Constraints faced by the farm youth in utilization of information and communication technology (ICT) tools

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ABSTRACT

The research study was conducted in Tiruvannamalai district of Tamil Nadu in twelve villages which were selected based on the maximum number of farm youth involved in farmer interest groups of ATMA. A sample size of 120 respondents was selected from twelve revenue villages based on random sampling method. The major constraint faced by farm youth was poor internet connectivity (71.66%). Farm youth highlighted that the connectivity was very slow and had limited access to internet networks. Lack of awareness on ICTs was the constraint expressed by about three-fifth (60.83%) of the respondents. Lack of training programmes was the next constraint expressed by majority of the respondents (57.50%). Out of fifteen independent variables studied four variables viz farm size, information sharing behaviour, social participation and innovativeness showed a positive and significant relationship with the utilization of ICT tools. The first and foremost suggestion given by majority of the respondents was that the information should be in local language (73.33%) followed by marketing information should be provided through ICT tools (65.83%).

Keywords: Constraints; farm youth; utilization; suggestions; ICT

INTRODUCTION

The advent of information and communication technology (ICT) is considered as one of the driving forces of globalization. Integration of ICT is rapidly transforming the way of agricultural technology transfer. The ICT-enabled extension systems are acting as a key agent for changing agrarian situation and farmers' lives by improving access to information and sharing knowledge. ICT in agricultural extension can lead to the emergence of knowledge workers that will result in the realization of a bottom-up and demand-driven paradigm for technology generation, assessment, refinement and transfer (Meera 2002). A strong agricultural extension linkage complimented by flawless information flow enhanced by the effective use of ICTs will significantly boost agricultural production and improve rural livelihoods in developing countries (Arokoyo 2005). Agriculture is one of the important sectors in India. Apart from this India is also a forerunner in IT sector. Empowerment of the rural agrarian community depends on the better accessibility to ICT services. But access to information and communication technology is far less especially when coming to rural areas. ICT can bring revolution in the agrarian society with proper approachability. However it is observed that the rural population still has difficulty in accessing crucial information in order to make timely decisions (Meshram 2014).

Though agriculture and IT are at the economic background farmers' distress is at rise due to knowledge gap between the scientists and the farmers. The gap prevails because of the short supply of extension personnel. In order to provide the farmers with the latest technologies and improve their farm income ICT plays a vital role. But this is not the real case at the ground level as farmers are facing several issues regarding the ICT utilization. Realizing this problem a study was undertaken to know the constraints encountered by farmers in ICT utilization.

Development of agriculture in the present scenario depends on bridging the knowledge gap among the end users. In this regard ICT enables better improvement in agriculture. Sufficient budgetary support for creation of digital infrastructure is needed to reduce the digital gap. To overcome these challenges mobile-based ICTs are being implemented across the country. For instance farmers can raise queries related to agriculture and allied sectors using their mobile phones to Kisan call centres (KCCs) and various other portals which have been operating in every state of India. Generating awareness among young and middle aged farmers about the availability of ICT services is the first step to be considered to increase farmers participation in ICT initiatives (Shanthya and Elakkiya 2017)

METHODOLOGY

The research study was conducted in Tiruvannamalai district of Tamil Nadu in twelve villages which were selected based on the maximum number of farm youth involved in farmer interest groups of ATMA. A sample size of 120 respondents was selected from twelve revenue villages based on random sampling method. A well-structured and pre-tested interview schedule was used to study the objectives and the data were collected using personal interview. Based on judges' opinion fifteen independent variables were selected for the study. The correlation coefficient between the dependent and independent variables was calculated with the help of Pearson's formula of correlation coefficient. Percentage and correlation analyses were done to analyze the data.

RESULTS and DISCUSSION

Constraints faced by the respondents in utilizing the ICT tools

The constraints faced by the respondents in utilizing the ICT tools are presented in Table 1. The major constraint found was poor internet connectivity (71.66%). Farm youth highlighted that the connectivity was very slow and had limited access to internet networks. Lack of awareness on ICTs was the constraint expressed by about three-fifth (60.83%) of the respondents followed by lack of training programmes (57.50%) and high cost of ICT tools and service providers (50.83%). Lack of information in local language was the constraint perceived by more than two-fifth of the respondents (43.33%).

The least important constraint was erratic power supply (15.00%) followed by low literacy (23.33%), lack of confidence in operating ICT tools (25.00%) and negative attitude towards ICT tools (26.67%).

Association of characteristics of farm youth with the extent of utilization of ICT tools

The zero order correlation coefficient was worked out to study the relationship of characteristics of the respondents with their extent of utilization of ICTs (Table 2).

Out of fifteen independent variables studied four variables viz farm size (X_3), information sharing behaviour (X_7), social participation (X_9) and innovativeness (X_{14}) showed a positive and significant relationship with the utilization pattern of ICT tools at 0.05 per cent level of probability while the variables viz educational status (X_1), membership in social networks (X_8) and achievement motivation (X_{13}) exhibited a positive and significant relationship with the utilization pattern of ICT tools at 0.01 per cent level of probability. All the other variables were found to be non-significant.

There was a positive influence of information sharing behaviour on the utilization of ICT tools among the respondents. In order to gain knowledge one has to expose oneself to different experiences provided by information providing sources. The finding is in line with the work of Ganesan et al (2013).

Educational status had significant relationship with the utilization pattern of ICT. This means that higher education would certainly enhance the awareness, knowledge and utilization pattern of ICT tools among farm youth as also reported by Akoijam (2015).

The results revealed that there was a positive and significant correlation of farm size with the extent of utilization of ICTs. This might be due to the fact that size of landholding provides the economic base for farmers to practice new agricultural technologies for achieving maximum profit.

Social participation exhibited a positive and significant relationship towards the utilization pattern of ICT tools. Social participation helps to bring the farm youth into an atmosphere of broader perspective where

Table 1. Distribution of respondents according to the constraints faced by them in utilizing the ICT tools (n= 120)

Constraint	Respondents	
	Number	Percentage
Lack of confidence in operating ICT tools	30	25.00
Erratic power supply	18	15.00
Poor internet connectivity	86	71.66
Lack of awareness on ICT tools	73	60.83
Lack of adequate skills to use ICT tools	47	39.17
Lack of training programmes on ICTs	69	57.50
Negative attitude towards ICT tools	32	26.67
High cost of ICT tools and service providers	61	50.83
Lack of information in local language	52	43.33
Low literacy	28	23.33
Lack of sufficient ICT tools	41	34.16
Inadequate government funding	53	44.17

Table. 2 Correlation analysis on the extent of utilization of ICTs

Variable number	Variable	r-value
X_1	Educational status	0.246**
X_2	Occupational status	0.110^{NS}
X_3	Farm size	0.185*
X_4	Annual income	0.097^{NS}
X_5	Farming experience	0.140^{NS}
X_6	Ownership of ICT gadgets	0.098^{NS}
X_7	Information sharing behaviour	0189*
X_8	Membership in social networks	0.257**
X_9	Social participation	0.218*
X_{10}	Extension agency contact	0.126^{NS}
X_{11}	Perceived attributes of ICT	0.136^{NS}
X_{12}	ICT credibility	0.098^{NS}
X_{13}	Achievement motivation	0.315**
X_{14}	Innovativeness	0.218*
X_{15}	Cosmopoliteness	0.142^{NS}

**Significant at 1 per cent level, *Significant at 5 per cent level, NS: Non-significant

there is better scope for them to exchange ideas, facts, feelings etc. The farm youth with local setting would also educate the other farm youth about the technologies disseminated through ICT tools. Similar observations were made by Akoijam (2015).

Innovativeness showed a positive and significant association with the utilization of ICT tools. More than half of the respondents possessed medium level of innovativeness and this situation might have motivated the farm youth to use more number of ICT tools for getting agricultural information.

Achievement motivation was found to have a positive and significant relationship with the utilization pattern of ICT. This means that achievement motivation is directly proportional to the utilization of ICT tools among farm youth. The finding is as per the results of Kanavi (2014).

Suggestions for the effective utilization of ICT tools

The data presented in Table 3 indicate the suggestions given by the respondents for effective utilization of ICT tools. The first and foremost suggestion was that the information should be in local language (73.33%). This may be to enhance easy understanding of information. The next suggestion was that marketing information should be provided through ICT tools (65.83%). Knowledge on marketing needs to be improved by providing village knowledge centres in agriculture as there were no proper marketing facilities available for agriculture/horticulture produce at village level.

Conducting training programmes on ICT for farmers was the third suggestion given by about three-fifth of the respondents (60.83%) followed by provision of timely information through ICTs (60.00%) and village knowledge information centres with touch screen (50.00%). Provision of technical staff at village level (26.67%) was the least important suggestion given by the respondents in the study area.

Table 3. Distribution of respondents according to their suggestions for effective utilization of ICT tools (n= 120)

Suggestion	Respondents	
	Number	Percentage
Information should be in local language	88	73.33
Marketing information should be provided through ICT tools	79	65.83
Conduct training programmes on ICTs	73	60.83
Provide timely information through ICTs	72	60.00
Village knowledge centres with touch screen be provided at village level	60	50.00
Complete information should be provided by the call centres	58	48.33
Sufficient number of ICT tools be made available at village level	53	44.16
Provision of sufficient funds for ICTs at village level	50	41.67
Provide technical staff at village level	32	26.67

CONCLUSION

The characteristics of the respondents viz education and social participation were found to have significant relationship with the utilization pattern of ICT tools. Hence there is a strong need to educate the farmers during extension programmes regarding usefulness of ICT tools, type of information provided and authenticity of information to make them aware about these tools. Majority of the respondents opined that lack of ICT facilities in the villages, problems in internet connectivity and maintenance problems were hindering the utilization of ICTs. Provision of computers in all the villages with uninterrupted internet connectivity and regular monitoring of ICTs would solve these problems. Majority of the youth expressed that the major constraint in utilizing the ICTs was lack of awareness on ICT tools. Awareness has to be created about the functioning of Kisan call centres (KCCs) and their importance in clearing the doubts on agriculture and allied areas.

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