ICT and Rural Development in India

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Remarkable societal changes and transformation brought about by information and communication technologies (ICTs), or synonymously new technologies (NTs), since 1970s are now having significant effects on the way the people live, work, and play in contemporary society. but, more often than not, greater attention concerning their impacts is given to the urban, rather than to the rural, segment of this contemporary society, specially that in India. It is needless to say that though the ICTs are impacting both urban and rural sectors of Indian society, yet it must be admitted that the potential role and scope of the NTs to transform and develop rural India into a modern society is much larger in comparison than is the case with regard to urban India. The reason is that Indian society as basically consisting more than 630,000 villages, where, according to the census of 2011, 70% (743 million) of the Indian population live. Furthermore, the importance of rural; development derives from the fact that from 65 to 70 present of the Indian population is dependent on agriculture for their livelihood. This also explains why the government at central, state and local levels, under successive plans, are entrusted with numerous developmental programs aiming at achieving different sustainable development objectives, viz. removal of illiteracy creation of employment, eradication poverty, etc.). Rural India has a literacy rate of 49.4% compared with the urban literacy rate of 70%. All the points directly and indirectly to the vast areas of the rural sectors of India where the ICTs can bring about profound changes and transformation in the traditional core of the rural society and culture, eventually enhancing the standard of living and quality of life for the vast rural population of India. The ICTs now promise a new chance for renewed development for the rural areas that have earlier suffered persistence economic decline and outward migration for many reasons including the urban bias of Indian planning system. As a matter of fact, careful and planned application the ICTs (cellular telephones, laptop computers, satellite receivers etc.) can deliver numerous socio-economic benefits in the form ICT-based goods and services in different areas (viz, administration, health, education, trade and commerce, environment, population growth, agriculture, etc.)

The direction and pace of development in ICTs have led practically all work economies to recognize the improvement of ICTs in catalyzing economic acting, in efficient governance, empowerment of society and bringing about major socio economic transformation in the societies. Developing countries like India these are now a new mantra information and communication

technologies (ICTs). India has become the word's test bed for innovations in information and communication technologies (ICTs), serving the rural uses ICTs play as a catalyst in the implementation of rural development and over all development of rural areas. The advancements in ICT can be utilized for providing accurate, timely, relevant information and services to the framers, there by facilitating an environment for more remunerative agriculture.

The present paper is entirely based on the published literature and secondary source on ICT and Rural development in India.

Rural and ICTs in India

Development can also include improvements in the capabilities of the population, such as education health and nutrition, independently of any direct or indirect economic impact. The ability to participate in democratic decision-making also falls into this category. In the rural context, development involves use of physical, financial and human resources for economic growth and social development of the rural economies. The term rural development also represents improvements in the quality of life of the rural people in the villages. As per the *Chambers (1993) "Rural development is a strategy to enable a specific groups of people, poor rural women and men , to gain for themselves and their children more of what they want and needs".* ''Sustainable Rural Development can make a powerful contributions to four critical goals of :Poverty Reduction, Wider Shared Growth, Household, National, and Global Food Security and Sustainable Resources Management". The advent of modern information and communication technologies (ICTs) such as telephony or the internet holds unprecedented opportunities for the rural development. Information and communication activities are fundamental elements of any rural development activity. Rural areas are often characterized as information-poor and provision has always been a central non-government organizations are taking the efforts to achieve the overall development of India by applying ICTs initiatives. Before understand to the major rural ICTs initiatives in India, we have to know the major ICTs in India.

Major ICTs In India

India has been a major hub for rural ICT experiments for more than two decades. Many of these initiatives have clearly revealed the huge potential of new ICTs in improving efficiency, effectiveness and reach of rural (as well as urban) service delivery. Traditional ICTs: Radio, Television, Print Media and New ICTs: internet enabled computer centers (Kiosks/Knowledge /Common Service Centers/), Portals, Call Centers, Mobile, Community Radio, Video, Digital Photography, ICT based enterprises, ICTs based enterprises, ICTs in support of existing enterprises.

Role of ICT in rural development in India :

ICT and Agriculture :-

One of the challenges for summers in rural India is their lakh of access to market information. This creates an imbalance in bargaining power with urban buyers which are big companies that have resources and information to influence the market other than market information, a farmer needs to know about new technologies and various government scheme for farmers welfare with the uses of ICT, this information asymmetry can be solved effectively. The government is actively promoting use of ICT to reach the farmers. Some of the initiative are Kisan Vikas Kendra, Mera Gaon Mera Gonrav, Digital India, Kisan Call Centre, M-Kisan Portal, Kisan Suvidha, Pure Krishi, Bhuvan Hailstorm App, Crop insurance App, Agri Market, Pashu Poshan and Sustainable Access in Rural Internet (SARI) project are some Agricultural information portals which help the formers by providing agricultural related information.

ICT in Dairy Sector

Emphasing on the 'White Revolution', in his budget speech, Union Finance Minister made an allocation of R. 850 crore for four programmes – Pahdhan Sanjeevani, Nakul Swasthya Patra, e-Pashudhan Haat, and National Genomics Centre.

ICI in Rural Education and Skill Training

Under Digital India Initiative to make school books accessible in digital form as e-books to be read and used on tablets and laptops. Further, ICT can be used in skilling rural youth under various Government killing programmes e.g. Skill india, PM Kaushal Vikas Yojana.

ICTs and Rural Poverty Reduction :

ICTs helps to reduce the poverty by providing earning opportunities, by providing information about rural development programmes, health services and educational services. It also helps to provide good governance and promote democracy.

ICT for Rural Health Sector

Healthcare is the right of every individual but lack of quality infrastructure, dearth of qualified medical functionaries, and non- access to baic medicines makes it difficult for the poor to access Medicare. There are few Primary Health Centres in villages and many of them do not have doctors as no one wants to be posted in remote rural areas. This can be solved effectively through Telemedicine in which a doctor sitting in a city can interact with the patient in the remote village and prescribe medication. This is not only cheap but also convenient and less time consuming. Also apps like 'MeraDoctor' are launched by private sector which offer WhatsApp-like chat sessionss between patients

and licensed dotors to answer questions. Government has also adopted ICT in health by issuing biometric smartcards to the beneficiaries under Ratriya Swasthya Bima Suraksha Yojana.

ICTs and Empowerment of Women :

The poor and women could become new power centres within the village, breaking older monopolies. Overall the increased availability of knowledge from outside could itself have beneficial effects on creativity of women and helps them to empower.

ICTs and E-Governance :

Rural e-Governance applications in the recent past have played an important role in the realm of rural development. Several e-Governance projects have attempted to improve accessibility of information regarding government projects minimize the processing costs, increase transparency, and reduce the cycle times. Several states have initiated the creation of state wide area networks (SWAN) to facilitate electronic access of the state and district administration services to the citizens in villages. In Andhra Pradesh, Internet-based Integrated Citizen Service Centres allow for electronic bill payment, issuing of certificates permits and licences; or access to public information. The electronic village project of M.S. Swaminathan Research Foundation (MSSRF) in Pondicherry received the Stockholm award for its promise. Bhoomi is a kiosk based project of Karnataka and holds millions of land records.

ICT and Digital Village Concept :

Pathinettangudi some 35 km from Madurai, which presents the look of just another underpriviledged village. However, a silent IT revolution is brewing in the tiny hamlet where the illiterate farm workers use webcams voice mail and e-mail regularly. Similar is the communication technology spread in at least 30 other villages around Pathinettangudi and Melur became the first cyber taluka in the country with courtesy of the 'Sustainable Access in Rural Internet (SARI) project. Villagers no longer run to tahsildhar office and post to get caste, birth and death certificates here. They simply download the application online and forward it through e-mail to the tahsildhar. The ancknowledgement is received within hours and the certificate issued in a week. Earlier, people had to shell out at least Rs. 250 to get an income certificate or old age pension and it costs less and saves time of villagers.

Problems and Challenges in Application of ICTs initiatives in rural India

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

- Illiteracy amongst the vat multitude of people.
- 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.

- 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 thi scenario. However once a few projects for the upgradation of the band-width on the ancvil get commissioned, there should be a significant improvement in the connectivity.

- 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.

- Acutre 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.

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