Chapter 5
The Role of ICT in Empowering Rural Indians

Ashok Jhunjhunwala
IIT Madras's Rural Technology and Business Incubator (RTBI), India

Janani Rangarajan
IIT Madras's Rural Technology and Business Incubator (RTBI), India

N. Neeraja
IIT Madras's Rural Technology and Business Incubator (RTBI), India

ABSTRACT

This chapter discusses some attempts over the last decade in using Information and Communication Technology (ICT) to empower rural communities and those who are socially and economically left behind in India. It begins with discussing the drivers of telecommunication growth in India since the mid-nineties. Then, it addresses the role of the village Internet kiosks in bringing the Internet to remote villages and articulates on the challenges facing the kiosk model. It then touches upon the rapid growth of mobile telephony in rural India. Following this, it discusses a number of attempts that use mobile telephony to empower rural communities. The authors also use multiple case studies to explore the role of ICT in supporting agriculture, delivering healthcare, achieving financial inclusion and improving the overall livelihood of rural communities in India. The key lessons learned include that the "one-size fits all" model does not work for all communities. In addition, involving both local and federal governments is crucial for the success of community-focused initiatives. Moreover, engaging communities and educating them about the benefits of delivered services would help in sustaining such community-focused initiatives.

BACKGROUND

India is a developing country whose population exceeds 1.2 billion people (Census of India, 2011). Its economy has been growing rapidly, achieving seven to nine percent growth rate in recent years. Despite the decline of poverty rate, a careful look at the figures of its economy shows that there are a number of economic problems that have not been solved yet.

While the average income in India is low, it has been rising rapidly especially in the last five to six years, as shown in Figure 1 (National Council of Applied Economic Research- Centre for Macro Consumer Research (NCAER – CMCR, 2011). In 2009-10, the average annual income of a rural household is just about 2777 UDS at 2004-05 prices. In other words, the average rural income in rural areas is about 1.5 USD per day. This is just above 1.25 USD defined as threshold for poverty by United Nations (Gordon, 2005). The conditions of those who live in rural areas are even worse when we consider that the average family size is five members (Shukla, 2010). Given the fact that India has about 800 million people living in rural areas, serious efforts are needed to overcome the poverty problem.

This chapter studies a number of community-focused initiatives conducted over the last decade in using Information Communication Technology (ICT) to empower rural communities in India.

The following section discusses the situation of the telecommunication sector in India in the decade of nineties. It also shows how mobile telephony took off in the early part of the century and discusses how policy was focused on achieving affordability of ICT. Then, it discusses efforts to expand infrastructure to rural areas. Then, we discuss how the focus has been shifted from infrastructure provision to service and application development. After that, we present a multiple of case studies on how the TeNeT group and its partners used ICT to support farmers, deliver healthcare, achieve financial inclusion, and promote business outsourcing to rural areas.

TELECOMMUNICATION IN INDIA

The telecommunication sector in Indian had not taken off until 2000. In particular, India was struggling with only 28.55 million telephone lines in 2000, 1.80 million of which were mobile (Telecom Authority of India, 2004), as shown in Figure 2 (Cellular Authorities of India, 2004; Department of Telecommunications, 2004). The growth over the previous decade was very slow. Even though Indian telecom was liberalized in 1994 and private participation in operations started in 1994, the scenario did not change. The Indian telecommunication market was influenced by the hype of a very large middle-class market. Some

Figure 1. Yearly household incomes in INR 1000 (inflation adjusted to 2004 prices)
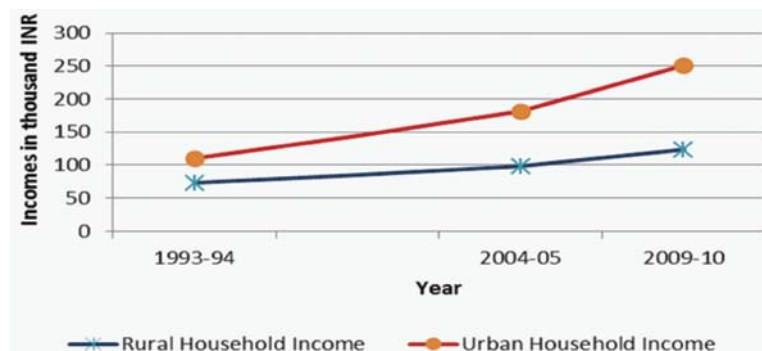
Related Content

Recovery of Ubiquitous Multimedia Content Discovery Mobile Agent

S. Venkatesan, C. Chellappanand P. Dhavachelvan (2012). *Ubiquitous Multimedia and Mobile Agents: Models and Implementations (pp. 215-231).*

www.irma-international.org/chapter/recovery-ubiquitous-multimedia-content-discovery/56426

Telecentre-Based Community Wireless Networks: Empowering Rural Community in Uganda

Dorothy Okelloand Julius Butime (2013). *Social and Economic Effects of Community Wireless Networks and Infrastructures (pp. 160-177).*

www.irma-international.org/chapter/telecentre-based-community-wireless-networks/74452

Capacity and Service (CapServ) Adaptive Trust Computation by Territory Formation in Ubiquitous Environment

B. Adithyaand B. Sathish Babu (2012). *International Journal of Advanced Pervasive and Ubiquitous Computing (pp. 7-18).*

www.irma-international.org/article/capacity-and-service-capserv-adaptive-trust-computation-by-territory-formation-in-ubiquitous-environment/79906

A Novel Parameter Optimization Algorithm Based on Immune Memory Clone Strategy

Zhu Fangand Wei Junfang (2012). *International Journal of Advanced Pervasive and Ubiquitous Computing (pp. 102-108).*

www.irma-international.org/article/novel-parameter-optimization-algorithm-based/73655

Context-Aware Database Querying: Recent Progress and Challenges

Yuanping Li, Ling Fengand Lizhu Zhou (2009). *Context-Aware Mobile and Ubiquitous Computing for Enhanced Usability: Adaptive Technologies and Applications (pp. 147-168).*

www.irma-international.org/chapter/context-aware-database-querying/7119