

**Agricultural Governance through ICT****Ekhande Y. S. and Raykar S. S.**

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**SUMMARY**

Information and Communication Technology (ICT) and Agriculture, the agricultural sector in India is currently passing through a difficult phase. India is moving towards an agricultural emergency due to lack of attention, insufficient land reforms, defective land management, non-providing of fair prices to farmers for their crops, inadequate investment in irrigational and agricultural infrastructure in India, etc. India's food production and productivity is declining while its food consumption is increasing. The position has further been worsened due to use of food grains to meet the demands of bio fuels. Even the solution of import of food grains would be troublesome, as India does not have ports and logistical systems for large-scale food imports.

**INTRODUCTION**

ICT or Information and Communications Technology in simple terms, can be defined as the basket of technologies, which assist or support in storage, processing of Data/Information, or in dissemination/communication of Data/Information, or both. ICT thus includes technologies such as desktop and laptop computers, software, peripherals and connection to the Internet that are intended to fulfil information processing and communication functions. ICTs explicitly include the field of electronic communication, in addition to IT. The term IT is defined as "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and retrieve information, securely. The relevance of ICTs for Agricultural Development in general and for Agricultural Extension in particular is extremely high for a country like India.

**ICTs and Farmers' Advisory Services**

The most widely used and available tools of farmers' advisory services are- telephone based Tele Advisory Services, the mobile based Agri Advisory services, television and radio based mass media programmes, web based online Agri Advisory services, video-conferencing, Online Agri video Channel, besides traditional media like, printed literature, newspapers, and farmer's exhibition/fair etc. Most of the agricultural institutes and organizations have their own telephone based advisory services for farmers which provide telephone based Agri advisory services through a dedicated telephone number to provide real-time information and advisory. The on-line phone based expert advice service, Kisan Call Centres (KCC), launched by the Ministry of Agriculture, Government of India is available for all within the country since January 2004. A toll-free telephone number "1800-180-1551" has been provided that is operational on all days from 6.00 am to 10.00 pm. Beyond these hours the calls are attended in the Interactive Voice Response System (IVRS) mode. The mobile based Agri Advisory services offers text, voice and video content based Agri information services through mobile phones. Mobile phones are becoming an essential device for all types of users irrespective of the age group. In India mobile technology has unleashed a paradigm shift in the communication medium to reach out to the masses. Community radio is one of the important tools of ICT that offer farmers and the people a voice and help development of the community. Community radio is owned and operated by a community or members of a community.

**ICTs in Rural Development**

The agricultural sector is confronted with the major challenge of increasing production to feed a growing and increasingly prosperous population in a situation of decreasing availability of natural resources. Factors of particular concern are water shortages, declining soil fertility, effects of climate change and rapid decrease of fertile agricultural lands due to urbanisation. However, the growing demand, including for higher quality products, also offers opportunities for improving the livelihoods of rural communities. Realising these opportunities requires compliance with more stringent quality standards and regulations for the production and handling of agricultural produce. New approaches and technical innovations are required to cope with these challenges and to enhance the livelihoods of the rural population. Although it is a relatively new phenomenon, evidence of the

contribution of ICT to agricultural development and poverty alleviation is becoming increasingly available. ICT promises a fundamental change in all aspects of our lives, including knowledge dissemination, social interaction, economic and business practices, political engagement, media, education, health, leisure and entertainment. ICTs can play a significant role in combating rural and urban poverty and fostering sustainable development through creating information rich societies and supporting livelihoods. If ICTs are appropriately deployed and realize the differential needs of urban and rural people, they can become powerful tools of economic, social and political empowerment.

### **ICTs for Empowerment of Women**

Women face enormous challenges to use ICT for their own economic empowerment. Using and benefiting from ICT requires education, training, affordable access to the technology, information relevant to the user and a great amount of support [to create an enabling environment]. Access to affordable services and availability of infrastructure is without doubt a major requirement if ICTs are to be used for women's economic empowerment.

### **ICTs for Market Information**

The lack of accurate and timely market information in the agri-input sector is an issue at continental, regional, national and local levels, and remains a key constraint to the development of agricultural business linkages and trade around the world. Significant progress continues to be made by public and private institutions to implement market information services using advanced information and communication technology (ICT) tools. However, the complexities of fertilizer, seed and crop protection product value chains remain major constraints for integration into broader information systems. With rapidly increasing access to cell phones and computer centres, even the more remote areas of the continent are benefiting from the information offered through this advanced technology.

### **Some Successful ICT initiatives in India:**

**e-Extension** (e- Soil Health card Programme): The Deptt. Of Agriculture, Gujarat State is one of the ambitious programmes which aims to analyse the soil of all the villages of the state & proposes to provide online guidance to farmers on their soil health condition, fertilizer usage and alternative cropping pattern. The website is [www.agri.gujarat.gov.in/](http://www.agri.gujarat.gov.in/) [www.shc.gujarat.gov.in/](http://www.shc.gujarat.gov.in/) .

**AGRISNET** uses state-of-the-art broadband satellite technology to establish the network within the country. The website is <http://www.apgrinet.gov.in> for Andhra Pradesh and <http://agriculture.up.nic.in> for UP.

**AGMARKNET** is a comprehensive database which links together all the important agricultural produce markets in the country (<http://www.stockholmchallenge.se/data/agmarknet/> ).

**Agri Business Centres:** It provides a web based solution to the small and medium farmers as well as owners of large landholdings. It brings on a single platform all the stakeholders in agribusiness like farmers and farmer groups, institutions and autonomous bodies, agro machinery and farm equipment makers, cold chain tech., commodity brokers, cooperatives, food processors, pre and post harvest management experts, packaging technology providers, insurance companies, warehousing and logistics agencies, surveyors and certification agencies.

**Kisan Call Centres:** Kisan call centres have been established across the country with a view to leverage the extensive telecom infrastructure in the country to deliver extension services to the farming community. The sole objective is to make agriculture knowledge available at free of cost to the farmers as and when desired. Queries related to agri. And allied sectors are being addressed through the kisan call centres, instantly, in the local language by the experts of State departments, SAUs, ICAR institutions etc. There are call centres for every state which are expected to handle traffic from any part of the country. SMS using telephone and computer interact with farmers

to understand the problem and answer the queries at a call centre. The infrastructure is placed at three locations namely-a professionally managed call centre (level-I), a response centre in each organization, where services of SMS are made available (level-II) and the Nodal Cell (level-III).

**e-Sagu**, an ICT based personalized agro-advisory system is being developed since 2004. The word 'Sagu' means 'cultivation' in Telugu language. It aims to improve farm productivity by delivering high quality personalized (farm-specific) agro-expert advice in a timely manner to each farm at the farmer's door-steps without farmer asking a question. The advice is provided on a regular basis (typically once a week) from sowing to harvesting which reduces the cost of cultivation and increases the farm productivity as well as quality of agri-commodities.

## CONCLUSION

Information and communication technologies (ICTs) refer to technologies that provide access to information through telecommunication. It is similar to information technology (IT) but focuses primarily on communication technologies which include the internet, wireless networks, cell phone and other communication technologies have created a "global village" in which people can communicate with others across the world as if they were living next door. For this reason, ICTs are studied in the context of how modern communication technologies affect society. There are several initiatives in India to demonstrate the significant benefits of ICTs for rural populations. However, it is almost a paradox of introducing modern technologies before satisfying basic needs.

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