

UTILIZATION OF ICT TOOLS FOR AGRICULTURAL INFORMATION'S BY THE FARMERS IN BANKA DISTRICT OF BIHAR

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ABSTRACT

The study was conducted in Banka District of Bihar to measure the extent of utilization of ICT tools for agricultural information by the farmers in Banka district of Bihar. A total number of 120 respondents were selected purposively from five villages under Barahat block based on the maximum number of ICT users in the district. The data were collected by personnel interview method by using pre structured interview schedule and later appropriate statistical analysis was done to draw logical conclusion. The study revealed that majority 48.3 per cent of the respondent belonged to middle aged group. All the 10 independent variables i.e., age, education, annual income, land holding, family size, occupation, economic motivation, extension contact, risk bearing capacity, progressiveness, were positively and significantly correlated with overall extent of utilization of ICT tools for agricultural information by the farmers. All the independent variables included in the study revealed that majority 46.6 per cent of respondents had low level of utilization of ICT for agricultural information, followed by 33.4 per cent and 20 per cent of respondents with medium and high level of utilization respectively.

KEYWORDS: Utilization, ICT Tools, Positive and Significant

Article History

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INTRODUCTION

India is 2nd largest country in terms of population, & its increasing day by day. Small and *marginal farmers* having below two hectares of land constitute 83.50 % of the total *land holdings of nation*. Major chunk of this population is settled in urban areas, but most important chunk still lives in the rural area.

Bihar is the third most populous state in India with over 100 million inhabitants. The state's economy is dominated by agriculture: it constitutes 19.2% of state's GDP and employs nearly 75% of the labour force. 92.8% of the farmers in Bihar are small and marginal (small holders), which is much higher than India average of 83.5%. Furthermore, Bihar's agriculture productivity is one of the lowest in India. (Source: Census of India 2011)

Technology transfer has been a longstanding issue in rural development. The key concerns relate to efficiency and effectiveness, how to translate and adopt the technology developed in rural societies. The process of technology transfer falters, not at the microlevel pilot study or test plot, but at the point when the technology is expected to be adopted and used both efficiently and effectively on a larger scale.

ICT is an umbrella term that includes any communication device or application, encircling radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, with the various services and applications connected with them, such as videoconferencing and distance learning. It also consists of a wide range of technologies starting from radio, television and telephone to modern technologies like mobile phone, multimedia, internet and satellite-based communication systems. (UNDP 2012)

The infusion of new, advanced technologies has allowed the global agriculture sector to surge ahead and transform the way producers cultivate, harvest, and distribute agricultural commodities. The use of ICT in agriculture, or e-agriculture, has accelerated agricultural and rural development by adopting innovative ways to improve the existing information and communication processes. It has particularly revolutionized smallholder agriculture in several agrarian economies and has helped address several challenges associated with the traditional form of agriculture. (Source: Cropin)

ICT can play a significant role in rural development by helping the rural farmers to access new knowledge, up-to date information and entrepreneurship skills. There are different ICTs including computers, internet, geographical information systems, mobile phones and traditional media (radio, television) which are used in delivering agricultural information to the farmers (Stienen et al., 2007).

RESEARCH METHODOLOGY

Descriptive research design was adopted for the study as it describes the characteristics or phenomena that are being studied. The present study was conducted in Banka district of Bihar. Out of 11 blocks in Banka district, Barahat block is selected purposively based on the maximum number of ICT users in the district. From each selected block, five villages were selected purposively based on the maximum number of ICT users in the district.

OBJECTIVES OF THE STUDY

- Ñ To assess the socio-economic profile of the respondents.
- Ñ To find out the utilization of ICT tools for agricultural information's by the farmers.

RESULTS AND DISCUSSIONS

Table 1, it shows that 48.33 per cent of the respondents belong to the middle age group. It can be clearly seen that 37.50 per cent of the respondents are illiterate. In terms of annual income 60.00 per cent of the respondents have medium level of income (i.e., 120000 – 240000) and 40.00 per cent has land holding between 2.5 – 5 acres. It is significantly visible that 40.00 per cent of the respondents are having only agriculture only as their occupation and 40.83 per cent of the respondents has medium size family. It is also evident that 56.70 per cent of the respondent has low level of extension agent contact. It is depicted in table that 45.80 per cent of the respondents have medium level of economic motivation and 55.00 per cent of the respondents have low level of risk bearing capacity. It is seen that 40.00 percent of the respondent showed low level of progressiveness. Similar finding is also reported by Hasan (2019)

Table 2 shows that a majority of the respondents 46.60 per cent has low level of utilization of ICT tools for agricultural information. 40.83 per cent of the respondents partially agreed that use of ICT tools has helped in better knowledge of agriculture. 43.33 per cent of the respondents disagree in considering ICT as primary source of agricultural information. 36.67 per cent of the respondents were fully corrected about agricultural work getting easier by the use of ICT. 57.50 per cent of the respondents were disagreed about convenient agricultural hacks. 58.33 per cent of the respondents were fully corrected about weather prediction

through ICT. 51.67 per cent of the respondents were disagreed on awareness generation by ICT among small and marginal farmers. 45.84per cent of the respondents disagree on ICT removing intermediaries& middlemen. 55.83per cent of the respondents were partially agreed in knowing governmental scheme through ICT. 51.67per cent of the respondents disagree on becoming self-aware and conscious through ICT. 58.33per cent of the respondents disagreed on active participation of KVK and other governmental organisation in promoting use of various ICT tools. Similar finding is also reported by **Hassan (2019)**

Table 3, reveals that46.60 per cent of the respondents had low level of utilization of ICT tools for agricultural information. Considerable percentage of respondents were found having medium level33.40 per cent and low level 26.67 per cent of utilization respectively. Similar finding was also reported by **Meludu (2021)**.

Table 4 it is concluded that the independent variables i.e. age, education qualification land holdings, family size, economic motivation, progressiveness, extension agent contacts were positively and significantly correlated with utilization of ICT tools for agricultural information at 0.01% of probability, and hence, null hypothesis was rejected for these variables. Whereas independent variable such as, annual income, occupation, & risk bearing capacity was positively and significantly correlated with the utilization of ICT tools for agricultural information at 0.05% of probability. Therefore, the null hypothesis was rejected for these variables. The similar findings were also reported by **Kameswari (2009)**.

Table 1: Socio-Economic Profile of the Respondents

S. No	Independent Variables	Category	Frequency	Percentage
1.	Age	Young (Up to 35 years)	39	32.50
		Middle(36-55 years)	58	48.33
		Old (above 55 years)	23	19.17
2.	Education	Illiterate	45	37.50
		Primary Education	12	10.00
		Junior high Education	15	12.50
		High Education	14	11.67
		Intermediate	11	9.17
		Graduate & above	23	19.16
3	Annual income	Low (<120000)	32	26.67
		Medium (120000 – 240000)	72	60.00
		High (>240000)	16	13.33
4	Land holding	<2.5 acre	42	35.00
		2.5 – 5 acres	48	40.00
		>5 acre	30	25.00
5	Family size	Small (<5 members)	60	50.00
		Medium (5 – 6 members)	49	40.83
		Large (>6 members)	11	9.17
6	Occupation	Agriculture	48	40.00
		Agriculture + Labour	30	25.00
		Agriculture + Business	18	15.00
		Agriculture + Animal husbandry	24	20.00
7	Economic motivation	Low (8 – 11)	42	35.00
		Medium (12 – 14)	55	45.80
		High (15 – 17)	23	19.20
8	Extension contacts	Rarely (4 – 6)	68	56.70
		Medium (7 – 8)	40	33.33
		High (9 – 10)	12	10.00
9	Risk bearing capacity	Low (6 – 10)	66	55.00
		Medium (11 – 14)	12	10.00
		High (15 – 18)	42	35.00
10	Progressiveness	Low (9 – 11)	48	40.00
		Medium (12 – 13)	36	30.00
		High (14 – 15)	36	30.00

Table 2: Utilization of ICT Tools for Agricultural Information's by the Farmers

S. No.	Statement	Response		
		Fully Agree F%	Partially Agree F%	Disagree F%
1.	Use of ICT helps in better knowledge of agriculture.	36(30%)	49(40.83%)	35(29.17%)
2.	ICT primarily serves as a source of agricultural information utilized by farmers	27(22.50%)	41(34.17%)	52(43.33%)
3.	ICT use make the agricultural work easier	44(36.67%)	43(35.83%)	33(27.50%)
4.	Use of ICT to learn agricultural hack has benefitted the farmers.	14(11.67%)	37(30.83%)	69(57.50%)
5.	Through ICT use, one can easily predict the weather of present and future.	70(58.33%)	28(23.33%)	22(18.34%)
6.	Utilization of ICT has created an awareness of increased productivity among small and marginal farmers.	24(20%)	34(28.33%)	62(51.67%)
7.	With the use of ICT farmers, can eliminate intermediaries and directly sells to the consumer.	28(23.33%)	37(30.83%)	55(45.84%)
8.	With ICT use, farmers gain the economic stability by knowing about various agricultural schemes.	29(24.17%)	67(55.83%)	24(20%)
9.	Utilization of ICT has made farmers self-aware in terms of agriculture and its allied branches.	34(28.33%)	24(20%)	62(51.67%)
10.	Members of KVK and other agricultural organization promote use of tools for detailed agricultural information	15(12.50%)	35(29.17%)	70(58.33%)

Table 3: Distribution of Respondents According to their Overall Utilization Level

S. No.	Category	Number	Percentage
1.	Low level knowledge (16 – 20)	56	46.60
2.	Medium level knowledge (21 – 24)	40	33.40
3.	High level knowledge (25 – 28)	24	20.00
	Total	120	100.00

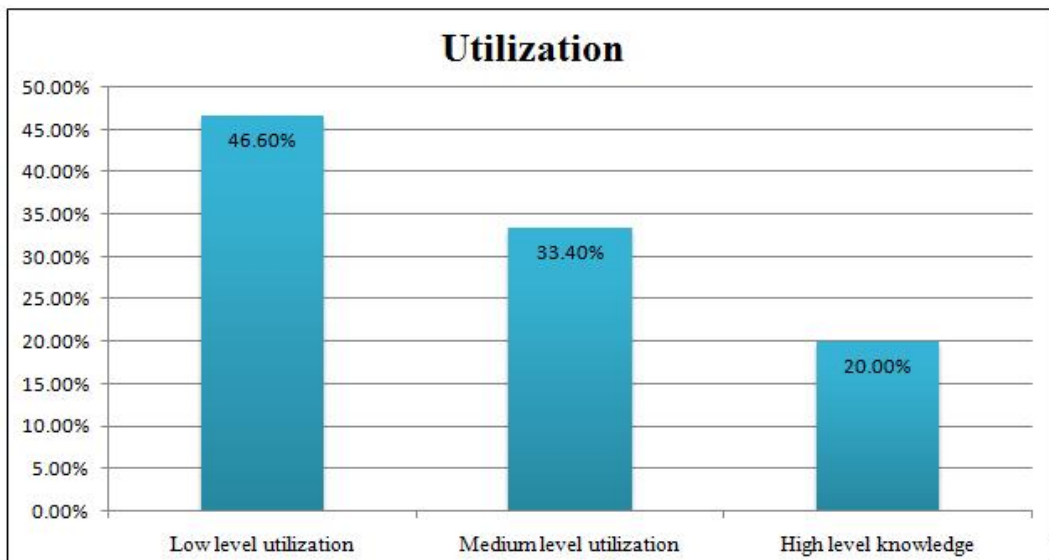


Figure 1: Distribution of Respondents Based on their Overall Utilization of ICT Tools for Agricultural Information.

Table 4: Association between Selected Independent Variables with Utilization

S. No.	Variables	Correlation Coefficient ®
1	Age	0.562*
2	Educational Qualification	0.988*
3	Annual Income	0.281**
4	Land Holding	0.657*
5	Family Size	0.954*
6	Occupation	0.323**
7	Economic Motivation	0.594*
8	Progressiveness	0.863*
9	Extension Contact	0.998*
10	Risk Bearing Capacity	0.439**

*=Correlation is significant at the 0.01 %level of probability

**= Correlation is significant at the 0.05% level of probability

CONCLUSIONS

It is concluded that the age of the majority of the respondents was middle and their educational level is low. Majority of the respondents possessed low level of risk bearing capacity. The respondents were mostly utilizing low level of extension agent contacts with help of ICT tools. Majority of the occupation of the respondents is agriculture. Majority of the respondent's annual income is medium level and most of the respondent's family size is of low level. Economic motivation and Land holding of the respondent is of medium level & progressiveness of the respondent falls under low level. The overall utilization of ICT tools by the respondents was found to be of low level. The independent variables i.e. age, education qualification land holdings, family size, economic motivation, progressiveness, extension agent contacts were positively and significantly correlated with utilization of ICT tools for agricultural information at 0.01% of probability. It is suggested that government/administration should take swift action by channelizing all agricultural institutions and organisation in the direction of core development, where the bodies should organise regular camps to create awareness about the use of ICT tools in the growing world of technology. There is a strong and urgent need of Union for farmers in Banka district in order to provide a common platform to raise their voice and prevent farmers from exploitation.

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