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# ICT and e-Governance – "Significant Efforts for Rural Development in India"

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Rural e-Governance applications in the recent years have demonstrated the important role of the Information and Communication Technologies (ICT) in the rural development. Numerous e-Governance projects have attempted to improve and enhance the base, minimize the processing costs, increase transparency, and reduce the cycle times. Several states have initiated to facilitate electronic access of the state and district administration services to the citizens in villages.

Several studies indicate that significant efforts are required to design, develop and internalize the ICT solutions through well managed reengineering of back-end processes and capacity building efforts to ensure sustainability. Suitable public-private partnership models have to be adopted to ensure rapid development and cost effective solutions. This paper presents a brief review of the Practices applied by the rural ICT projects and the Pros and cons associated with the use of ICT for rural e-Governance applications.

**Introduction**

**E-Governance in Rural Development:**

India is a nation of villages. The rural mass in the nation comprises the core of Indian society and also represents the real India. According to the Census Data 2001, there are 638,387 villages in India that represent more than 72 per cent of the total population. So development of these rural mass is one of the key areas of consideration in the government policy formulation, which is concerned with economic growth and social justice, improvement in the living standard of the rural people by providing adequate and quality social services and minimum basic needs becomes essential. The present strategy of rural development mainly focuses on poverty alleviation, better livelihood opportunities, provision of basic amenities and infrastructure facilities through innovative programmes of wage and self-employment etc. The government of India has started many programmes aimed at improving the standard of living in villages or rural areas. To build rural infrastructure, the government launched a time-bound business plan for action called Bharat Nirman in 2005. Under Bharat Nirman, action is proposed in the areas of Water Supply, Housing, Telecommunication and Information Technology, Roads, Electrification and Irrigation. In view of the sheer size and diversity of our country, delivery of governance to the remote corners in a meaningful and locally relevant manner is a huge challenge. The administrative setup has evolved by incorporating our age old institutions with the modern democratic organs to meet this challenge. To make this challenge easy Panchayat Raj came into existence. Panchayats have historically been an integral part of rural life in India, and the Constitution 73rd Amendment Act, 1992 has institutionalized the Panchayati Raj at the Village, Intermediate and the District levels, as the third tier of governance. In May 2004, the Ministry of Panchayati Raj was formed as the Nodal agency looking after the empowerment of Panchayati Raj Institutions in the country. The use of information - communication technology has made this challenge more convenient.

The Information and Communication Technologies (ICT) are being increasingly used by the governments to deliver its services at the locations convenient to the citizens. The rural ICT applications attempt to offer the services of central agencies (like district administration, cooperative union, and state and central government departments) to the citizens at their village door steps. These applications utilize the ICT in offering improved and affordable connectivity and processing solutions. Several Government-Citizen (G-C) e-Government pilot projects have attempted to adopt these technologies attempted to improve and enhance the base, minimize the processing costs, increase transparency, and reduce the cycle times. A large number of rural E-Government applications, developed as pilot projects, were aimed at offering easy access to citizen services and improved processing of government-to-citizen transactions. Some projects have demonstrated the power of ICT in rural context and placed as reference models for future e-government project implementations. Most of the projects have used the existing telecom infrastructure and the Internet access through ISPs as inexpensive connectivity solution. However, a large number of rural ICT applications have slipped in performance and are facing

problems of sustainability after their successful launch. Some of the important observations based on its evaluations of some of these projects and the experiences on developing proof-of-concept projects are:

- Design of citizen-centric services and dependable service delivery mechanisms.
- Selection of appropriate technologies for rural connectivity and information processing solutions.
- Design of cost-effective delivery stations to enable private entrepreneurs operate the services profitably and build new services for sustainability.
- Ensuring employee participation with well designed change management processes
- Demonstration of transparency and efficiency to remove distrust and build confidence among the citizens on the functioning of service delivery mechanisms.
- Inviting private participation to reduce the burden on the central servicing agency, bring in the expertise, enhance the speed of implementation, and offer better value proposition to the citizens.

Here, it is address these Pros and cons through a critical examination of the rural ICT infrastructure, application design, its deployment and delivery processes.

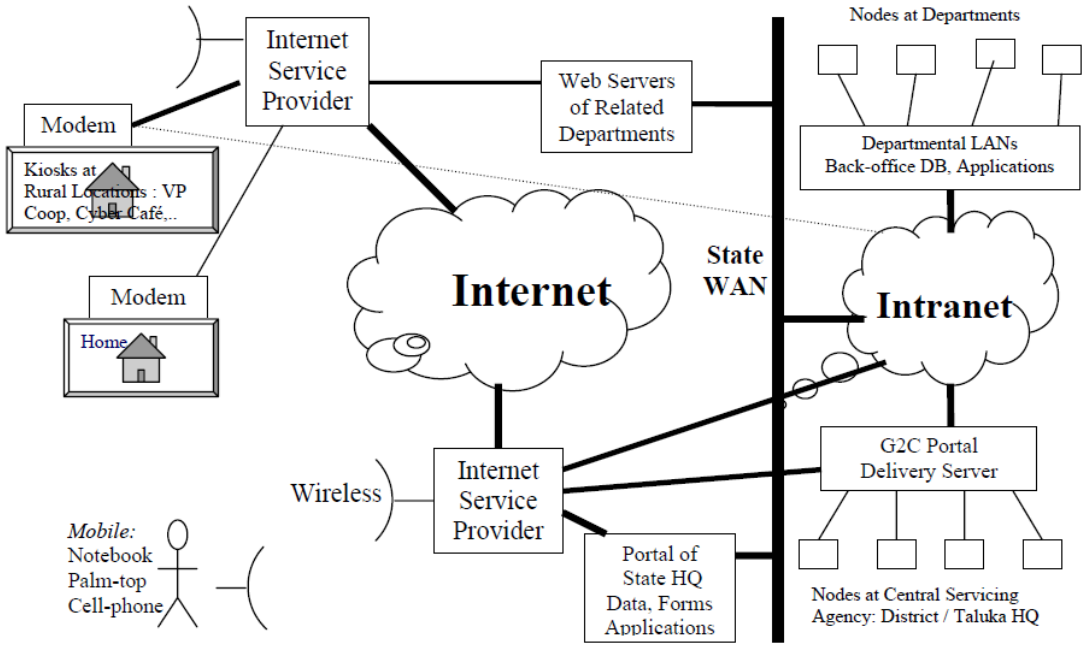


**Figure : Typical ICT Infrastructure for Rural Applications**

The rural ICT solutions are normally offered through internet portals hosted on a delivery web server to provide access to the citizens through inexpensive internet medium. The information flow between the delivery server and the other departments is accomplished through Intranet / LAN connectivity with servers of those departments. Often, due to non-computerization of back-end systems, the transactions are manually exchanged and response data is keyed in manually through the nodes on the delivery server. It may be noticed that the end-to-end connectivity between the central service and the citizens is accomplished through a number of stages involving several agencies.

The need for improved computer connectivity up to village level was recognized by the central government in 1998 and drafted a National IT Policy recommending the states to create infrastructure to facilitate improved data communications. Adhering to national IT policy, several state governments have set up or in the process of setting up the state wide area networks (SWAN) to support the rural connectivity applications. While southern states are quite ahead in building SWANs and utilizing them for e-Government applications, many states are in still in the process of developing such infrastructure.

**ICT Availability for Rural Applications**

Computers have become more powerful, user friendly and less expensive. The PC revolution has brought them closer to the users to the extent that in number cases users have designed and developed their own applications. However, till recently, it has not become easy to create local content and regional language interfaces, to facilitate their use in villages. In addition, although the hardware costs are coming down, the total cost of ownership for rural applications is quite high.

Several entrepreneurs are attempting to offer inexpensive hardware and software solutions for rural applications. These organizations developed the computer and wireless connectivity solutions with indigenous components, software, and open source systems. It is hoped that large scale production of these systems would bring in appropriate cost effective technologies for rural applications.

**Private Participation**

Almost all rural e-Government project champions have found it convenient to involve different private agencies for different tasks through appropriate public-private-partnership (PPP) contractual arrangements. These tasks include design and development of application software, population of data and content in the regional language, procurement and installation of networking and computer systems, deployment of software and delivery of services. Such arrangement seems to have helped in reducing the burden on the government, brought in the expertise, enhanced the speed of implementation, and offered better value proposition to the citizens. While there are benefits of private participations, it is important to guard the social objective behind these applications. Pure commercial benefit should not determine which services to offer.

The private participation in these applications is likely to put very sensitive and valuable data in the hands of the private agencies. Proper judiciary mechanisms will have to be worked out and put in place before the services are launched, to ensure that no injustice is done to the citizens by misuse of such data.

**Capacity Building**

A large number of people at various levels have to be trained on the changed environment with ICT applications to meet the citizen expectations. It is important to identify and prepare project champions. E-Government applications must be able to adequately reengineer the existing processes and introduce the desired changes in the system. They must be able to coordinate with number of agencies dealing with technology and citizen services. It is unlikely that the existing functionaries have exposure and adequate knowledge on all these aspects. Therefore, it is desirable for the governments to organize special training programmes which provide formal inputs on the planning and implementation of ICT systems in government. It is equally important to ensure appropriate tenures for project champions to facilitate smooth transition, and internalization of the changed procedures. As observed earlier, the major factor responsible for poor sustenance of many rural ICT applications. All functionaries of the government departments need undergo training on behavioral issues involving themselves, citizens, and private agencies. It is important that they are trained to accept the changed transparent environment facilitated through ICT based processing, minimizing the paper transactions and reducing cycle time.

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delivery of governance to the remote corners in a meaningful and locally relevant manner is a huge challenge. The administrative setup has evolved by incorporating our age old institutions with the modern democratic organs to meet this challenge. To make this challenge easy Panchayat Raj came into existence. Panchayats have historically been an integral part of rural life in India, and the Constitution 73rd Amendment Act, 1992 has institutionalized the Panchayati Raj at the Village, Intermediate and the District levels, as the third tier of governance. In May 2004, the Ministry of Panchayati Raj was formed as the Nodal agency looking after the empowerment of Panchayati Raj Institutions in the country. The use of information - communication technology has made this challenge more convenient.

**Conclusion:**

E-Government is to be able to offer an increased portfolio of public services to citizens in an efficient and cost effective manner. E-government allows for government transparency. Government transparency is important because it allows the public to be informed about what the government is working on as well as the policies they are trying to implement. Simple tasks may be easier to perform through electronic government access. It could increase voter awareness, which could lead to an increase in citizen participation in elections. It is convenient and cost-effective for businesses, and the public benefits by getting easy access to the most current information available without having to spend time, energy and money to get it. On the other hand the Information and Communication Technologies have facilitated the design of solutions to deliver government services for social development at the door step of rural poor. Successful ICT projects involved, in the design process, all stakeholders such as government officials, legislators, regulatory agencies, citizens, voluntary organizations, technology consultants and vendors, academics, researchers, funding agencies, and media. Most of these were accomplished using the public-private-partnership (PPP) model. The benefits derived from such projects were very significant. Some projects could not retain private entrepreneurs due to poor revenue realization and inadequate quality of responses by the government departments offering the services. Thus, the government as well as project needs to pay due attention to the organizational, commercial, and legal sustenance issues of these projects.

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