

Role of Information Communication Technologies in Rural Development: A Review

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Abstract

Information and communication technologies -computers, telecommunication, television, etc. - have led to unprecedented capacity for dissemination of knowledge and information. Information Communication Technologies can be powerful tools in promoting social inclusion that leads to empowerment. Access to relevant information and knowledge is crucial for empowerment and development. India has had its tryst with the ICT projects and it has been extremely successful in the urban India but when it comes to the rural India it drew a blank as proven by the ICT projects. Gyandoot an information kiosk was started in Jan 2000, e-seva and e-choupal etc are some projects which are started in India. Line Sharing System, E-Governance, Lokvani Project, Community Radio Initiative and Community Television plays important role in development of ICT in India. Illiteracy amongst people, Major power-cuts, Financing difficulties are some barriers which effect the speed of adoption of ICT in villages. ICT helps in providing education about health, environment, agriculture to rural and community

Keywords: Rural development, Communication, Technology, Community

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Introduction

The widespread availability and convergence of information and communication technologies - computers, telecommunication, television, etc. - have led to unprecedented capacity for dissemination of knowledge and information. (Malhotra.C, Chariar. V.M, Das L.K and Ilavarasan.P.V,2013) The impact of this fourth information revolution is felt in education, research, medicine, government, business and entertainment in many parts of the world. But the final benefits have reached only to a few people around the world that has led to digital divide between the developing and developed countries. (Sadanandan.N and Shirley.W,1993) The divide is also visible within the developing countries between the urban and rural areas. Information Communication Technologies can be powerful tools in promoting social inclusion that leads to

empowerment. Access to relevant information and knowledge is crucial for empowerment and development. To be effective it has to be linked to the particular situation, needs and demands of the people. Thus local knowledge is vital. The relevance of locale specific knowledge is changing and it varies with different contexts. Therefore, more pragmatic approaches are gaining importance. It can be more effective to link people with relevant knowledge directly

ICT projects in India

Six decades of Independence have witnessed overall economic growth, but acute distress and deprivation continue to haunt the rural areas. Various strategies for rural development have failed to make the desired impact. There are several reasons for this. An analysis of the maladies afflicting rural areas has brought out the need to develop an information and knowledge-led rural economy as an important means to promote rural development. It has been found that knowledge transfers between, and across, rural communities, scientists, educators, administrators, health care providers and technology enablers on the ecological and socio-cultural conditions of each village and on matters such as farming methods and on health issues could play a crucial role in such a process. (Mukherjee,2012) Knowledge sharing can be improved through increasing access to public information at both local and national levels. It is here that ICT has a crucial role to play. The challenge lies in adopting a holistic Vikram Gopinath MCmS Dissertation information access-enabled development strategy and using ICT as an important instrument in various aspects of the strategy. India has had its tryst with the ICT projects and it has been extremely successful in the urban India but when it comes to the rural India it drew a blank as proven by the ICT projects. Gyandoot an information kiosk was started in Jan 2000 by the then Madhya Pradesh Government to offer Internet based services to strengthen the e-governance model. Similar was the case with Andhra Pradesh's e-seva that offered services of the public sector through the noose of computers. Other projects like TARAhaat, Bhoomi and Drishtee offered Internet services and digitized land records to the rural masses. Then there are the kiosks started by business houses like ITC e-choupal that deals in e-procurement that reaches out to 3.5 million farmers in over 31000 villages across 6 states. All these projects have been implemented as pilot projects but have not moved on to become a macro level project that could be emulated in other parts of the country.

IMPORTANCE OF ICTs

Several definitions have been given to explain and interpret the acronym ICT and the one given below seems to be the closest: 'ICTs is a generic term referring to technologies that are used for collecting, storing, editing and passing on (communicating) information in various forms.' The above definition separates distinct fields of ICTs and at the same time links them together so as to operate as an entity. It is now a fact as evidenced by developments from other countries that ICT as a sector can contribute immensely to the national GDP of a nation and that ICT, acting as an enabler, can result in improved market competitiveness of a nation's products and services. ICTs can impact positively on governance and other sectors of the economy. In turn ICT can effectively assist international economic integration, improve living standards, narrow the digital divide, and improve biodiversity utilization and management.

The digital divide characterized by highly unequal access to and use of ICT and Manifests itself both at the international and domestic levels needs to be addressed by national policy makers. The digital divide can be narrowed and poverty reduction addressed through effective and focused utilization of ICTs in key sectors such as education, industry and agriculture. The adoption of ICT requires a business environment encouraging open competition, trust and security, interoperability and standardization, and financial resources for ICT. This requires the implementation of sustainable measures to improve access to the Internet and telecommunications infrastructure and increase ICT literacy, as well as development of local Internet-based content. (Atanu.G and Shadrach B,2006) Countries like most developing countries still depend on content developed and managed in the developed world and as a result substantial costs are incurred while trying to access content. One of the causes that discourage access to digital information is culture and language differences. Efforts should be made to make ICTs available in local languages if they are to be demystified, adopted and utilized by locals.

In general, ICT goals in India are: to establish an environment that encourages networking of services and applications; promoting e-commerce and trade promotion programmes for goods and services; promoting Internet access to exchange and access digital content; establishing e-government; promoting education and on-line services; strengthening network security; building and developing e-society and ICT human resources.

ROLE OF ICT IN RURAL DEVELOPMENT

1. Line Sharing System (LSS)

It is a metallic pair passing through a number of villages can be used on “line sharing” basis, providing Tele-connections to every village. A number of ICT technologies are primarily designed to provide low cost digital connectivity, easily accessible portable devices, and simple user interface very much suited for rural applications. Some of such technologies are discussed here: ICTs help in providing training and education to rural people regarding latest development and technologies in agriculture. All this develop capacity for decision making in rural people. (MSSRF, 2011) Rural people are expected to take decision and responsibility of various services, like how to take financial help for their crops from government. ICTs have the potential to facilitate knowledge sharing and information exchange. ICTs offer huge information storage capacity, increases in processing power and speed, with dramatic reductions in costs. ICTs can facilitate the improvement of existing information management processes by improving ease of access, transparency, accountability, efficiency, speed of delivery and providing new information sharing opportunities through affordability, availability and ease of use.

2. E-Governance

Improved governance by using ICT can have direct impact in reducing poverty and improving the environment. The Information and Communication Technologies (ICT) are being increasingly used by the governments to deliver its services at the locations convenient to the citizens. The rural ICT applications attempt to offer the services of central agencies (like district administration, cooperative union, and state and central government departments) to the citizens at their village door steps. (Mehta.D and Kasnia.S, 2011)

3. Lokvani Project (Uttar Pradesh)

Lokvani is a public-private partnership project at Sitapur district in Uttar Pradesh which was initiated in November, 2004. The objective of this project is to provide a single window, self-sustainable, e-Governance solution with regard to handling of grievances, land record maintenance and providing a mixture of essential services

4. Ministry of Health & Family Welfare (MoH&FW)

MoH&FW has implemented Integrated Disease Surveillance Programmed network which connect all district hospitals with medical colleges of the state to facilitate tile-consultation, Tele-education/ training of health professionals and monitoring disease trends. It has funded few pilot national level Tele-ophthalmology and rural telemedicine projects.

5. Tele-Education

Education is a primary right for every citizen of India. By the constitution of India, Article - 45 says education must be provided to children up to 14 years. Even after 64 years of independence some States in India are still struggling to achieve quality education. There are more than one million rural schools among 6,38,000 villages in India. Schools in rural areas are promoted to raise the level of education and literacy in rural India

6. Community Radio Initiative

In post media liberalization phase, Government of India announced the policy for community radio Broadcasting. “Community radio is expected to focus on issues relating to education, health, environment, agriculture, rural and community

7. Community Television

Since the inception of INSAT satellite television system, Doordarshan achieved a kind of world record in setting up over 1000 low powered television transmission stations in the country. Each station in theory was supposed to telecast local television program for rural development. A large number of television professional were trained for this purpose. Doordarshan has been planning to introduce local television for rural poor and farmers to achieve the goals of rural Development

8. Gyan Sanchar

It is designed to bring affordable and cost effective services to rural India. It is a partnership project, between Bharat Sanchar Nigam Limited (BSNL), Government of Madhya Pradesh (GoMP) India and a Canadian business team comprising IBM Business Consulting Services and Sasktel International. The objective of this project is to develop a model for sustainable expansion of telecommunication services and ICT applications in rural India.

(Ahamad.T, Pandery J.K, 2004)

Barriers of application of ICT in Rural Development



ICTs alone can't bring about rural development. Education is one of the basic problem for application of ICT as 40% of India's population is illiterate. All modern economies have demonstrated in the past that education is the first step to building the capacity which people can then use. If the Indian economy grows at 5-6 per cent per annum as it has been growing over last 2-3 years, then over 10-15 years the size of the Indian economy would have doubled. Even with this level of growth it cannot by any means bridge disparities and eradicate poverty. Therefore introducing ICTs alone will not meet the development challenge. For ICTs to succeed in India, education for all must be the first priority (Bajwa G.S, 2005)

It is, of course, important to note that the proportion of the economy involved in some or other form of adaptation or usage of ICT is still very small. The proportion of people involved in the ICT Industry, especially in the rural areas is negligible. Thus, another priority action, in order for the benefits of ICT to trickle down as well as contribute to the rural prosperity, would involve setting up several rural and village level micro-enterprises.

The basic barriers that usage of ICT for rural development faces are-

1. Illiteracy amongst the vast multitude of people
2. Financing difficulties encountered by the local grass root level institutions as well as by the state governments. Drastic steps are needed to inject funds for the development of the ICTs in the rural areas; increasingly by the participation of the private sector (Mukherjee.S,2011)
3. Acute shortage of project leaders and guides who could ensure implementation of the ICTs at the grass root levels. Unfortunately most professionals want to work in the urban areas where there are ample opportunities available to them for growth as well as prosperity. In the absence of these 'techno-catalytic' resources; development of ICTs in the rural areas will always be very slow.
4. Major power-cuts and 'brown-outs' affecting the country-side ranging from 5 to 12 hours every day. Even though uninterrupted power supply systems are used; yet they prove insufficient to cope up with the power breakdowns (Mukherjee.S,2011)
5. Serious band-width issues and connectivity problems. Even though technology is available to upgrade the band-width; not enough resources have been budgeted by the Government to change this scenario. However once a few projects for the up gradation of the band-width on the anvil get commissioned, there should be a significant improvement in the connectivity (Asia- Pacific Research Center, 2005)

Conclusion

From the above analysis we can conclude that ICT is very important for rural development in India. Projects like Gyandoot and e-sewa is very effective for rural people. There is need of Public-Private cooperation to promote ICT at grass root level. Study revealed that with the increase in adoption of ICT the living standard to rural people rises. ICT helps in providing education about health, environment, agriculture to rural and community

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