Role of ICTs in Empowering Rural India: A Critical Analysis

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Abstract

Real Bharat breathes in rural areas and even after more than sixty years of independence, it has many challenges like; poverty, illiteracy, health problems, unemployment and many other problems because of information gap between rural and urban. This gap creates a politically and ethnically unacceptable inequality of services and opportunities for rural population and prevents them from participating in socio-economic and political life of the nation. This rural isolation and deprivation can negatively impact growth and certainly growth cannot be sustainable unless it is inclusive. ICT can play an important role in bridging this information gap and can be a powerful means to accelerate economic and social development in rural areas so that rural citizens can have access to all types of information for better participation and can upgrade their living standards. This paper is an attempt to discuss how ICTs are helpful for rural population in strengthening rural governance, encouraging social transformation, ensuring better living standards, enhancing rural people's participation in nation building, promoting rural trade and e-commerce, promoting local entrepreneurship, uplifting marginalized groups and many more.

Keywords: ICT, Infrastructure, Inequality, transformation, entrepreneurship, deprivation

INTRODUCTION

India still breathes in villages and this becomes obvious when the fact is taken into consideration that more than 700 million of its population reside in about 636 thousand villages of this country. But even after more than 60 years of independence, rural India is characterised by severe poverty, illiteracy, lack of health services, lack of employment opportunities and backwardness. Rural areas are regarded as information poor which is a major component of rural development activities. Rural areas often lag behind urban areas in terms of essential infrastructure and services such as transportation, health, education and government services. This creates a politically and ethnically unacceptable inequality of services and opportunities for rural populations and prevents them from participating in socio-economic and political life of the nation. Rural isolation and deprivation can negatively impact growth and certainly growth cannot be sustainable unless it is inclusive.

The role of information and communication technologies cannot be seen in isolation. Its impact has to be seen by the development of the people above all. ICT has earned its reputation to be the key to information flow for intensifying the developmental efforts by the government in rural areas.

ICT is now recognized as a technological tool which can serve as a catalytic intervention in respect of transforming the lives and livelihoods of rural families. It has been considered as the imperative strategy for achieving the goal of sustainable rural development. Through ICTs people in rural areas can connect with the local, regional and national economy and can have access to markets, banking services and employment opportunities. ICTs also serve as instrument of awareness creation and feedback giving rural people a voice in the nation's socio political life. The economic and income divides between the rural and urban can be overcome by technological up-gradation of rural professions.

OBJECTIVE AND RESEARCH METHODOLOGY

The objective of writing this paper is to understand the role of Information and Communication Technologies in rural development when there is huge information gap between urban and rural India. The research methodology used is exploratory in nature as the information included has been derived from various research papers published recently along with various articles from the newspapers and periodicals in addition to the views of the author. Select websites have also been visited to get the related

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information. Interactions were also made with some senior academicians from this field in addition to peer group interactions. Various cases as the state government's initiatives in this sector have been discussed for better understanding the use of ICTs especially in rural areas.

RURAL CHALLENGES IN INDIA

Illiteracy, ignorance, deprivation and unemployment are considered as major challenges for rural India which has created a huge information and knowledge gap between the urban and rural. Low literacy rate in rural India is a big hurdle for optimum utilization of the ICTs enabled services. In rural areas elementary education is available but the status of higher education is very low which is necessary for development of knowledge and information bank. Because of the low literacy rate rural people are not able to participate in socio-economic & political development of the nation, merely taking part in electorate process can't be considered as participation in the development process.

This low literacy rate has barred them to get jobs at higher levels which has become one of the main reasons of their poverty and that the gap between the rich and poor, literate and illiterate has increased, causing inequality in distribution of services and other infrastructural opportunities. The dominance of English language in using the ICTs enabled services is also a great challenge for the rural people as most of the information found on web pages is in English language. Lack of infrastructure such as adequate availability of computers and electricity connections, which are crucial for use of ICTs, are also critical challenges for the rural India. This unequal distribution of resources has given rise to 'digital divide' which need to be resolved at the earliest if we have to achieve the target of rural development.

RECENT GROWTH OF RURAL TELECOMMUNICATIONS

Recently India has seen a revolutionary change in the field of telecommunications which is the result of effective regulatory and policy adopted by both public and private service providers. The growth of rural telecommunications is remarkable and has risen to 36% as on 30th August 2011 from a mere 1.7% in 2004. In fact, today rural areas have taken lead in the telecommunication as compared to urban areas. At the beginning of 2011, there were 282.29 million rural connections as compared to a mere 4.84 million landline phones in the year 2000. Practically this growth has come from mobile telephony and the private sector has played a huge rule in this expansion. As on date every rural

household owns a mobile phone.

SIGNIFICANCE OF ICT IN FACILITATING RURAL DEVELOPMENT

Strengthening Rural Governance:

Introduction of ICTs in rural areas is expected to bring in changes in the whole process of rural governance by improving transparency, accountability and administrative efficiency of rural institutions, promoting participation of the poor in decision making process and improving the efficiency and responsiveness of rural service delivery. It can facilitate speedy, transparent, accountable, efficient and effective interaction between rural people, this will not only save time but cost also of government operations. At the same time it can improve interaction with and within civil society for participation in the rural governing process. Village Sarpanch is the public administrator at local level who can be provided decision support for improving the planning and monitoring of various programs run at village level.

Enhancing People's Participation in Nation Building Process

The importance of communication in mobilizing people and seeking their willing participation in the development process of a country is well recognized. It can help reaching people, communicating with them and equipping them with new skills for nation building. ICT has been considered as one of the major instrument in modernizing agriculture and producing healthy, literate and trained workers for industry and bringing effective participation in nation building.

Ensuring Better Quality of life

Application of ICT has the potential to improve living standards of people in remote and rural areas by providing important commercial, social and educational benefits. It strengthen the livelihood opportunities for rural India and can ensure better quality of life for the rural poor with a improved access to markets, health services, education, employment and other issues which pushes rural India towards economic development.

Better Health Services to Rural People-A Case

Under the aegis of National Health Rural Mission the government of Haryana has started a program "Mother Child Health Tracking System". The prime objective of this

mission is to keep a track on sex ratio in the state and to decrease the mortality rate of mother and child both. To avail the facilities every mother need to register themselves at Central Health Centres (CHC) or Primary Health Centre (PHC). All the registered mothers are being provided information through Short Service Messages (SMSs) not only about their vaccination but about the type of diets they are supposed to take during and after the pregnancy. As reported 12058 pregnant women and 9058 newly born babies exclusively from district Mahendergarh have been registered by 6th April 2012.

Strengthening Information Base of Rural Community

ICT may be designed to provide support to local governance as well as to the anxieties generated by local needs of the rural communities. As rural people are often unaware of their rights, entitlements, and the availability of various schemes offered by the government meant for them. ICT can also improve the access of rural people to the information they need. It empowers the citizens through access to information and knowledge and broadens their horizon for community development.

Strengthening Education

Knowledge transfer through education and training has been a central concern of rural development initiatives over the years. Developments in ICTs offer great potential to support and enhance education and training for development. Given the particular constraints to education and training in rural areas the potential impact of ICTs on knowledge development is greatest. Information and communication activities are a fundamental element of any rural development activity. While education and training develop cognitive skills, it is information that gives content to knowledge. The importance of information for development is undoubted but important issues surround whose reality the information reflects, who is able to make use of that information and for what purpose. Rural information systems have traditionally focused on supplying information to the rural poor and supplying information about rural areas to policy makers.

Helpful in Gap Management

ICTs for rural development are useful to distinguish between knowledge gaps that refer to unequal distribution of technical knowledge and information problems, both of which contribute to underdevelopment. ICTs have the

potential to address both these barriers to rural development by facilitating improved knowledge sharing and information exchange. However effective application of these technologies requires greater understanding of both the potential of the technologies in question and the social, political and cultural context in which they could be used.

ICTS IMPACT ON LIVELIHOOD ASSETS

ICTs have impacted the livelihood of the rural people in a number of ways depending on the context in which they are used. These are:

Human Capital: Education is the most important tool for the development of any community and ICTs give better access to education and training through distant learning programmes to all the people irrespective of location. Education bridges the knowledge gap and improves the human capital which is the most valuable asset for any nation.

Natural Capital: With the use of ICTs, access to institutions dealing with aspects of natural resources can be improved including administrative and legal information such as land reforms and others. Various channels can be established with appropriate authorities like landowners, government ministries and local officials for better understanding through interactions using ICT enabled resources.

Financial Capital: ICTs support and strengthen the local financial institutions including micro-credit organizations to improve information provision on services and facilities available such as loans and saving schemes for the general public. Access to financial information and services can improve the transparency and more equitable service provisions.

Social Capital: Improved networking both at local and national level can improve the interactions and reduce the cost and time taken to travel to pursue social networking goals along with spending more and more time with family members at home. Expanded social networks may also result in increased opportunities for employment both locally and away.

Physical Capital: Access to markets and market information helps to improve choices for the sale of goods on local markets according to enhanced information on prices, supply and demand of the products. And in the longer run new markets, techniques and processes for

production and marketing both at farm and non-farm can be explored.

In addition to above there are many other benefits of using ICT in rural areas like:

- ✓ Distributing locally relevant information
- ✓ Targeting disadvantaged and marginalized groups
- ✓ Promoting local entrepreneurship
- ✓ Promoting trade and e-commerce
- ✓ Building capacity and capability
- ✓ Enriching culture
- ✓ Help farmers with value base information to improve their productivity and provide timely information to traders
- ✓ Creating employment opportunities
- ✓ Reinforcing social mobilization
- ✓ Entertainment through broadcasting and multimedia services at doorsteps in rural areas

The power of knowledge for development can be greatly enhanced by ICTs if they are harnessed to improve access and break down barriers to knowledge as education develops cognitive skills and information gives content to knowledge. In this sense the use of ICTs is integral to realising the potential of collective knowledge as the technologies themselves represent tools for achieving development and not merely the rewards of it. ICT can be considered as a fundamental element of any rural development activity as it addresses the design, delivery and utilisation of community information systems which eventually guarantee empowerment of rural communities through addressing the following issues and agendas by:

- Familiarising communities with their existing use and sources of information as well as with the gaps that exist between existing and desired information resources
- Defining community information requirements based on needs and priorities that have been expressed by the communities themselves
- Alerting communities to the potential application of information to their problem-solving efforts and to their development aspirations
- Igniting community aspirations and empowering communities with appropriate skills for fostering local development that is information based
- Propelling communities towards the acquisition of the new knowledge they will require in order to exploit the power of ICT

SOME ICT ENABLED PROJECTS IN STATES

Central and State governments have initiated many strategies

to promote ICT in all walks of life especially focussing rural population. Efforts have been taken to increase ICT accessibility through computers and internet to reach wider sections of society with the help of civil society organizations. Government processes and procedures have been reengineered to bring about several benefits, such as transparency at work, reduced constraints, increased efficiency and productivity, reduced cost of service delivery and better access to all including rural citizens. Maximum transparency in government initiatives have been ensured through citizen charters available over the internet, for every government department. A number of projects are in operation in different states for promoting electronic governance for the benefits of the rural citizens in India. The significant ones among them have been discussed below.

Karnataka

Bhoomi: Twenty million rural land records belonging to over 6.7 million farmers have been computerized in Karnataka. Citizens can obtain land records with ownership and crop details to obtain loans from banks through 177 government kiosks. This facility has helped farmers to not only secure land records speedily without money and middlemen, but also save the time and money earlier spent on visiting government offices where they were harassed by corrupt officials. Now, farmers can obtain all RTC (record of rights, tenancy and crops) copy of their land records within 30 minutes by paying Rs.15.00. Copies can be obtained for any land parcel in the taluka by providing the name of the owner or the plot number (<http://www.bangaloreit.com/html/egovern/Bhoomifrm.html>).

Khajane: Treasuries all over Karnataka have been computerized under a project known as Khajane to facilitate transparency and speedy delivery of services. Treasuries have been directly connected to rural local bodies accounting around for 4,500 zilla panchayats, taluka panchayats and gram panchayats. As a result of this network, Rs.20, 000 crores are handled in 225 treasuries serving 4.7 lakh clients in the State.

Kerala

Friends: The Fast Reliable, Instant, Efficient Network for Disbursement of Services (FRIENDS) project in Kerala aims at facilitating the provision of services within a corporation or municipality at a single centre. Fourteen centres have been established in all the district headquarters to provide smooth and transparent fast, reliable, instant,

efficient services to citizens. It is a “single window scheme” in which the consumer is given the option of paying for common services rendered to him under a single roof. The major feature of the project is that this software is specifically programmed to accept payments due to different agencies by incorporating specific rules and regulations regarding remittances pertaining to each agency. Individual citizens have historically been expected to pay for services used at the office of department or the agency concerned. This means that every citizen has to personally visit several offices and stand in queue for hours together to pay taxes and other payments due to Government. It was against this background that the FRIENDS project was conceived, enabling citizens to visit a single location to avail all the services. The counters handle around 1,000 types of payments such as electricity and water, revenue taxes, licence fees, motor vehicle taxes, university fees, and so on. Local bodies and seven Government departments/agencies such as Kerala State Electricity, Kerala Water Authority, BSNL, Revenue, Civil Supplies and Motor Vehicles Department and Universities have collaborated to provide these services.

Madhya Pradesh

Gyandoot: This is a rural intranet network started in 2001 in Dhar, a remote district in MP, to benefit nearly a million people across 311 gram panchayats covering 600 villages. The project provides 15 types of services through a network of 35 information centres. Citizen can avail of various benefits, such as information about crop prices, copies of land records, government applications assistance, obtaining of income, domicile, and caste certificates, redress of grievances, and so on. Trained local people manage it and the gram panchayat meets the entire cost. This project has received worldwide recognition and received the Stockholm Challenge IT award 2000 and the Computer Society of India IT award 2000 for best IT usage in India (<http://www.gyandoot.nic.in/>). The local bodies, in collaboration with government officials have started ICT kiosks operated by unemployed youth who were selected and have been trained to run these kiosks. It caters to the ICT requirements of a wide section of rural consumers.

Maharashtra

In Maharashtra, the “Wired Village” project in Warana, a rural area, gives information in the local language to the people of 70 villages about crop prices, farmer's payment dates, employment and educational opportunities through 54 kiosks. It has helped the Warana Group of Cooperatives (WGC) and the farmers who supply sugarcane to the

cooperatives to achieve better productivity. Before the implementation of the project, there were communication problems between the farmers and the WGC leading to inefficiency and lower productivity (www.mah.nic.in/warana/).

Computerization of PDS: In order to detect bogus ration cards and black marketing in the Akola District of Maharashtra, all ration cards were computerized by the public distribution system after a household survey at the district as well as the tehsil level. All the cardholders were then directed to be present for verification. Genuine cardholders were retained and bogus cardholders were separated out. After a month, 37,000 bogus cards and 9,000 duplicate cards were detected. One million litres of kerosene could be saved in the first six months, and sugar, wheat and other ration items worth Rs. 56-60 million were saved annually in the district. Computerization of the data, thus, helped to check corruption in the PDS in Akola District.

Rajasthan

The e-governance projects in the state are: Rajnidhi, Rajswift, Lokmitra Electronic service and Vikas Darpan. Rajnidhi Information Kiosks (Rajnidhi) is an e-governance project in Rajasthan developed and designed to enable the citizen to access a number of services. A citizen can obtain information relating to investment opportunities, tourism (tourist places, fairs and festivals, forts, sanctuaries), health (family planning and immunization of children), employment, transportation, distance education, and agriculture. Information regarding procedures (forms, rates, places and persons) for obtaining ration cards, licenses, birth/death, and caste certificates, and water and electricity connections. This website also contains electronic versions of State Government publications, statistical data, details of Government departments and PSUs. The kiosk provides an opportunity for the citizen to send complaints and suggestions to the Chief Minister and senior officers directly (www.ap-it.com/egovernancego23governance.pdf).

Lokmitra: Project provides access to Government transactions through the internet and e-kiosks. It is equipped with five e-counters, connected to a central server. Any citizen can avail multiple services of different departments at these counters (www.lokmitra.gov.in).

Rajswift: is a system, which uses the internet to facilitate online data, text and email communication between the Office of the Chief Minister and the 32 District collectors. Vikas Darpan GIS based Planning & Decision Support

System covers 40,000 tehsils on about 200 demographic and socio-economic indicators.

Gujarat

Computerized Inter-State Check Posts of Gujarat

Government (CICP): The prominent e-governance project in Gujarat is the computerized inter-state check post (CICP) system in which all the check posts of Gujarat have been computerized. This helps government officials to check all the heavy vehicles passing through the State to and control the transport of commodities to conform to specified standards to avoid loss to life and property. Besides, the project also protects drivers of transport vehicles from the alleged harassment of officials and checks unaccounted money transactions. Reducing the time checking the utilization of these techniques has been the other objective. The PPP model (Private Public Participation) has been applied to design and run the project. A team comprising an enlightened political executive and a technology-savvy administrator was able to implement an online system in which each truck is weighed on an electronic weighbridge. The base data are retrieved from a database, and fines and taxes due to Government are automatically calculated and printed out (www.egov4dev.org).

Andhra Pradesh

Government of Andhra Pradesh has almost digitalized the ration card database of all the beneficiaries and they will get the authorised commodities by using Aadhaar cards being issued to them. All the fair price shops have been connected for the purpose of distribution of commodities. A grievance redressal module has also been developed for the calls from citizens. Monitoring of the movement of the commodities from the warehouse to fair price shops will be done using GPS technology.

Chhattisgarh

Chhattisgarh has FPS Database with attached ration card information. This has enabled automated shop-wise allotment by entering per card parameters every month on a web-based application. Chhattisgarh state civil supplies corporation (CGSCSC) Distribution Centre Module is implemented at 120 Warehouses of 108 distribution centres. The stocks and sales figures of previous month of all the FPSs are entered into this module and the actual amount of PDS commodities to be issued to FPS is calculated by this

web based software and delivery order and truck challans are issued thereafter. Receipts and movement of commodities between distribution centres is also done through this application. Thus stock position at any point is available on web through Jan Bhagidari. This web site has all information relating to PDS including lists of all Ration Card holders, list of FPS, details of lifting and sales of PDS commodities by FPS etc. Whenever PDS commodities are dispatched to FPS from the warehouse, an e-mail message and an SMS is sent to all the e-mail Ids and mobile numbers registered for that FPS. Call-Centre with a toll free number is in place to get necessary information about food department and lodging of complaints. Complaints are monitored at all levels through the system. Reports like ration card holder details, FPS details, FPS wise allotment and lifting details rice procurement details and complaints lodged and their status are generated by system on web, which are accessible to the public.

In addition to all the above mentioned state governments, other states have also started many such programmes for the welfare of the citizens especially for rural people and these are Himachal Pradesh, Meghalaya, Pondicherry, Sikkim, and Tamil Nadu.

Still a Long Way to Go

Generally there is lack of awareness among rural people regarding benefits of ICTs as well as the process involved in implementing such projects. To a larger extent, the computers in the department are used for the purpose of word processing only, resulting in the underutilization of the computers in terms of their use in data mining for supporting management decisions. Also there is lack of co-ordination between the technology providers and the users at rural level. Lack of infrastructure is another problem to support the adequate use of ICTs for the development of rural areas. The infrastructure creation is not guided by a uniform national policy, but is dependent on the needs of individual officers championing a few projects. Therefore, the required networking and communication equipment is either non-existent in government departments, or if it exists at all, it does not serve any tangible purpose as far as the requirement to complete the projects defined.

Another problem is the dominance of English language on all the ICTs enabled systems and hence become out of reach for the non-English population and this leads to inequality in gaining access to public information between various sections of citizens, especially between urban and rural communities, educated and illiterate and rich and poor

citizens.

CONCLUSION

So, nowadays it has become imperative to use the ICT effectively in order not only to communicate messages related to rural development but also to motivate and encourage the people of rural India to participate in the development process. Thus, in the current context of sustainable rural development, ICT has been recognized as a catalytic intervention in respect of transforming the lives and livelihoods of rural India.

The development of a society largely depends on the access to information and so far in rural India-ICT has greatly facilitated the flow of information and knowledge offering the socially-marginalized and unaware community opportunities to attain their own entitlements. On the other hand, to break the circle of rural poverty and to bridge the digital gap and empower the rural communities - ICT intervention has proved its effectiveness in the sphere of capacity building of rural communities for breaking these barriers. So, the government, technology industry and society should work together to deploy ICT to accelerate economic and social development in rural areas. Hence it may be concluded that an integrated framework for ICT interventions in rural areas will unquestionably make a way towards sustainable rural growth.

Hence the role and potential of ICTs for rural development is very useful to fill the information and knowledge gap and can be considered as invaluable tool for reducing the inequality of distribution of both at rural level. ICTs have the potential to address both these barriers to rural development provided effective application of the technologies required for this purpose and moreover the context in which this is used. There is mutual lack of understanding between technology drivers and development agencies which need to be resolved at the earliest if the objective of the rural development has to be achieved.

REFERENCES

1. Agrawal, Binod (2006). Communication Technologies and Rural Development in India: Promises and Performances. Indian Media Studies Journal. Vol 1. July-Dec.
2. Ajit Ghosh (2011). Initiatives in ICT for Rural Development, Global Media Journal, December
3. Anupam Hazra (2012). ICT and Sustainable Rural Growth, Kurukshetra-A Journal of Rural Development, Vol 60, No 3. January
4. Barthwal (2003). Public Distribution in India, pp-296
5. Department of telecommunication, The Government of India, New Delhi.
6. Dainik Jagaran, April 12, 2012, Rewari-Mahendergarh Edition
7. Gyandoot: The purveyor of knowledge. [Http://gyandoot.nic.in](http://gyandoot.nic.in)
8. <http://www.bangaloreit.com/html/egovern/Bhoomifrm.html>
9. Kumar, Rajendra (2005). Bridging the Rural Digital Divide. The Hindu, April 12.
10. Kumar A and Meenakshi N (2011), Marketing Management, Rural Marketing, Vikas Publication, 2nd edition, New Delhi, pp-877-880
11. MS Swaminathan Research Foundation. [Http://www.mssrf.org](http://www.mssrf.org)
12. M. Shamsul Haque, E-governance in India: Its impacts on relations among citizens, politicians and public servants, International Review of Administrative Sciences, Sage Publication, 2002, London, pp-245-246
13. Robert Chapman and Tom Slaymaker. (2002). ICTs and Rural Development, Working Paper, Overseas Development Institute, London.
14. Sustainable access in Rural India. <http://www.tenet.res.in/rural/sari.html>
15. [Www.ap-it.com/egovernancego23governance.pdf](http://www.ap-it.com/egovernancego23governance.pdf)
16. [Www.egov4dev.org](http://www.egov4dev.org)
17. [Www.mah.nic.in/warana](http://www.mah.nic.in/warana)