among the respondents the knowledge gap was maximum in case of information on breeds, proper feed, different diseases of the animals and veterinary clinic located nearby of 26.40% and lowest in case of vaccination schedule of the animals of 27.77%.

Table 9 Maximum Knowledge Gap Percentage

SI No	Statements	Max Gap%
1)	Community radio	66.67
2)	Tablet	66.67
3)	Laptop	66.67

From the above analysis it is concluded that there is maximum knowledge gap on Community Radio, tablet and laptop that can be minimized through skill-oriented training programmes, various successful case studies may also be cited to the respondents for motivation and adoption. Through demonstrations and exposure visits of farmers can also enrich their knowledge level and motivate them to adopt in their own situation to improve their standard of living.

IV. CONCLUSIONS

Most of the farmers depended on TV and mobile for getting wide range of information because of its accessibility. Dissemination of information like marketing information, package of practices through mobile and the television could create a positive impact on the production system of the country. The major challenges inhibiting the use of ICT in disseminating agricultural knowledge and information are the low level of access to ICT infrastructure and services which need to be addressed. The existing potential for extending the current ICT infrastructure to reach rural farmers, coupled by the presence of wide area radio service coverage across the country, should be exploited to implement ICT-based knowledge and information dissemination in the short-term. Government and its partners should consider policy and investment priorities to promote cost-effective knowledge management in agriculture.

V. SCOPE FOR FURTHER RESEARCH

The study has great scope and can be done on different places in Odisha as well as India. This type of study would help the agricultural scientists to measure the performance of ICT in different locations.

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