A STUDY ON IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON FARMER'S KNOWLEDGE AND ADOPTION ON POTATO PRODUCTION TECHNOLOGIES IN JAUNPUR DISTRICT OF UTTAR PRADESH, INDIA

ABSTRACT:-

The study was conducted in Jalalpur block of Jaunpur district(U.P.) selected purposively. A sample size of 120 farmers was selected through proportionate random sampling technique from five villages on the basis of land holding. The interview schedule was developed keeping in view the objective and variable sunder study and respondents were contacted personally for data collection. The mean, standard deviation, percentage, correlation were used for calculation and Drawing the inferences. The study depicted that a highest number of respondents (49.16%) was found middle age *i.e.* 40 to 60 year. The majority of the respondents (87.50%) were found as literate, (51.67%) of the respondents belonged to other backward class and dominance of family type was joint family system(67.50%), majority of the respondents had puccka houses (50.83%), (34.16%) of farmers were found having the size of land holding 2 to 4 ha. *i.e.* middle farmers. Most of the family (69.16%) reported agriculture (farming) as their main occupation and having annual income up to Rs. 2.0 lakh -3.0 lakh (40.00%). And social precipitation (45.83%) of the respondents had member of one organization. The extension contact was observed highest with Gram Pradhan under mass media information source, overall material possession of the respondents was found medium level material possession. Scientific orientation and economic motivation were found medium level with (42.50) and (48.33%) respectively. Most of the respondents had medium level of knowledge about ICTs tools (48.34%), adoption about potato production practices respondents had 40.0% fair knowledge Adoption extent of potato production practices in three categories viz .high ,medium and low. The variable like education and family annual income (lakh) were found positive and highly significant correlation with knowledge level of ICTs tools regarding potato production practices in agricultural development. The variables i.e. education and occupation were found positive and highly significant correlation with knowledge and utilization towards ICT stools. The major constraints faced by the farmers in getting knowledge about Information and Communication Technology were

'Insufficient knowledge about ICT stools' 'Lack of commitment by officials for ICT stools' 'Lack of conviction' 'Perceived malpractices at different level 'and other constraints too.

Keywords: agriculture information, socio-economic, seeking behavior of farmers

1. INTRODUCTION:-

The trend growth rate for potato production during initial 18 years of 21st century was the highest in India followed by China and Russian Federation. On productivity front, although India has grown significantly, yet the growth rate is much lower than that of the area during this period of time. Higher contribution of area expansion than productivity enhancement in the potato production growth scenario in India indicates that changing Indian socio-economic scenario is generating higher demand for potato **(Singh *et al.* 2014, Rana 2015)**.

Information and Communication Technology (ICT) has been considered as a tool that can be used to achieve development goals in developing countries. These technologies may help to fight against illiteracy, disease, unemployment, poverty, agriculture and other development problems. Agriculture plays a vital role in the society and the economy of the country. Nowadays, more and more new advanced technologies are used for agricultural development such as satellites, the Internet, mobile phone and social media. The use of the technologies divides in both developed and developing nations. It can be used to improve agricultural information and farming methods with transformational development .In India around 70% of population earns its livelihood from agriculture. According to census 2011, 68.9 percent (83.30crore) population is still rural **(Kurukhetra, 2015).**

ICT tools like apps, programs and web 2.0 applications are part of our modern society. Schools all over Europe are adopting this essential trend, but in many countries this adoption is happening at a rather slow pace. This has many reasons, from missing infrastructure to security concerns to teachers not being familiar enough with using ICT in regular classes. To encourage teachers to think about an increased use of ICT tools in teaching, and to inspire them on where and how to use these tools is the main idea of this ICT Guide. We need well educated students with profound ICT skills – in terms of operation as well as media literacy – to become active members of our knowledge society which is built on the foundation of ICT in most areas these days. The aim of this guide is to practically support teachers in using ICT tools in class **(Kampschulte and Karsten Eilert *et al.*, 2016).**

2. MATERIALS AND METHODS:-

Uttar Pradesh have 75 districts among them Jaunpur district is selected purposively for the sampling due to the reason that maximum respondents in the Jaunpur district are using Farmers Knowledge and Adoption of Potato Production Technologies Programme. Jaunpur district comprised of 21 blocks res12053 6481purposive sampling based on the maximum area cover under Farmers Knowledge and Adoption of Potato Production Technologies Programme (Auwar, Bela, Gaur, Jagapur and Kardhana).From each village, 24 respondents were selected through random sampling method. Thus, constitutes the 120 respondents from 5 villages forms the respondents of the study.

3. RESULTS AND DISCUSSION:-

Table 1 below revealed that the socio profile of the farmers by Age, caste, Family type, Family size, Education, Size of land holding and Occupation. Out of the total farmers in terms of majority of the middle age (49.16 %), majority of education group was Intermediate (28.33%), majority of caste group was OBC (51.67%), majority of family type group was joint family (67.50 %), majority of family size group was medium (7-14 members) 63.83%), Land holding (32.16%) was in 2-4 ha land holding, major occupation from agriculture was found (69.16%) and annual income was found in 4 lakhs per annum (40 %).

Table 1 Socio profile of respondents

S.No.	Category	Frequency	Percentage
1	**Age**		
a	Young	17	14.16
b	Middle	59	49.16
c	Old	44	36.67
2	**Education Level**		
a	Illiterate	15	12.5
b	Primary	10	8.33
c	Middle school	21	17.50
d	High school	26	21.67
e	Intermediate	34	28.33
f	Graduation	14	11.67
3	**Caste**		
a	General	41	34.16
b	OBC	62	51.67
c	SC/ST	17	14.16
4	**Family type**		
a	Nuclear/Single family	39	32.50
b	Joint family	81	67.50
5	**Family Size**		
a	Small (up to 6 members)	26	21.66
b	Medium (7-14 members)	79	65.83
c	Large (15 and above)	15	12.50
6	**Land Holding**		
a	Marginal (Below 1 ha.)	34	28.33
b	Small (1 to 2 ha.)	30	25.00
c	Medium (2 to 4 ha.)	41	34.16
d	Large (4 ha. and above)	15	12.50
7	**Occupation**		
a	Agriculture labour	0	0
b	Caste based occupation	12	10.00
c	Agriculture	83	69.16
d	Business + Agriculture	8	6.67
e	Service (Govt. + Private)	17	14.17
8	**Annual Income**		
a	Up to 1.0 lakh	8	6.66
b	1 lakh to 2 lakh	31	25.83

c	2-3 lakh	48	40.00
d	Above 3 lakh	33	27.50

3.2 Knowledge and adoption, about Information and Communication Technology (ICT) tools

The maximum number of respondents (48.34%) had medium level of knowledge about information and communication technology tools followed by low (27.5%) and high (24.17%), respectively. The mean scores of knowledge about ICTs tools is 16.81, minimum value of knowledge extent is 15 and maximum is 23. Standard deviation of knowledge extent about ICTs tools is 1.98.

The maximum numbers of respondents (51.66%) were using ICTs tools at medium extent followed by low extent (30.84%) and high extent (17.50%), respectively. Thus, concluded that majority of the respondents were using ICTs tool at medium extent level. The mean score value of utilization extent of ICTs tools is 42.39, minimum value is 26 and maximum value is 62. Standard deviation of utilization extent of ICTs tools is 10.51.

Table 2:- Knowledge and adoption, about Information and Communication Technology (ICT) tools

Overall knowledge		
Extent of availability	**Number**	**Percentage**
Low	33	27.50
Medium	58	48.33
High	29	24.17
Adoption Extent of Information and Communication Technology (ICT)		
Overall seeking behaviour	**Number**	**Percentage**
Low	37	30.84
Medium	62	51.66
High	21	17.50

3.3: Correlation coefficient (r) between different independents variables and dependent

variables, Information seeking behavior through mobile among the farmers

Out of 15 variables studied that i.e. size of land holding, scientific orientation and Risk orientation were found highly significant and positive correlate with knowledge about ICTs tools on potato production. The variables like age, Education, types of family, housing pattern, annual income were found non- significant and positively correlated with knowledge of ICTs tools for potato production practices. Caste and type of family found non-significant negatively correlated with knowledge about ICT tools for potato production practices. It means if the value of these variables increase, the knowledge extent of ICTs tools for potato production will increase.

Out of 15 variables studied i.e. Scientific orientation, economic motivation and risk orientation were found to be highly significant and positive correlated with Utilization of ICTs tools for potato production practices. The age, education, types of family, size of land holding material possession, hosing pattern, social participation and extension contact were found non-significant and positively correlated. The variables like caste, size of family and annual income were found non-significant and negatively correlated. It meant if the value of these variables increases, the utilization extent ICTs tools for potato production practices.

3. 4. Constraints in gaining the knowledge and adoption of potato technologies and their remedial measure

The major constraints faced by the farmers of three type such Socio-economic Constraints, Technical Constraints and Marketing Constraints, as in getting knowledge about Information and Communication Technology were 'Insufficient knowledge about ICTs tools' 'Lack of commitment by officials for ICTs tools' 'Lack of conviction' 'Perceived malpractices at different level' and other constraints too.

Table 3. Constraints in gaining the knowledge and adoption of potato technologies and

their remedial measure

S. No.	Constraints	Total	Percentage	Rank
A.	**Socio-economic Constraints**			
1	High labour wages	100	83.33	III
2	Small size of holding	90	75	VI
3	Lack of education	65	54.16	X
B.	**Technical Constraints**			
1	Unavailability of newly release Variety	95	79.16	V
2	High cost of irrigation	83	69.16	VIII
3	Ultimately availability of fertilizer	77	64.16	IX
4	Cost of insecticides/pesticides are very high	55	45.83	XI
5	Lack of knowledge about plant protection	98	81.66	IV
C.	**Marketing Constraints**			
1	Store charges are very high	85	70.83	VII
2	Support price of crop not adequate to the farmers	45	37.5	XIII
3	Poor road and transportation facility	35	29.16	XIV
4	Lack of marketing information	49	40.83	XII
5	Fluctuation in market price	110	91.67	I
6	Market places are far away	105	87.5	II

Conclusion:-

It is concluded that most of the respondents were middle aged, educated up to graduate and above level of education, majority of farmers belonged to OBC caste, had agriculture was the main occupation, had medium level of land holding, medium level of income, had semi cemented type of house, progressive farmer is the main source of information, high level of risk orientation and medium level of economic motivation. Meanwhile, most of them had medium level of overall knowledge and attitude about Information and Communication Technology (ICT) tools for agriculture. Socio economic characteristics like age family type, type of house, land holding, occupation, mass media exposure, extension contacts, risk orientation are positively and significantly correlated with knowledge like caste, annual income, scientific orientation are non-significantly correlate with the knowledge level of farmers.

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