

## ICT Enabled Community Development in India

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### Abstract

Development is neither simple nor straightforward linear process. It is a multidimensional exercise that seeks to transform society. This exercise of transforming the society always requires the need of mass media; this is because mass media multiplies the effect of development in a community. Mass media have seen different forms from its inception and each mass media have different impact on community development. In the 21st century, print and electronic medium to a large extent have been overcome by new media or information, communication and technology (ICT). The direction and pace of development in ICT have led practically all world economies to recognize the improvement of ICT in catalyzing activity, empowerment of society and bringing about major socio-economic transformations. In India this effect had been felt immensely. India has made a mark in the global market at its capacity to use ICT. But how much of it has been used for development? This paper will examine the extent to which information, communication and technology has contributed towards community development in India. The paper analyses data to find out contribution of ICTs in providing broader development benefits to all Indian citizens. Many ICT based institution have taken place over the last decade and some positive effects have resulted. But however these successes have failed to meet the bull's eye. The various social and economic constraints also becomes a stumble stone for development. Efforts are made by government as well as private enterprises to use ICT for positive development. Key Words: Community development, ICT, E-Choupal, E-services, E-governance, Mobile development ICT Enabled Community Development in India.

### Introduction

Mass communication expert Everett M. Rogers defined development communication as—the uses to which communication are put in order to further development [1,2]. Such applications are intended to either further develop in a general way, such as by increasing the level of the mass media exposure among the nation's citizen, in order to create a favourable climate for development, or to support a specific definite program or project. In the above mentioned definition Rogers said that for the development of community; the community will create an environment or climate for development. These climates are -

- a) Physical climate and
- b) Psychological climate.

F. Rosario Braid on the other hand is of the opinion that development communication is “an element of the management process in the overall planning and implementation of the developmental programs” Thus, development communication can be said to be an identification and proper utilization of appropriate expertise in the development process that will assist in increasing the participation of the people for whom it is meant, even if it is at the grass root level [3].

Thus when we refer to development communication, it is about such communication that can be used for development. It is about using communication to change or improve the way of living of the citizen of a country. Here we use different types of messages to change the socio-economic condition of people. These messages are designed to transform the behaviour of people or for improving their quality of life. Therefore, development communication can be defined as the use of community to promote development. Development communication thus can be said to have two primary roles, i.e.

- (a) Transforming role, as it seeks social changes for a higher quality of life
- (b) Socializing role, by seeking to maintain some of the established values of the society. The role can be discussed as following:

- Development communication is used for transforming role by

bringing in social change in a way that will bring a higher quality of life. Here communication acts as an instrument to achieve these objectives.

- Development communication also tries to maintain the established values of the society by playing a socializing role. In playing these roles, development communication seeks to create an atmosphere for change as well as providing innovation through which society may change.

When mention is made of communication in relation to community development, it means an interactive process in which information; knowledge and skills relevant for development are exchanged between community members and information providers through media such as radio, print, telephones and cybernetics. Communication is used to collect and exchange information among all those concerned in planning a development initiative with the aim of reaching an agreement on the problems facing development issue and seeking options for their solutions. To mobilize people for development action and to assist in solving problems and misunderstandings that may arise during development plan [4]. Full potential for development can only be realized if knowledge and technologies are shared effectively and rural people involved in the process are motivated to achieve success. Community development involves the coming together of a group of people in a community planning and acting together to bring about the satisfaction of their needs with a view to bringing about desirable change in the lives of the people through their cooperative efforts

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and by actively taking part in measures designed to improve their conditions of living [5].

The coming together of people in a cooperative way for development presupposes that there must be an effective communication between and among the people. Without effective communication, there would be misgiving and misunderstanding and this would always result in conflict, lack of cooperation and subsequently lead to underdevelopment. Effective communication is an essential tool for the establishment and maintenance of a good social and working relationship. It also involves constant change of ideas and interactions among people for the solution of their problems and they see effective communication as essential prerequisite for every aspect of group functioning. With all these facts, effective communication cannot be brushed aside if development is to be accomplished. This is because; community development depends on the effectiveness of communication as it helps in sharing of ideas and opinions and diffusion of good ideas while irrelevant ideas are thrown out. Effective communication enhances participation of every community member towards the achievement of the goals of community development. It makes people participate actively in matters of development. Communication is a powerful trend to facilitate participating development. It is about encouraging community participation with development initiatives through a strategic utilization of various communication strategies [6].

Information and communications technology usually abbreviated as ICT is a weapon to development. It is often used as an extended synonym for information technology (IT), but is usually a more general term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers, middleware as well as necessary software, storage- and audio-visual systems, which enable users to create, access, store, transmit, and manipulate information. In other words, ICT consists of IT as well as telecommunication, broadcast media, all types of audio and video processing and transmission and network based control and monitoring functions.

The term ICT is now also used to refer to the merging (convergence) of audio-visual and telephone networks with computer networks through a single cabling or link system. There are large economic incentives (huge cost savings due to elimination of the telephone network) to merge the audio-visual, building management and telephone network with the computer network system using a single unified system of cabling, signal distribution and management. This in turn has spurred the growth of organizations with the term ICT in their names to indicate their specialization in the process of merging the different network systems. ICT (information and communications technology or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries.

ICT for Development is concerned with applying information and communication technologies, including the internet and mobile phones, video and audio, to development goals and poverty reduction. The field is relatively new, since the late 1990s when infrastructure began to expand telecommunications into poor and remote areas and development organizations invested in 'telecentres' to provide ICT enabled services to poor communities. In the last few years, with the expansion of mobile networks, the field has expanded and evolved

rapidly. Ever since new information and communication technologies (ICTs), such as the Internet and email, became indispensable tools in cities and offices around the world, people have been trying to work out how to extend their coverage and scope, and apply them to pressing development problems.

Many could see a direct link between marginalisation and poverty, on the one hand, and lack of access to information and having a voice on the other. From improving service delivery and outreach, to increasing participation in governance, and enabling people to make better-informed decisions, the potential was clear; however, so were the challenges: accessibility, cost, sustainability and capacity, for example. Development organisations and practitioners have puzzled over how to overcome serious challenges of accessibility, cost, maintenance and capacity, and created many pilots to test out applications of ICT, and solutions to the challenges. At the same time, the landscape for introducing and using ICTs was changing fast, and this time not only in cities and offices, but all over the world. This was, or is, the revolution of the mobile phone. Mobile phone use spread first amongst wealthy and highly concentrated populations, but the relatively low cost and simple technology has meant that it is now an indispensable tool, and service, for people everywhere, including rural areas of developing countries. And mobiles are not only useful for making calls or sending text messages, they are increasingly used to access the internet and the range of applications available is growing daily. The revolution of the mobile is a lesson for us all: while we have been hard at work planning how to use ICT to transform lives and communities, the transformation has been happening outside; through a conflux of commercial, social, economic and cultural factors. But the lesson is not to give up and follow the flow, for development is about redressing imbalances of wealth and power which leave some people, communities and countries marginalised and poor. It is traditional market mechanisms of supply and demand – meeting a need – that are leading a communications revolution and creating the conditions for more effective and wide-reaching ICT for Development (ICT4D) work. Development organisations are neither leading, nor in control of, this revolution, but they do have an important role to play to adapt and apply these new tools and opportunities to development goals [7].

How to use ICT for development: There are three key ways in which ICT can be used to meet key development goals:

- (i) Directly: This includes any work to improve connectivity, access and capacity to use ICTs, such as telecentres or policy advocacy.
- (ii) Strategically: This involves using ICTs in support of development goals, such as good quality education, protection from violence or participation in decision making.
- (iii) Internally: This is the use of ICT to improve the efficiency and effectiveness of the organisation, including communications and monitoring and evaluation

What to use ICT for:

- (i) To collect data: Depending on whom from, they may use email or the internet, or cameras, mobile phones and audio recorders
- (ii) To access information: the internet is commonly used, as are books or computer files.
- (iii) To communicate: email, mobile phones, radio, internet and social networking applications such as Facebook and Twitter are all used.

(iv) To store information: they use computers, email, mobile phones, cameras and audio device

### Current communication scenario

The closing decade of twentieth century was the opening of historic information and communication technology interventions for development. This period has witnessed enormous and unprecedented changes in every aspect of communications technologies, policies, infrastructure development and services. Political leaders of India have begun abandoning archaic government control over communication that has lately moved from government to national and international private players. Finally, airwaves and electronic signals have achieved their freedom from century's old colonial bondage to reach out and connect people through a privately owned and operated communication network and infrastructure.

Both international and national private players have taken a dominant role in redefining, reshaping and providing telecommunication, broadcasting and information services for national development. It has initiated an era of partnership of public and private entrepreneurial skills and abilities to bring about unlimited connectivity. It has already started reshaping the life of a number of elites in India. What about the rest? Little is known, though there is a trickle down communication effect in many areas of development including rural development. The role of communication technology for development must be viewed in this new and changed environment. How these ICT global and regional changes have influenced the access and use of ICT for development remains an issue of discussion and analysis.

**Socio-Cultural Perspective:** We are one of the world's oldest and ancient civilisations that evolved, matured and decayed over several millennia. After independence we have been experimenting and carving a path of revitalization for development through democracy. The existing sharp divide between the small but economically, politically and socially "rich elite ruling class" and a very big but "economically poor and socially deprived" continue to persist as a legacy of the past. While the rich elite have had access to knowledge, both oral and written, the economically poor remained confined only to oral knowledge. The imposition of British educational system for over two centuries helps add another layer of social barrier though on surface it gives an impression of equitable access to education. Privatisation of education has further helped the rich elite to dominate the contemporary social and political scene at the cost of the poor who remain oblivious of communication technology for any improvement in their existing miserable life [8].

Communication has been seen by a large number of development planners as a panacea for solving major social ills and problems. Apart from development, the introduction of communication in the educational process for open and distance learning is seen as step towards improving the quality of education and bridging the social and educational gap. However, experience indicates that those rich who could afford to have access to private resources have hogged the advantage whether development or education. In this respect, it seems that communication technology has, in no way helped the poor for improving their socio-economic condition. The triumph of the information technology (IT) story in India is not limited to urban India alone. Its applications in the information and communication technology (ICT) sector are now widely held as examples of positive effects ICT can have on development. Be it e-chaupals (call centres for

farmers) or e-services provided through technology centres across the country, the saga of ICT in India is on an upswing.

### ICT enabled development programme

**ICTs to support better lives for the poor:** a range of ICT-based applications aimed at poverty reduction in the context of rural India. These include supporting pro-poor market development through computerised milk collection centres, improving access to basic health services through approaches such as telemedicine, e-government services, and improved access to microfinance.

**Health information systems:** Primary health care is particularly important in countries such as India with a large poor population dependent on publicly provided health services. The provision of effective primary health care requires detailed data on target populations, and on tracking and monitoring health care and outcomes over time.

**Telecentres:** A direct approach to the use of ICTs aimed at bettering the lives of the poor is through the setting up of telecentres. Many telecentres projects have been started in India over last decade. SARI(Sustainable Access in Rural India) project in the state of Tamil Nadu is one such projects where, some 80 telecentres kiosks were set up offering a range of services including basic computer education, e-mail, web browsing and various e-government services including the provision of certificates [9].

**E-Governance:** In simple terms, electronic governance is the delivery of public services and information at the doorstep of the people with the help of computers. Citizens can use the Information Community Technology (ICT) as administrative tools to pave the way for a silent, social change. E-governance can play the role of a catalyst for sustainable inclusive growth. E-governance uses the ICT for planning, implementation, and monitoring of government programmes. Through e-governance, government can carry out effective Management Information System (MIS) and get real time information and reports of activities at the Block level. The Karnataka government's Bhoomi project has led to the computerisation of the centuries-old system of handwritten land records in the rural area. E-medicine, through use of new media, can reach quality healthcare in a remote village. A Kolkata-based hospital leverages e-governance for tropical medicine. The hospital employs telemedicine to assist doctors in rural areas. This method does away with patients having to travel all the way to Kolkata, from remote villages, for treatment. A villager gets the benefit of being treated by both a local doctor and a specialist in the state capital.

**E-Government direct services:** Many of the states in India have embarked on e-government programmes and initiatives. For example, the first of these was the Computer-Aided Administration of Registration Department (CARD) system which computerised the registration of property transfers, resulting in significant reductions in processing time. The second was the e-Seva project which set up computerised centres where citizens can pay bills to multiple agencies, register births and deaths, and get a passport and so on. This can be described as 'Success Stories' for India. A further case study of e-government, aimed specifically at poor communities, is provided by the Gyandoot project in the drought-prone rural Dhar district of the state of Madhya Pradesh. This started in 2000 with the objective of enhancing participation by citizens and government together in community affairs through creative uses of ICTs, and of ensuring equal access to emerging technologies for the oppressed and exploited



segments of society. 40 kiosks were set up in different parts of the Dhar district and they offered a wide set of services such as agricultural prices, online registration of applications, rural email, information regarding government programmes etc. However, the kiosks were mainly used by the literate and middle-income groups. ICT in agricultural supply chains: India's largest rural ICT initiative known as e-Choupal, started in 2000 by the India Tobacco Company and involved the setting up of large numbers of village Internet kiosks, or e-Choupals, initially in the state of Madhya Pradesh [10]. The scope of the project was extensive and by 2006 involved around 36000 villages in 6 Indian states, each e-Choupal covering around 6 villages (UNDP 2006). The e-Choupals are run by local entrepreneurs and provide farmers' price information to farmers, in local languages, enabling them to sell their produce directly to the India Tobacco Company, bypassing the middlemen and wholesale markets.

The value of the project was in reengineering the agricultural supply chain in a way that was beneficial to them in financial terms. The company also claimed (UNDP 2006) that this built the capacity of the farmers to participate in the supply chain and to make effective use of ICTs. Computerised records in land reform: Computerised land records is one of the potential benefits to Indian citizens through increased transparency, less corruption, better delivery of government services and greater government responsiveness. However, as we have seen in the earlier examples, this potential is not always realised. The computerisation of one or more elements of the whole process of the production, registration and transfer of documents does not always produce quicker response overall, reduced corruption or increased transparency of the whole process.

E-Choupal: Traditionally, Choupal is known as the central gathering place in the village, a kind of rural forum, where people discuss, debate and decide on their course of action about some burning issues in the community. E-choupals in the digital age share information through the Internet while retaining their pristine, democratic character. The Internet has started revolutionising the way Indian farmers do business. The system constitutes an Internet enabled

kiosk in a village, manned by a villager. He is familiar with computers and known as the Choupal sanchalak (one who conducts the forum). The sanchalak acts as the interface between the computer and the farmer. Farmers can use the kiosks to check the current market prices of agricultural commodities, access market data better farming practices. Initially apprehensive, farmers have slowly but steadily familiarised themselves with the new system. New Media's interactivity and easy access have made it a commendable medium for development communication.

E-Services: The Millennium Development Goals (United Nations 2009) focus strongly on this area with targets to end poverty and hunger, and significantly improve health and education for the poor. ICTs are seen to have high potential in a number of these areas, including that of health, where effective gathering and use of data through computerised health information systems is seen as a key prerequisite to improved health care delivery and the better assessment of health programmes [11]. Telecentres are a second area where ICTs have been widely applied. It helps with providing them with access to information and better freedom of choice. In an inspiring move, the Kerala government has commissioned a project in Malappuram, a rural district in the state, making it the world's most networked rural district. The 'ICT for Development' project, Akshaya, provides a range of e-services including education through a network of 617 information and communication technology (ICT) hubs. Set up in November 2002 with an investment

Rs. 3.5 crore (US\$ 801,000), the project ensured that at least one person per family in the district was trained in computers. In the 560 Akshaya centres that have been set up, each centre or e-Kendra is equipped with five to ten computers, printers, scanners and other equipment and software. The Akshaya centres provide a range of e-services to the local community like universal ICT access, e-literacy, creation of micro ICT enterprises and service delivery points along with banking and financial services. Several other services, including the malappurampolice.com portal, e-governance services, e-Kisan, cancer net and a community educational initiative, have also been launched.

## Analysis

ICTs have contributed to 'economic facilities' through a number of initiatives such as telecentres, the use of mobile phones for farmers and others, improved agricultural supply chains. There are also some early signs of contribution of ICTs to improved health care which is a key condition for an individual being able to benefit from economic facilities. 'Social opportunities' have been generated through the widespread use of mobile phones and the more limited use of telecentres. There are some positive aspects, which significantly indicate the changing Indian scenario. India has made significant progress in the ICT and the IT infrastructure particularly; the penetration of IT has improved. For the last few years the state governments, NGOs and some pioneering companies have tried to crack the technology barrier by developing pilot projects to showcase the marvels of IT in a rural setting [12].

Bhoomi is a kiosk based project of Karnataka and holds millions of records of land ownership. It is widely successful as there are almost 8 lac people in various talukas of Karnataka that use the system every month. The system called e-seva in the Ranga Reddy district of Andhra Pradesh, including the twin cities of Hyderabad and Secunderabad, is also very successful with thousands of citizens using the system for paying bills, getting motor permits and licenses and for various other government services.

Another important rural information network project is Gyandoot in Dhar district of Madhya Pradesh, where every village has an information kiosk that provides information on crop, forests, water resources, etc. There are many more e-governance and related projects set up in various states like the UNDP supported Jana Mitra Scheme in Rajasthan, Choice in Chhattisgarh, Lokmitra in Himachal Pradesh, Rajnidhi in Rajasthan, Lokvani in U.P., Setu in Maharashtra, Jai Kisan in Uttaranchal.

There is however a few problems encountered in trying to use ICTs to support the achievement of development goals? A first problem relates to who benefits from the technology and the answer that comes across in a consistent way is almost always not the very poor, landless farmers, lower castes or sometimes women. Initiatives such as telecentres, e-government direct services, ICT-facilitated agricultural supply chains and computerised land reform tend to benefit those who are already in a relatively privileged position.

A second problem is that many of the ICT initiatives are limited in scope and scaling them up to deal with whole states or the whole country involves a complex socio-political process that is very difficult.

## Conclusion

Although, in India the ICT has contributed to the economic prosperity of urban India, still it has yet not reaped full benefits in rural areas. The reason being that whenever the Indian government is involved with delivering projects there are delays, changes in functionaries,

shortages in money, lack of motivation, lack of coordination between departments, projects are tied to election cycles and so on. Hence, there are challenges ahead, including bringing in a positive attitude towards moving to e-governance, educating the bureaucrats about the need for change and imparting training to use technology effectively.

**Key challenges and solutions:** Despite the developments in the Indian context there are still a number of challenges that need to be attended including providing necessary content for education, literacy, equitable access opportunities for all, enhancing libraries, particularly rural libraries and community centres role. It requires a bending of the powerful ICTs, which are highly flexible and mouldable. E-Literacy: An attribute of the kiosks that affect their diffusion is the perception that the technology is complex and therefore only the educated people can understand and use it. The very image of a computer which they can use only with the help of an external operator is too complex for them. This situation is expected to get better with the improvement and propagation of the e-literacy skills among the masses. Therefore to reap the fruits of the ICT, it is important that the citizens are provided opportunities to learn and apply a set of literacy skills.

**Improving ICT infrastructure:** Telecommunications and the IT infrastructure is the key to provide universal and affordable access to information to citizens scattered geographically. The challenge that we face in ICT for development is designing and building technologies and networks that are suited for the needs of our citizens. Despite the growth of Internet, India has to provide a stronger telecommunication infrastructure. To analyze the future role of ICTs in the broader development of India, it can be said from this paper that ICTs are not a 'silver bullet' that solves development problems in isolation from broader social reform. On the other hand, ICTs are not unimportant in many areas and sectors of Indian society and this influence is likely

to increase in the future through the growing global pervasiveness of technology. A more sophisticated view of technology in India than that of silver bullet or irrelevance is to see ICTs as potentially important actors in heterogeneous networks of people, organisations, technology and institutions.

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