

## **Short Communication**

### **Adoption of Information and Communication Technology Initiatives in Promoting Improved Farm Practices in Agra District**

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Information and Communication Technology (ICT) can play a significant role in achieving such a transformation as it consists of three main technologies. They are: Computer Technology, Communication Technology and Information Management Technology. These technologies are applied for processing, exchanging and managing data, information and knowledge. Recent developments in information and communications technology (ICT) offer a great opportunity to facilitate the flow of information and technology services delivery especially to the farmers<sup>[5]</sup>. It is comprehensible that on the one hand agriculture is becoming highly science driven and knowledge intensive, but on the other hand the existing public extension system, has become less effective, more

The new ICT initiative promise the offsetting of the economics disadvantages of rural areas by reducing the barriers of time and distance between major markets and villages, by providing faster and easier access to knowledge needed for local improvements in various areas, by promoting better learning opportunities and also job openings. They also connect the governments to citizens (G2C) more intimately through the e-governance measures. However, the sustainability of the ICTs in the rural communities is a major challenge in developing countries<sup>[2]</sup>. There are many reasons for this, such as

time consuming and costly and fails to meet the expectations of those involved in agricultural production<sup>[6]</sup>. The extensive use of modern information technology needs to be promoted for communication between researchers, extension workers and farmers to transfer technologies and information in a cost-effective manner. In agricultural extension ICT has many potential applications. It can bring new information services to rural areas where farmers, as users, will have much greater control than before over current information channels. So, the use of ICT is an important pillar of agriculture extension and in the current scenario of a rapidly changing world, has been recognized as an essential mechanism for delivering knowledge (information) and advice as an input for modern farming<sup>[3]</sup>.

low population density which translates to low demand levels for a particular centre, low literacy, lack of awareness, lack of interest in new technologies and infrastructure handicaps. These make it difficult to offset the high investment costs required to construct information technology infrastructure. Adoption and accessibility are crucial factors for the diffusion of technology in society. Specifically, the establishment and spread of internet-based information technologies in rural areas is a highly challenging task, as it depends to a great extent on the basic understanding of the technology by the

people, in their education, interest and involvement apart from basic local

At present the ratio of farmers to extension workers is as low as 1000:1, Although the appointed Village Local Workers (VLWs) disseminate information, there is lack of accountability. These issues have created an urgency to effectively address the information needs of poor farmers. In addition, the cost involved in face-to-face information dissemination at the right time and the difficulties of reaching the target audience

The present study is confined to rural areas of Agra district and based on the “descriptive” type of research design in which “Ex-post facto” planning stage and specific objectives were set for the inquiry. A multi stage stratified random sampling was adopted to select the ultimate sample. At stage first, three blocks viz. Bah, Fatehpur Sikri and Etmadpurand from each block five villages were selected randomly. A complete enumeration of various types of

Information technology and communication adoption is a process by which agricultural innovations are exchanged between individual farmers and scientists or institutions that are involved in research and development, on one hand and in putting technological innovation into use on the other. Adoption of improved technology due to information

Use of hybrid or improved seed the major component of improved technology adoption followed by use of balanced fertilizer and timely sowing accounting for overall about 86, 74 and 73 percent, respectively (Table-1). It is interesting to note that most of these components were found to be adopted to higher extent on medium category of farms and to lower

infrastructure facilities<sup>[4]</sup>.

have also created the urgency to introduce ICT for this purpose. It is only through the introduction of ICT that information can also be updated and extended at the lowest cost. This study aims to assess the adoption of information and communication technology initiatives in promoting improved farm practices for enhancing production and incomes of farmers.

households in the sample villages was done. The progressive households (adopting at least one IC technology) were further classified into land less, small, medium and large farmers. A pre-determined number of 300 such households were thus randomly selected by PPS method. Correlation analysis was done to determine the association between the socio-economic characteristics of households with the level of adoption of information technology.

and communication is crucial for sustaining agriculture production. In general, farmers who were more responsive and economically sound easily adopted technology without any hitch otherwise they used traditional methods of farming. The extent of adoption of improved technologies, item of farming are the indicators of modern farming.

extent on small ones except timely sowing. In case of modern tools and implements used in farming, obviously large farmers were way ahead followed by medium and small farms. Thus, farmers with information and communication resources who adopted improved technology, benefited a great deal as this ensured better yield.

**Table 1 Adoption of improved Agricultural technology on sample farms**

Items	Farm size			
	Small	Medium	Large	Overall
Use of hybrid seeds	78 (85.75)	59 (86.76)	44 (84.60)	181 (85.78)
Use of balanced fertilizers	68 (74.72)	52 (76.47)	36 (69.23)	156 (73.93)
Use of insecticide and pesticide	41 (45.05)	38 (55.88)	29 (55.77)	108 (51.18)
Use of seed treatment	33 (36.26)	26 (38.23)	23 (44.23)	82 (38.86)
Use of proper irrigation	58 (63.74)	47 (69.12)	34 (67.30)	139 (65.88)
Timely sowing	71 (78.02)	48 (70.59)	35 (67.30)	154 (72.98)
Use of weedicide	16 (17.58)	14 (20.59)	18 (34.60)	48 (22.75)
Use of modern tools & implements	26 (28.57)	31 (45.58)	31 (59.60)	88 (41.70)

The adoption of improved technology and practices is not entirely dependent upon the in-built qualities of technology itself but also on certain other factors which directly or indirectly influence

Table 2 reveals that education, size of holding, farm power, farm implements, irrigation potentiality, credit behavior and source of information and communication utilized were positively and significantly related with adoption behavior of farmers about improved farm practices. Age was negatively and significantly related with the adoption behaviour of farmers indicate that farmers of younger age adopted improved farm practices than that of older farmers. Table-3 shows that all the independent variables taken together explained the variation in the adoption behaviour of farmers to the extent of 84.60 percent. The respective F value significant

the adoption behavior of an individual. Thus, some relevant possible association with the adoption of improved practice of crop cultivation were put to empirical test.

at 1 percent level at 10 degree of freedom was 11.2734. Thus, the results relied that all the ten independent variables would account for a significant amount of variation on the adoption behaviour of farmers. The 't' test of significance indicates that regression co-efficient (b-value) was found significant only for size of holding and sources of information utilized. The table also depicts that regression co-efficient was not significant for occupation, education, social participation, farm power, farm implements, irrigation potentiality and credit behaviour. Figures in parenthesis indicate percentage to total.

**Table 2 Relationship of independent variables with the adoption of improved farm practices**

Independent variables	Correlation coefficient (r)
Age	-0.3986**
Occupation	0.2037
Education	0.6241**
Social participation	0.1587
Size of holding	0.4375**
Farm power	0.5007**
Farm implements	0.6336**
Irrigation potentiality	0.6988**
Credit behaviour	0.4405**
Source of information utilized	0.8113**

\*\*Significant at 1% level of probability

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