I-Village: The Future of Rural India

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Abstract: The concept, methods and applications of information and communication technologies (ICT) have demonstrated opportunities to the people to utilize them in their socioeconomic and cultural development in a better and more refined way. The concept of i-village is an attempt to offer development ideas and solutions to the people who are deprived of basic human facilities such as safe drinking water, diary, education, immunization, reproductive health, employment generation, human rights, etc. Likewise, the government and administration try to exploit the technological explosion by utilizing the ICT in offering improved and affordable solutions to these basic necessities of the people at their village doorstep. With around 70 per cent of the India's population living in rural areas, rural development is an important goal of the Indian government. The paper discusses how i-village can contribute towards the rural development process in India along with their success stories.

INTRODUCTION

India is a country of villages and most of the villages have poor socio-economic conditions. Rural India consists of 700 million people living in more than 6 lakhs villages. People living in these villages deserve same quality of life as enjoyed by those living in urban areas. Urban India is on the move over the last ten years and the growth has accelerated over the last five years. Everybody wants to do something connected with technology – be it a school student or a politician. They view it as the ultimate panacea. The ever- growing media attention on success stories are fuelling this appetite for technology. Generally, there is technology friendly atmosphere in the country. Every sector is affected by the breath taking development in technology. However, the same cannot be said about rural India.

Today, everyone in India realizes the big divide between the India that launches rockets and is in full swing with the 21st century and the India that still goes on bullock carts and is yet to come out of 17th century. No nation can progress fast if three-fourth of it is carried out as a burden. The divide must disappear and the whole of India must reach the state of modernity that only urban part has now reached. This can only happen with the help of technology.

Rural India faces serious technology deficits; most of the rural areas still lack basic facilities like health, education, drinking water, housing and electricity followed by roads, telecommunication, employment efficient agriculture that simply cannot be neglected.

Fulfilment of all these goals converges towards one thing i.e. making rural people aware of the latest trends in technology. It is because of the fact that technology alone has the potential for the upliftment of rural India. Technology plays a vital role in human resource

development by creating skilled manpower, enhancing industrial productivity and improving the quality of life.

By taking technology to the doorsteps of rural masses, the development of rural areas would percolate leading to rise of standard of living at large.

LITERATURE REVIEW

Technology can assist in the process of development, but efforts should not be just limited to it. (Warschauer 2002). It has been proposed (UNDP 2001 b) that strong linkages need to be established between direct ICT (Information and Communication Technology) interventions and national-level programs that deploy ICT as an enabler in development.

The role of technology is catalytic in the complex task of poverty reduction by leveraging the effects on earnings opportunities, on educational and health services, on good governance and on promoting democracy. Since technology is part of nearly every element of the economy, the impact of improvements in the technology will depend critically on how the rest of the economy functions. This suggests the centrality of a holistic approach in evaluating the impact of technology. For example, 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. 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. (Millar and Mansell 1999).

Care should be taken to make sure that the novelty factor of the technology does not drive decisions regarding the most appropriate technology for poverty reduction. (Potashnik and Capper quoted by World Bank 2001). 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. 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. 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).

CONCEPT OF I-VILLAGE

Information and communication technologies (ICT) can play an effective role for rural development in the following sectors as illustrated below:

A. Health Sector:

The first and the foremost step should be taken in the health sector. For this ICT i.e. can be used to provide cost effective and efficient training to the health workers. Doctor or the paramedic staff at the local PHC (Public Health Centre) can access latest information about health schemes and seek advice from specialists about diseases or ailments they can not diagnose or treat. They can study standardized materials on Internet and use video conferencing facilities. According to the statistics, 80% of the doctors and 75% of the dispensaries are situated in urban areas. Most of the specialists are unwilling to practice in rural areas. For this people should be made aware of telemedicine. It refers to the remote diagnosis and consultation of patients by various doctors without being in physical contact. This telecommunication technology that provides healthcare services over long distances have proved to be a big boon for rural development because of ease in the costs and accessibility of high end technology it is much easier and faster to implement telemedicine applications for remote areas which are medically underprivileged..

B. Education:

Educating people about Information Technology can completely revolutionize the rural areas. Information Technology can help initialize

- E-Commerce
- Real Estate
- Rural Tourism
- Remote Entertainment

One of the key components of improving socio-economic status of people in villages is to ensure that their products find the right kind of market in the lesser time, without number of middlemen involved in it. The awareness about Information Technology in rural areas will provide unique opportunities for rural products, agriculture products, rural handicrafts etc. to have direct access to the market. The sheer volume of information that is accessible through IT is much greater than before: this also allows new kinds of services to be provided at a cost that is affordable to larger segments of the population.

Hole-in-the wall initiative: A pilot project launched by the NIIT, a software company in urban slums by providing unmanned computers. Through continuous video monitoring it was found that despite language difficulties boys and girls from the neighbourhood developed access skills in web surfing and graphic designs even without formal training (Bhattacharya, Manas 2002).

C. Agriculture:

It is the field where maximum difference needs to be made. Development of rural India cannot be comprehensive without development of agriculture. Information Technology can help approach the problem in different way.

Profit is the principal concern of rural people and maximization of profit may be possible through the help of IT. Farmers can equip themselves with the latest technology and better their profits. In present circumstances, there is enormous need to know about pesticides, manures and improved variety of seeds. There is also a need to know about effective irrigation systems, so that wastage of water can be minimized.

Rural agriculture support centers can be set up in each village, which would provide complete agriculture support to each farm in the village. It can further carry out monitoring; provide agricultural knowledge and advisory services connecting farmers with experts.

Experience with Internet use in developed countries suggests that information exchange related to the completion of market transactions is especially valuable. The ability of IT-based communications (combined with storage and processing) to bring together buyers and sellers more effectively represents major potential gains. These gains can come about through lower search costs, better matching of buyers and sellers, and even the creation of new markets. The successes of auction and employment websites in the US illustrate these gains. In the rural Indian context, farmers selling their crops and buying inputs, parents seeking matrimonial alliances for their children, and job seekers are all potential users of Internet-based matching services.

Efficiency gains in agriculture are more likely to come about through the intervention of the government to create a new infrastructure to support alternative, higher value-added crops, or through concerted efforts by large agribusiness firms such as ITC.

T**he 'Gyandoot' community network**, aimed at creating a cost effective, replicable, economically self-reliant model for taking benefits of Information Technology to the rural population, is an intranet network using Wireless in Local Loop (WLL) technology to set up in 5 blocks with 21 kiosks, each catering to about 15-20 villages in tribal Dhar district in Madhya Pradesh. The success is largely due to targeting the information interest of the people: rates of agriculture produce, land record rights, computer training, caste certificates, online public grievance redressal, health services, e-mail, rural e-auction, matrimonial alliances, information on government programmes, information for children, online employment exchange, availability of applications for jobs, local weather report, enews papers etc. Between January 2000 and June 200l, 68500 villagers used various services. The most commonly used services were grievance redressals (41%), market rates (25%), land-records (20%). Interestingly, one out every six users of the network was illiterate with no knowledge of reading or writing. It is a disappointment that only 13 % of users are women. **(Samiullah and Rao 2002)**

D. E-kiosks

"Internet kiosks", run by a village entrepreneur, is the precursor to setup a full fledged business center in a village which could be a trade center taking rural goods to urban markets and vice versa.

The most important outcomes could be setting up of rural production centers, supplying goods to not just nearby markets but all over the world. The government on its part is also providing assistance to individual families and Self Help Groups (SHG) living below poverty line by providing productive resources through credit and subsidy.

N-Logue Communications is a Rural Service Provider which:

- Gets an entrepreneur in every village to set up a kiosk
- Enables setting up of the kiosk infrastructure (including multimedia PC with web camera, printer, power back-up, software, training, 6 months unlimited Internet at a cost of just US$ 1200)
- Partners with the Government, NGOs, private enterprises, schools, hospitals to offer various services through the kiosks.

F. **Banking Facility**

Rural low cost ATMs at kiosks can be set up in the villages which offer following advantages:

- Works with PC and connectivity at kiosks
- Uses finger print authentication
- Works with soiled notes
- Remote Electronic Safety lock
- Breakthrough pricing at $ 1200

E. E-governance

Technology has the potential to increase the efficiency and effectiveness of government, the benefits will be more widely spread, partly reducing 'digital divide' concerns. However, achieving these benefits requires more than just internal use of IT: beneficiaries of government services (particularly the economically disadvantaged) must be able to access IT resources also. There have been successful examples of implementation of 'e-governance' initiatives.

In Andhra Pradesh, India, networked computers have been used in the reform of processes to register deeds and stamp duties. Using traditional methods, this took 13 cumbersome steps in a highly opaque process that invited bureaucratic delay and corruption. It took from three to as many as 15 days—and the process involved the registration of over 120 million documents a year. Using a new networked system, the same task can be accomplished in just over two hours, with far less opportunity for graft. Again in Andhra Pradesh, a program to computerize the issuance of caste certificates, essential for obtaining government service vacancies and access to educational scholarships, managed to decrease the time for certificate issuance from 20 to 30 days to only 10 minutes**. (World Bank 2001)**

CONCLUSION

It has been argued that technology can contribute to rural development, 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.

Technology does offer tools and applications but no solutions. The solutions to rural development are what they have always been: economic growth, enabling infrastructure, the creation of livelihoods, social capital, education and healthcare, and sufficiently democratic

government to ensure that economic benefits are not cornered by the powerful elites. When used in a right sense, it can greatly increase the ability of the poor people to benefit from economic development and from development programs meant to help them.

Technology has helped urban India to come out of the gloom. This has not only created wealth but also a great level of confidence amongst urban Indians. India is on the same move but it would be incomplete unless the same level of confidence prevails in the rural areas as well. Hence, technology is the best tool and we effectively need to use it to create a difference.

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