

Emerging ICTs and their potential in revitalizing small scale agriculture in India

■ KULDEEP CHOUDHARY AND AMIT LATHIYA

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ABSTRACT

Agriculture plays a vital role in the social and economic development of India and is the main contributor to economic growth and stability. Small-scale agriculture and the harvesting of natural resources provide livelihoods for over 55% of the Indian population. However, most smallholders are resource-poor and face many challenges. Modern information and communication technologies (ICTs) have the potential to increase agricultural productivity through communicating knowledge and information to rural agricultural communities, providing capacity building, accessing markets and credit, restructuring of extension and scaling up inter-linkages of development interventions. This paper points out the potential of emerging ICTs in efforts aimed at dealing with some of the challenges small-scale farmers face. Findings suggest that the FM radio stations and the cellular phone have become important tools in improving small-scale agriculture in rural areas. The internet, web-sites and web-based applications are becoming increasingly important in sharing and disseminating agricultural information and knowledge and marketing of goods and services. Other emerging ICT applications for small-scale agriculture include radio frequency identification technology (RFID), market information systems (MIS), geographic information systems (GIS), precision agriculture and public access facilities. The study also established that low usage levels of these technologies is the result of low technical capacity and limited ICT infrastructure in the sector, especially in rural areas.

KEY WORDS : Small scale agriculture, Information and communication technologies, MIS, GIS

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The agricultural sector has been described as the engine for economic growth and improved livelihoods in India. The majority of the population in India lives in rural areas and depends directly or indirectly on agriculture. Agriculture contributes about 17 per cent to the Gross Domestic Product (GDP) of India.

India has made significant strides in agriculture and associated activities. The Green, Yellow, White and Blue

revolutions are testimony to the progress made. Concurrently India has successfully embarked upon a “Cyber revolution”. Despite the progress made in agriculture, information technology and the Cyber revolution integrating them to alleviate the above constraints is still incomplete. Without doubt agricultural information technology has the potential and will play a vital role in transforming India into a stable and prosperous democracy within this 21st century.

Small-scale agriculture and the harvesting of natural resources provide livelihoods for majority of the Indian population. Small-scale farmers have certain defining characteristics: they derive their livelihood from holdings of less than 2-5 hectares (usually less than 2 hectares), in normal circumstances they own between 10 to 20 heads of livestock, although often, they have less than 2 or none at all (Hirst *et al.*, 1988). Small-scale farmers also tend to practice a mix of commercial and subsistence production (in crops and / or

MEMBERS OF THE RESEARCH FORUM

Correspondence to:

KULDEEP CHOUDHARY, Department of Human Resource Management, Agriculture Cooperation, Banking and Marketing Polytechnic, Navsari Agricultural University, NAVSARI (GUJARAT) INDIA

Authors' affiliations:

AMIT LATHIYA, Department of Marketing Management, Agriculture Cooperation, Banking and Marketing Polytechnic, Navsari Agricultural University, NAVSARI (GUJARAT) INDIA