E-Governance

Potential for Rural India

M L Singla

Abstract

Like all other information communication technology (ICT) fads that the world has witnessed, E-Governance is the latest buzzword. This paper reviews the relevance of E-Governance for the rural masses in developing nations, with specific reference to India. In India at present, ICT and E-Governance are at best adding to the existing vast virtual divide between the rural and the urban citizenry. The article discusses various E-Governance initiatives, such as *e-Choupal, e-Seva,* and AMCUS launched by a private sector organization, a state government, and a co-operative of farmers respectively. In a nutshell, any E-Governance initiative in a developing country like India runs the risk of a failure if it does not target the benefit of the rural masses. E-Governance should be used to bridge the divide between rural and urban masses, and not to widen it.

Keywords: E-Governance, Information Communication Technology, E-Governance for Rural Sector

India – a country of extremes

India is an elephant economy, presently accounting for more than one-sixth of the world's population, with 1,081 million people living in it. According to an estimate, it is expected to become the world's most populous country with 1531 million people by 2050. Non-coercive population stabilization policies are being strengthened, though the two-child norm bill is already in the Parliament for introduction. Seventy per cent of Indians live in rural India. Surprisingly, close to 30 percent of the total urban population lives in 35 cities having a population of 1 million and above. Urbanization is expected to rise from 28 percent in 2001 to about 36 percent in 2026, with almost half of the country's population living in urban areas. On one side, international giants like Microsoft are showing tremendous faith in India by announcing to set up new shops in Hyderabad and Chennai and hiring more and more professionals from India, on the other side there are areas where people still have to walk for hours together before they get to catch a train or a bus to commute to even small neighbouring towns. According to National Council of Applied Economic Research (NCAER), the percentage of urban households with an annual income of Rs. 90,000 or more is likely to swell to 73.9% in 2009-10 from 54% in 2001-2002, whereas in rural areas this will grow from 17.8% to 36.9% in the corresponding period taking the national average to 48.4% against the 28% in 2001-02. India accounts for 5.7% of the world GDP, and has become the fourth largest economy in the world after the US, China, and Japan, accounting for 21.1%, 12.6%, and 7.0% of the world GDP, respectively.

"Why India will rock and roll – in '05", wrote Hindustan Times. According to the authors, some of the indicators that are considered to be the hallmark of this rock-n-roll potential included:

- We'll be richer – Reserve Bank of India has forecasted a 6.0-6.5 percent GDP growth for the year 2004-2005, ensuring a remarkable stability in the economy. With the stock market having breached the historic 8,000 mark on September 8, 2005, it is being expected to cross the unimaginable 10,000 national psychological barriers in the near future.

M L Singla
Faculty of Management Studies
University of Delhi, Delhi 110007

- We will be better connected – Significantly, the number of mobile connections exceeded the number of landlines during the last year, to be precise in October 2004. With National Broadband Policy in place, both Mahanagar Telephone Nigam Limited and Bharat Sanchar Nigam Limitied are offering broadband services since 15 January 2005, giving a feeling of true broadband.
- We'll be more successful – India is truly becoming global, both for our B-School graduates picking up international assignments at the commencement of their careers as well as the best of international B-Schools vying to pick students from India.
- We'll be healthier – Telemedicine and the emerging paradigms of health insurance are likely to take the Indian health to world-class level. Six AIIMS like referral hospitals are in the pipeline, the upward spiraling of the cost of providing physical relief notwithstanding.

Let us ask ourselves. Are we talking only about urban elite or are we talking about the entire population of India? India has always harboured extremes of civilization. Three million people took their first dip on 9 January 2001 at the First Maha Kumbh of the millennium at Allahabad and more than 30 million people converged at the Sangam on 24 January 2001. While there were saints who were seen naked traveling on elephant backs to the Sangam, there were also saints who were noticed with the latest laptops, WAP enabled mobile phones, and pagers. In Delhi alone, more than 600 images of the Goddes Durga were immersed in Yamuna on 23 October 2004 and in March 2004 the final section of the state-of-the-art Shahdara-Rithala Metro project costing Rs. 2,500 crores got inaugurated over a distance of 22.06 kms. India expects about 350 million Indians to be connected in a few years. It is no more the land of snake charmers but its inhabitants use the most sophisticated modes of communication and computation. It has a potential of solving all its problems through Information Technology (IT) in next 10 years. Today, India's mobile phone population has outnumbered its landline population of 43.2 million fixed line telephones, which is no small feat by itself. Fashion majors like Zegna, Chanel, and Fendi are looking for shelf space in Indian stores. First batch of 500 farmers has already headed for African countries of Kenya and Uganda in June 2005 to do farming on 70,000 acres of land acquired on lease by the government with the freedom to repatriate the earnings. New exports from India include Indian Ad Creatives of Coca Cola, Fair & Lovely, which are attracting global talent hunters. In March 2004, India launched a low cost portable computer – named SIMPUTER, which could be one of the keys to field level processing activity such as village food grain markets and other such diverse activities. On the flip side, about 300 peasants committed suicide in Andhra Pradesh since May 2004 for which the official reason has been mentioned to be drought whereas the real reason has been rumored to be withdrawal of basic services such as water, credit, seed, etc. which resulted in sheer desperation and poor villagers taking their lives.

India vs. Bharat: The Virtual Divide

The British might have left India 58 years back, but the division exists, in fact has accelerated. There is no further physical line of division. There is no division on the basis of religion, cast, or geographical boundaries; it is more virtual. There is an India and there is a Bharat – both of them co-existing in urban and rural areas, respectively. At present, about 70% of the population lives in Bharat whereas the remaining 30% live in India. What is being felt is that India is developing and Bharat is growing. Over the last five decades of planning, it has been established beyond doubt that development of rural sector is the key to overall development of the economy. There are states like Bihar where more than 50 per cent of the population lives below the poverty line. Although the government has initiated a large number of rural development programmes, these programmes aim at connecting people in rural areas by roads (Pradhan Mantri Gram Sadak Yojana) or rural housing schemes. There are not many programmes,

which have been initiated to bring rural areas at par with their urban counterparts in terms of technology and business. No doubt, government has initiated computerization of land records since 1988-89 with 100 percent financial assistance as a pilot project in eight districts, but this needs to be implemented in all the 602 districts of the country. Once this is achieved, implementation of systems based on geographical information systems could be a reality and will lead to overall development of the country – India as well as Bharat. No doubt that the government made a budgetary allocation of Rs.14, 070 crores for the year 2003-04 for rural development alone, but that is nothing for 70% of the population staying in rural areas.

Let us understand both – India and Bharat. Given the fact that both of them were born as twins in 1947, their prosperity, life styles, and standards of living started distancing from each other. With close to 70 percent of the country's population residing in villages or the rural belt, there should have been more concern for these people in the minds of business class. But how many of the business organizations, whether Indian or multinationals, are planning to develop and market their products in rural India. A villager also has a right to buy good quality products at the lowest possible prices at the fastest possible speed. All that he gets is Lax sold as Lux – a premium toiletry brand of the Hindustan Lever Limited; Raxona sold as Rexona – again a premium toiletry brand of Hindustan Lever Limited. One can easily find Pesodent and College or Collegiate as the brands of toothpaste in rural India, that too not very far from the capital of India, both being sold exactly in the same style and packaging of Pepsodent and Colgate respectively. Sirf or Sarf can fill in for Surf. The list is endless. Is it because people in rural India do not want to buy quality products or is it that the established brands are not able to sell quality products to the rural folks. The fact remains that this does create a virtual divide.

On the other side, let us consider India and its development. The car sales in India have reported an increase of 31.2 % in October 2004. Of course, this also includes cars being bought by rural people. Travel by people coming to attend exhibitions and conferences, Non-Resident Indians and students in October-November to this part of the world has resulted in a rise in demand for hotel accommodation, registering a growth of about 25% in terms of hotel rooms alone. The Municipal Corporation of Delhi (MCD) boasts of Bhagidari getting extended to the doorsteps of Delhites. Delhi Government claims that now the Citizens of Delhi would be able to get birth and death certificates on-line through the MCD website. For this purpose, 2781 city hospitals have been linked to the MCD website. But its mis-management leaves an unhappy rural India. Five persons were left dead on the New Delhi Railway Station as a stampede took place because thousands of villagers planning to travel converged together and there were no systems in place to handle the same! That's Bharat.

Lately, the Delhi Transport Department has decided to set up a paperless office with drawerless tables, lockless cupboards while banning the entry of touts. All the staff members are expected to wear I-cards and are not allowed to carry their lunch boxes to their office seats. The Indian Railway Catering and Tourism Corporation Limited offers mobile rail reservation counter, where an individual can book a railway ticket through a mobile phone. Unfortunately, all these facilities are further getting enhanced only for the inhabitants of India and not of Bharat. The differentiation starts at birth and goes beyond death. Media reported that Nigambodh Ghat, the most popular cremation grounds of Delhi, has been sanctioned Rs.6 crores by the government for a total facelift. It is proposed to be landscaped by professionals and new prayer halls, congregation spaces and spacious seating arrangements for visitors are expected to be constructed. But development has not been uniform. Whereas the entire urban population looks at the emerging paradigms such as business process outsourcing, medical transcription, and Internet-based commerce as the vehicles for employment and development, rural sector just keeps watching the growing differences. As per one headline in a leading daily, "BPO companies alight from metros to smaller towns",

those smaller towns happen to be just NCR towns such as Noida and Gurgoan. Today, urban India has over 240 shopping malls coming up in next 4-5 years, but what about rural India.

Andhra Pradesh surely was the early mover in E-Governance, thanks to a laptop toting Chief Minister who refused to entertain even his own party members unless they were email savvy. N. Chandrababu Naidu, the only Indian state head who preferred to call himself a CEO rather than a CM, got logged out on May 11, 2004. Everybody remembers that he was responsible for India talking about E-Governance, but why did he fail to continue in the office, because the rural Bharat was unhappy with his performance. Rural India may not be able to get the administration and polity to bother about its development, but has the power to choose someone else every five years.

E-Governance: The Concept

E-Governance has been defined as implementation of information technology for handling governmental systems and procedures, particularly Internet technology. In other words, E-Governance is about making governance inexpensive, responsive, and truly transparent. When it comes to systems and procedures, there is absolutely no difference between a departmental store, or a courier agency and a government department. Both deal with delivering a product or a service, the customer of which will be happy to receive the same at a lower cost, at a higher speed, and of higher quality. The question that is often asked is if a private sector organization can save 40-50% in operating costs by managing its supply chains, why cannot the government do the same? It is because inspite of parliamentary controls and lack of political accountability, its purpose is not to generate profits. Most of it is to maintain voter support. Disruptive technologies like Internet do not support this model of governance, as transparency and accountability in larger systems of governance become too much to handle for any government.

E-Governance goes much beyond the traditional data processing systems. It aims to fundamentally redefine the way government operates and imposes a new set of responsibilities for the executive, legislature, and the citizenry. As per the Andhra Pradesh Government model, E-Governance should lead to SMART government, where SMART stands for Simple, Moral, Accountable, Responsive, and Transparent government. The popular perception of government being a non-performing entity needs to be changed to a super-performer by using IT. It is a paradigm shift from being 'in-line' to 'on-line'. A greater array of public services through a single window operation could be the purpose of such an initiative. Public in general is not interested in finding out which public official is supposed to be responsible for what service, they would rather like to have it come from one source. It is also not E-Government. E-Government would imply applying IT to the processes of governmental functioning without changing these processes whereas E-Governance pre-supposes a redesigning of the processes to handle government functions by applying technology. The major focus of E-Governance is on promoting the use of Information Communications Technologies (ICT) and E-Commerce through Internet to provide transparent systems to the citizenry at large for interacting with governmental agencies leading to overall development of the economy in the long run.

The paradigm shift, which is likely to be experienced in the implementation of E-Governance in developing economies, can be summed up as under:

- The governments will be effective rather than simply being efficient.
- The mindset of bureaucracy will change from public administration to public service.
- The officialdom will change from regulation to encouragement.
- The attitude will change from one-stop service to zero-stop service.
- The evaluation will change from 'no-input-

no-output' to 'no-outcome-no-income'.

Apart from emerging paradigms of Data Warehousing, Data Mining, Enterprise Resource Planning (ERP) Systems, and Supply Chain Management (SCM), the technologies, which are likely to change the face of public services, include Web enablement and Geographical Information Systems (GIS). Some of the technologies, which could be leveraged for E-Governance, include:

- Web-enabled transaction processing systems.
- Voice-activated customer response systems.
- Laptops/Personal digital assistants with the field staff.
- Interactive CD-ROMs for system training of masses.
- GIS integrating across agency stovepipes.

To make an E-governance initiative successful, the government should publicize its intention of going electronic for the benefit of citizenry – the effort should not be party-focused. The E-governance site(s) should be functional, fast, user-friendly, and work across a range of Operating Systems; and above everything else, the site should be interactive to allow users have a real-time online experience including instant feedback and access to updated information. In the context of E-governance, what we need to ask is whether:

- IT can be exploited to improve transparency in public functioning.
- IT can be leveraged to provide relevant speedy information to all citizens.
- IT can be harnessed to improve all aspects of administrative efficiency.
- IT can be used for improving public services such as transportation, power, health, water, security and municipal services.

The usual problems faced in the implementation of E-governance include lack of funds allocation; delay in release of funds; lack of support infrastructure; and poor quality of supporting infrastructure like electricity, communication, etc. Organizational learning in this case also tends to be long drawn, as the customer, i.e. general public, is not aware of the systems and procedures. Concentration of E-governance efforts and initiatives only to urban areas leads to non-proliferation of this potential to a handful of people thereby defeating its primary purpose of reaching the masses. The following factors are likely to impede the implementation of E-governance.

- Resistance to change in the mind-set.
- Popular political decisions and appeasement of vote bank.
- Availability of funds and experience to implement E-governance solutions.
- Non-uniformity of records in public offices.
- Political will to enforce discipline in public offices.
- Lack of ICT Infrastructure.
- Level of IT literacy.
- Past experiences of interaction with government.
- Non-uniform growth of various regions of a state.
- Marginalized sections of the society.
- Lack of trust among general public.
- Non-professional approach of polity.

As per the Gartner Group model of E-governance, every government agency grows through four different phases of Internet-based IT solutions implementation in public services. These phases include:

- Presence – when a governmental agency makes an attempt to have a cyber presence on the Internet by simply creating a website to provide public information.
- Interaction – when a government

organization provides basic search facilities, downloadable forms, and active linkages to other relevant sites as well as usable e-mail addresses of offices and officials.

- Transaction – when general public is allowed to complete a full processing task online through self-service applications in a 24 X 7 mode.
- Transformation – when the organization acquires the status of a totally transformed E-governance organization with state-of-the-art systems with very little paper based interaction with the public.

E-Governance and Rural India

E-Governance is the newest management paradigm where strategy and leadership will be of paramount importance. Technology would be important, but equally important would be conviction of the polity so that appropriate leadership is provided to the undertaken projects. The Government of India is the fourth largest spender of financial resources on IT in the year 2002 after Financial Sector, Manufacturing Sector and Telecommunication Sector and it accounted for almost 9% of the total IT spend in the country. NASSCOM estimates suggest that India will spend upward of Rs. 15,000 crores on E-governance during the next 4-5 years.

There are large numbers of non-governmental organizations, which are making efforts to implement information technology-based solutions for the rural populace. For example, information kiosks which provide online information on crop prices to the farmers and cyber cafes where people can have an access to land records as well as order birth certificates. Even the vision document on E-governance released by the Government of India focuses on application of ICT for rural empowerment, covering areas such as service availability, awareness, and opportunity to learn and empowered.

For the rural sector to enjoy the benefits of ICT, some of the applications, which need to be implemented by the governments, include:

- Agricultural sector – research and produce data.
- Weather forecasting at district level.
- Price of commodities in all major centers of the state and other states.
- Crop disease management.
- Crop loans facilitation.
- Educational opportunities for the rural.
- Employment opportunities for the rural.
- Mail and postal services.
- Health and medicine.
- Land records automation.
- Police stations, crime and crime records.
- Natural calamities and emergencies.
- Income and caste certificates.
- Vehicle registration.
- Birth and death registrations.

Some of the E-governance initiatives, which have been talked about in respect of rural India include CARD, VOICE, e-COPS (Andhra Pradesh); Sales Tax Administration Management Information (Bihar); Automatic Vehicle Tracking System, RCS Office, Electronic Clearing System (Delhi); *Mohiti Shakti* (Gujarat); *Nai Disha* (Haryana); *Bhoomi* and *Khazane* (Karnataka); *Gyandoot* (Madhya Pradesh); *SETU* (Maharashtra), and *Lokmitra* (Rajasthan). There have been successes and failures. There have been applauds and debacles. In the following sections, we would discuss some of the best-known E-governance initiatives in rural India.

E-Choupal

ITC's *e-Choupal* was declared to be the 'Overall Best' IT implementation in the country with a tremendous social impact in the June 2004 issue of PC Quest. With the known immense potential of the Indian agriculture sector, only an initiative like

e-Choupal could have shown the way for a second green revolution. The International Business Division of Indian Tobacco Company (ITC), one of India's largest exporters of agricultural produce, conceived *e-Choupal* as a mechanism for achieving greater efficiency in its supply chain so as to deliver better value to its stakeholders on a sustainable basis. The word *choupal* itself has become a trademark as it is derived from the rural vocabulary where it means a place where people gather in a village. An *e-Choupal* unit comprises of an Internet kiosk, village gathering place, and an e-commerce hub – all in one unit. The entire infrastructure is managed by a farmer trained by ITC, called *Sanchalak*.

The *e-Choupal* infrastructure has been conceived within the existing framework of public infrastructure. Within four years of its launch in June 2000, the service has reached more than a million farmers in nearly 11,000 villages through 2,000 *e-Choupals* in four states – Madhya Pradesh, Karnataka, Andhra Pradesh, and Uttar Pradesh. The average usage is about 600 farmers per *e-choupal*, but it varies across different areas and crops. As a result of this system, ITC has been able to reach larger section of the farming community so as to give them better prices for their produce. Now the farmers have better access to information which would help to improve upon their yield prices, weighing scales, bagging costs, and transportation costs. They also can have access to knowledge regarding yield improvement through *e-choupal*. Additionally, they can also buy products such as seeds, fertilizers and consumer products through the same *choupals* at much lower prices. Whereas farmers are benefited to the extent of 2.5% or so in selling produce and buying goods, ITC saves to the extent of 2.5% on commission, which was paid to the agents in the *mandi* system. ITC views *e-choupals* as a vehicle for two-way exchange of goods and services between the rural population and the world.

It is clear from the above discussion that *e-Choupal* was started by a business corporation and it has helped the rural farmers. Apart from cost, it has also helped them get their transactions settled speedily and that too without any mistake.

AMCUS

The second initiative, i.e., Automatic Milk Collection System Units (AMCUS), was undertaken by a co-operative of dairy producers in the state of Gujarat. The Gujarat Co-operative Milk Marketing Federation Limited (GCMMF), the manufacturer of nationally cherished AMUL embarked upon using ICT to improve the milk procurement system of the co-operative which led to the world viewing 'GCMMF as an IT Company in Food business'. The GCMMF is the apex organization of 12 unions having their own manufacturing units having more than 2 million milk-producing members. The milk is collected at the co-operative milk collection centers, which are located with in a radius of 5-10 kms of the villages. The number of farmers selling milk at each center varies from 100 to 1,000, with the daily collection varying from 1,000 to 10,000 liters. Each farmer is given a plastic identification card, which is read electronically. The milk, which is emptied into a steel can, is weighed electronically, is transported to dairy by a tube. Sample of the milk is taken by an operator in an electronic milk tester. The fat content on the basis of the test is automatically captured by the computer, which calculates the amount to be paid to the farmer on the basis of the fat content and the weight of the milk. The calculated amount is added to the farmer's payout on a daily basis. The entire process which used to take more than a few hours is now taking less than 5 minutes per transaction. Now 2,500 centers receive milk from 4,00,000 farmers daily. The Indian Institute of Management, Ahmedabad (IIMA)'s E-governance Center has been instrumental in spearheading this project through an NGO named *SHRISTI*. This NGO has built upon the existing application by enlarging the database to incorporate data on cattle owned by farmers and milk production by individual farmers. The project has led to a reduction in the time spent in the process, pilferage, human error, and wastage and resulted in on-the-spot payment,

transparency, and operational integration. This implementation of IT solution has benefited 2.2 million member farmers, 10,675 co-operative societies, 12 member unions, 3,000 distributors, and 5,00,000 retailers from all over the country.

e-Seva

It means electronic service, and is a renamed and enlarged *avatar* of Twincities Integrated Network Services (TWINS), which is an example of government-to-customer interface being facilitated through the use of information technology. It all started as an experiment in 1999 to provide a single window service to the elite customers of Hyderabad. But the success of the initial services resulted in increased demand and 10 more centers were opened in 2001, with a new name – e-*Seva*. Functional during 8 to 8 timings of 12 operating hours, the counters provide an enjoyable experience, whether in service or in waiting. The single window service counters facilitate on-line transactions and offer 160 different services to the citizens. These include 130 Government-to-Consumers (G2C) and 30 Business-to-Consumers (B2C) services integrating about 14 state government departments, 3 Government of India departments and 10 private sector organizations. It operates on a Public Private Partnership (PPP) model with excellent role clarity among all partners. Surprisingly, 96% of the *e-Seva* transactions have been seen to be taking place through *e-Seva* centers. More than 60% of the electricity, water, and Tata Tele Services bills are being paid through *e-Seva* centers. Today, *e-Seva* has 238 centres all over the state of Andhra Pradesh. Of these, 43 centres are set up in the urban areas of Hyderabad and Ranga Reddy districts. UTI Bank and ICICI Bank are partnering with the state government in a big way to manage *e-Seva* centers. The number of transactions handled by *e-Seva* has been on the increase. Between January 2004 and December 2004, the *e-Seva* centers in the districts have recorded 10.83 million transactions amounting to Rs. 6,455 million collections. Although Hyderabad alone accounts for about 1.5 million transactions per month, the districts are now handling about 1.3 million transactions per month, totaling to 2.8 million transactions per month being handled by the system. The state government intends to increase the number of services to 1600 services through these centers.

This being a PPP initiative, is driven by government of Andhra Pradesh and is a wonderful success story of E-governance. Unfortunately, this serves mostly the urban 'haves' rather than rural 'have-nots'. Nonetheless, it can provide direction to the government's future initiatives.

Conclusion

No private sector ICT Company is willing to commit its financial resources into rural areas and companies like BSNL are also not making money. Almost every large player understands that investing in rural sector for information technology may not turn out to be a profitable venture for a long time to come. Another fact is that if this more than two-third population of the country living in the rural areas is to be helped to become economically stronger, then technologies like Internet need to be leveraged. India can boost the efficiency and economic competitiveness of the rural masses by investing in IT infrastructure and may be then lure the corporate sector to participate. India cannot be fully-enabled unless these 700 million Indians staying in rural Bharat are connected and enabled as their city counterparts. Since IT is crucial in promoting transparency, participation, and efficiency in government, there has to be political resolve, technological competence, and allocation of resources for E-governance to succeed. Whether it was *e-Choupal* (started by a business corporation to make profits), or AMCUS (started by co-operative to experiment), or *e-Seva* (started by a state government for the urban elite as an experiment), none of these were initiated as E-governance projects for the rural Bharat. These have turned out to be successful projects only after the rural population was benefited. This shows the path for all the future E-governance projects for rural masses to follow.

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