

Impact of Information and Communication Technology on Rural India

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Abstract: Since early 90s Information and Communication Technologies are playing a pivotal role in the development process. In the globalization era, India using ICTs to promote their development programs as well as reaches the poor to strengthen their lively hood. In this paper how the ICT using in eradication of poverty as well as the e governance performance has been discussed. And also the current ICT initiatives tend to focus on infrastructure development and the extension of information and communication services from the centre to the periphery. This paper mainly focused on how the ICT intervention in rural development initiatives is capable of development rural India.

Key words: ICT, e-governance, rural development, rural India, globalization

I. Introduction

The buzz word ‘Technology’ is a double-edged sword in present days. It became a part of life and livelihood of any country. In the 20th century, rapid techno-logical advances led to rising standards of living, literacy, health and life expectancy. They also made possible a century of more deadly warfare, the industrialization of mass murder, global warming and ecocide. The promise of Information and Communication Technologies (ICTs) for the 21st century likewise presents both opportunities and challenges. ICTs, like all technologies, are tools. How they are used depends on the user and the context. In the era of globalization information revolution and the extraordinary increase in the spread of knowledge have given birth to a new era--one of knowledge and information which affects directly economic, social, cultural and political activities of all regions of the world, including India. Governments worldwide have recognized the role that Information and Communication Technologies could play in socio-economic development. A number of countries especially those in the developed world and some in developing countries are putting in place policies and plans designed to transform their economies into an information and knowledge economy. In present days developed countries like USA, Canada, and a number of European countries, as well as Asian countries like India, Singapore, Malaysia, South Korea, Japan, and South American countries like Brazil, Chile, and Mexico among others, and Australia and Mauritius either already have in place comprehensive ICTs policies and plans or are at an advanced stage of implementing these programmes across their economies and societies. Some of these countries implementing ICTs and their deployment for socio-economic development as one area where they can quickly establish global dominance and reap tremendous payoff in terms of wealth creation and generation of high quality employment to strengthen their lively hood. On the other aspect, some other countries regard the development and utilization of ICTs within their economy and society as a key component of their national vision to improve the quality of life, knowledge and international competitiveness.

The scope and pace of recent change is a function of revolutionary advances in ICTs. ICTs are basically information-handling tools – a varied set of goods, applications and services that are used to produce, store, process, distribute and exchange information for the development of the country. They include the “old” and “traditional” ICTs of radio, television and telephone, and the “new” and “advanced” ICTs of computers, satellite and wireless technology and the Internet. These different tools are now able to work together, and combine to form our “networked world” -a massive infrastructure of interconnected telephone services, standardized computing hardware, the Internet, radio and television, which reaches into every corner of the globe. This “Essentials” is written at a time when the use of ICTs for development is on the threshold of a very active period of experimentation. The focus is shifting from understanding ICTs as pure technologies to be used in addressing specific needs -the project approach - to a holistic approach that sees ICTs as key development enablers. This new focus recognizes that the potential of ICTs is tethered to a complex mixture of international, national and local conditions, with the policy environments being paramount. Informed policy choices are critical, as are creative combinations of public-private partnerships (UNDP et. al., 2001). ICT-enabled social and economic opportunity are some sobering statistics: one-third of the world’s population has yet to make a phone call, less than one-fifth has experienced the Internet, and most of the information exchanged over the Internet is in English, the language of some 10% of the world’s population (UNDP et. al., 2001). These statistics illustrate one aspect of what is sometimes called “the Digital Divide” – the inability of a large portion of the world’s

population to access and effectively use ICTs and the potential benefits they enable. In fact, the Digital Divide - the disparities between the “connected” and the “unplugged” - is really a reflection of the age-old divides of poverty, education, and restricted human choices. Uneven access to ICT tools and networks -within countries and between countries - both reflects, and threatens to exacerbate, existing inequalities.

II. Rural Development and ICTs

In developing countries like India the concept of development linked up with the rural development. Most of the Asian countries are depended in rural areas. The Governments of those countries concentrated to develop or uplift the rural areas for strengthen their economical and social development. The specific concern here is the potential role and importance of ICTs in support of *rural* development. Current ICT initiatives tend to focus on infrastructure development and the extension of information and communication services from the centre to the periphery (World Bank, 1999). In this context, visions of a network age of integrated information systems on a global scale seem far removed from the reality of rural areas in most developing countries which are far from becoming fully integrated in ‘global information networks’. Particularly how far ICTs offer any new solutions to long-standing rural development problems and whether they can make a significant contribution to enhancing existing and ongoing initiatives. The context of rural development has changed rapidly in recent years but some three-quarters of the world’s poor still live in rural areas. Furthermore, although in decline, agriculture remains the direct and indirect base for the economic livelihoods of the majority of the world’s population (IFAD, 2001). One of the most impacts of backwardness is poverty. ICT can play an important role in many aspects of rural development. It can also help to better govern various aspects of rural development. The working definition (used by the British Council) emphasizes that Governance involves interaction between the formal institutions and those in civil society. Governance refers to a process whereby elements in society wield power, authority and influence and enact policies and decisions concerning public life and social upliftment. ICT can strengthen the role of each governance pillar in rural development and poverty reduction and also it can facilitate speedy, transparent, accountable, efficient and effective interaction between the public, citizens, business and other agencies. This not only promotes better administration and better business environment, but also saves time and money in transactions costs of government operations (IICD 2001).

The ICT is the main factor for the recent changes of the rural face. There is an extensive literature on the benefits of recent changes for rural areas (Kellick 2000). Narratives of change range from extreme optimism to extreme pessimism, while on the one hand processes of globalization imply potential increased growth, opportunities and income; on the other they imply potential increased inequality, risk, vulnerability and social instability. Managing processes of transition in rural areas to ensure these risks are minimized and potential benefits maximized, represents a huge challenge for rural development. It is clear however those successful future strategies must be characterized by greater flexibility and adaptability than those of the past (Ellis and Biggs, 2001). ICTs have a potential for economic growth and social empowerment. Using direct or indirect application of ICT, in rural development sector has also been referred to as “Rural Informatics”. Rural economies can be benefited from ICT by focusing on social production, social consumption and social services in the rural areas. Sustained development using rural informatics is possible, only if ICT interventions are able to respond to the local needs and re-adjust as per the prevailing knowledge of the rural areas. To understand the needs and local knowledge prevalent at the grassroots, these interventions should preferably have an effective bi-directional link. In any kind of development citizens of their society is the most important aspect of the Government. The inculcation of a Citizen-to-Government (C2G) and Citizen-to-Citizen (C2C) interface would provide this link that would also lead to community participation in design and implementation of ICT interventions. This in return could promise better economic opportunities as well as social inclusion of rural people in the processes of governance. Such attributes in the social set up are essential prerequisites for good governance and rural development.

III. ICT and Poverty Reduction

As part of promoting the democracy and good governance, the role of ICT is catalytic in the complex task of poverty reduction by leveraging the effects on earnings opportunities, on educational and health services. When the ICT is pave a way to exchange of information between the societies, since information exchange is part of nearly every element of the economy, the impact of improvements in the capacity for information exchange will depend critically on how the rest of the economy functions. This suggests the centrality of a holistic approach in evaluating the impact of ICT. The impact of improved ICT access on farm earnings through increased knowledge of market prices will be muted if there are no roads to carry crops to markets, or there are no markets because of an unreformed agricultural sector (World Bank 2001). Any approach using ICT in the interest of poverty reduction has to be broad-based and tailored to various sectors and build inter-linkages (Ibid). According to a study carried out in India, Jamaica and South Africa the effectiveness of ICT in combating poverty depends on i) complementarities with other local level poverty reduction and development initiatives, ii)

responding to the local community needs, and iii) involving stakeholders in applications development. The goal of using ICT with marginalized groups, such as the poor, is not only about overcoming the digital divide, but rather enforcing and furthering the process of social inclusion, which is required for transformation of the environment and social system that reproduces poverty. Technology can assist in this process, but efforts should not be just limited to it. It has been proposed (UNDP 2001 b) that strong linkages need to be established between direct ICT interventions and national-level programs that deploy ICT as an enabler in development.

IV. ICT and Governance

ICT is an integral part of development strategies of both developing and developed countries. It has great potential to bring in the desired social transformations by enhancing access to people, services, information and other technologies. ICT applications can enhance poor people's opportunities by improving their access to markets, health, and education. Furthermore, ICT can empower the poor by expanding the use of government services, and reduce risks by widening access to micro finance (Cecchini and Scott, 2003). The uses of ICT for development are actively promoted, for economic development, job-creation, rural development and poverty-alleviation.

In any society the process of development is to be aided by its governance. If the government works efficiently, the society will be in a elite position. The goal of governance "should be to develop capacities that are needed to realize development that gives priority to the poor, and creates needed opportunities for employment and other livelihoods" (The World Bank, 1992, UNDP, 1994). In this context any government should give top priority to their poor to uplift and provide minimum facilities like food, cloths, shelter to them. When increased number of poor, hungry or marginalized people in a country represents decrease in its quality of governance. To promote development, various studies have proposed governance in the contextual realities of each country, including veritable participation of citizens in the governmental decision-making process. Several institutions and experts accept Governance as a reflexive process, wherein policies, institutions, outcomes and analysis interact, to maximise the process of participatory development (UNDP, 1997).

V. Impact of e-governance on Rural India

When India turns to globalization route, by adopting ICT in early 1990s, public sector underwent a major transformation. Application of ICT in processes of governance can be considered in two categories viz. for improving government processes and secondly for building interaction with and within civil society. The examples of the former category are: dissemination of public information grievance redressal mechanisms, utility payments and billing services. This intervention of ICT in public domain, managed by Government, is referred as *e-Government*. Secondly, ICT improves civil society participation in the governing process, which is also referred as *e-Governance*. *E-Governance* has a greater scope and connotation than *e-Government*, even though ordinarily the terms are used interchangeably. *E-Governance* permits new ways of participation of citizens and communities for debating. Such interactions facilitate provision of accurate information about social problems and their possible solutions. It empowers communities to determine their own future by developing self-efficacy and collective efficacy. Indeed if Good Governance leading to Development is the goal of governance, then *e-Governance* serves as a means to attain this goal.

When the importance of e-governance increased in the society the rural India connected with ICTs within a short period. Rural e-Governance can provide timely information to the citizens and have the potential to spawn innovative means of wealth generation in rural context. It leads to improve the standards of the people. ICT can improve living standards in remote and rural areas by providing important commercial, social and educational benefits. Electronic service centres have a pivotal role to play, especially in reaching out to the marginalized sections living in remote areas. A study by Wilson (2000) concludes that in a developing economy like India, ICT has development applications in education, governance, environmental monitoring, health, human rights promotion, economic growth and other areas. The study underscores that a purely technology centric approach widens the digital divide between developed and underdeveloped. An earlier research confirms that transaction costs have substantially reduced by adopting automated supply chain management models for selling agriculture produce. Other studies show that e-government projects are successful in rural India as it acts as an intermediary between government and recipients, while pursuing commercially sustainable objectives.

In the process of eradication of poverty in rural India, e-Governance implementation to cover 135 million rural poor is an increasingly complex process. Many studies states that success stories of e-Governance in rural India are isolated cases, and says that "sum total of the Indian experience in terms of two important parameters viz. villages connected and lives transformed are yet too minimal". Although there are more than fifty grassroots' projects currently using modern ICT for development in India, Keniston (2002) despairingly notes that since no systematic study or evaluation has been conducted on ICT based projects so "opportunities to learn the diverse creative Indian experience so far remain almost entirely wasted". This indicates how the Indian government has concentrated to utilize the ICT for upliftment of the poor people with its e-governance. Ray (2005) summarizes that An Inclusive Framework for e-Governance some of the good governance initiatives for

poverty alleviation have not translated into social good due to slack institutional mechanisms. In his research Wolfram (2004) suggests that to resolve the rampant “institutional disequilibria” there is a need to supply globally competitive products emerging from traditional knowledge of the region. There are several gaps associated with deployment of the information village projects where the larger goals of empowerment, dignity and “preservation of traditional technologies” are not considered. In view of such limitations, it is important to propose some alternative approaches to rural e-Governance projects.

VI. Conclusion

In recent past few years the governments adopting Information and Communication Technologies (ICT) initiatives in rural areas are capable of enabling the governance to achieve rural development and their integration with the grassroots is critical for sustainability. An integrated framework for ICT interventions in rural areas is required that could amicably blend community needs, knowledge and inputs along with inputs of other stakeholders. In the process of development the Governments concentrating on the eradication of poverty, in this connection they are completely concentrated in rural areas. With the impact of the Information Technology, the whole world became global village. It is very clear that ICT can contribute to poverty reduction, if it is tailored to the needs of the poor and if it is used in the right way for right purposes and complemented with required reforms.

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