

# Role of Information and Communication Technologies in Agriculture

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**Abstract**—Agriculture is a gigantic sector of the Indian economy and plays a vital role in the overall development of the nation. However, now-a-days a new paradigm of agricultural development both in developing as well as developed countries is emerging fast. Traditional ways of delivering information to the farmers are being challenged all over the world. Modern and innovative techniques are being disseminated through different technologies. The Indian farmer urgently requires timely and reliable sources of information inputs for taking decisions in their farming system. However, till date many information and communication technologies in agriculture have been developed and tested around the world to help both our farming community as well as the service providers (extension functionaries) in order to improve their livelihood through increased agricultural productivity and production. Various information and communication technology companies, multinational farm input business, large machinery manufacturers, small and medium farm input suppliers provide number of services to farmers through different technologies, including extension advice. Large number of programmes about agriculture production technology are being spread through radio, television and news papers to the farming community. Different mobile phone applications (IFFCO Kisan, Crop Doctor, AgriApp) are thought to increase access to innovative agricultural technologies and help the farming community right from preparation of land to harvesting of fruit, including weather related information, opportunities in agricultural field, suggestions from experts and answers to different queries of the farmers through SMS's, short audio and video messages. Agriculture information technology can promote learning, which in turn can facilitate technology adoption among farmers and can reduce the technological gap in the farmer's field. Innovative agriculture technology has effectively enabled farmer-to-farmer and farmer to expert information sharing through short video trainings, tele-conferencing, social media interventions and virtual extension platforms. Different peer networks such as online platforms and websites has been used for transmitting information to the farmers about wide-ranging issues related to agriculture. Different comprehensive web portals (aAQUA-Almost All Questions Answered, iKisan, Agrisnet) has been put in place to broadcast relevant information to farmers and provides customized solution to the farmers' problems and advice them from sowing to harvesting.

**Keywords:** Agriculture, Farmers, Information, Technology.