

E-Governance - From Virtual to Real

by

Dr. Jayaprakash Narayan

LOK SATTA

401 Nirmal Towers, Dwarakapuri Colony

Punjagutta, Hyderabad - 500 082

Tel: 91 40 23350778/23350790; Fax 91 40 23350783

E-mail: loksatta@satyam.net.in ; url: www.loksatta.org

E-Governance - From Virtual to Real

Dr Jayaprakash Narayan*

Introduction

We live in the best of all possible ages. Never before did mankind have such a glorious opportunity to fulfil its potential, and avoid all preventable suffering. Even as there are many challenges, technology is one of the most powerful means that is at our disposal today, increasing opportunities, enhancing quality of life and promoting liberty. Powerful ideas, information technology and breathtaking communications certainly make this age a very exciting one. Many things that were unheard of not too long ago are now within the reach of most of the people on the globe.

One stunning example from India amply demonstrates how even in poor and developing societies effective use of information technology can accelerate change. On May 2, 2002, the Indian Supreme Court delivered an important judgment in which it held that the voters have a fundamental right to information about the antecedents of candidates seeking elective public office. The government and all political parties across the spectrum quickly joined ranks and attempted to block such information. Two all-party meetings were held, and the political parties roundly condemned what they perceived to be the judiciary's transgression into legislative arena. The entire political system was determined to oppose mandatory disclosure of candidate's criminal background, if any, financial record of the candidate and dependent members of his family, and educational qualifications. In the face of this, LOK SATTA movement successfully spearheaded citizens' assertion through the National Campaign for Electoral Reforms, a loose coalition of several concerned citizens and civil society groups. A small group of citizens has been able to mobilize public opinion across the country and challenge the might of the government on the issue of disclosures of financial and criminal record of candidates contesting elections. By effective use of internet for instant communication, the whole nation could be reached at little cost. As events unfolded, each event starting from the Supreme Court verdict was analysed with clarity and precision, and the real issues were brought into sharp focus. Civil society's response was fashioned with great care and deliberation with a sense of strategy and an eye on tactics. As these communications were in response to current events, they were newsworthy, and helped shape events. Such messages were sent in real time to several thousand Indians, including influential opinion makers – the media, politicians, political parties, civil servants and government leaders. In turn, these messages reached an estimated 200,000 Indians all over the globe within 24 hours through chain e-mailing. Several newspapers, media networks, television channels and web magazines picked up the information and ideas in these messages instantly. The media at large responded very positively, and most of the public discourse in the country was influenced by the messages. When an ordinance was promulgated limiting information available to citizens, media and public opinion was mobilized on a large scale

* The author gratefully acknowledges the invaluable contribution of P. Sanjay, Advocacy Associate of Foundation for Democratic Reforms in writing this paper.

against the curtailment of citizens' fundamental right to information. When LOK SATTA conducted a people's ballot at three days' notice, nearly a million people participated in the state of Andhra Pradesh alone, and 98.4 percent of the voters wanted full disclosures, effectively rebutting the arguments that voters knew all about the candidates anyway, and they did not care about the antecedents of politicians. This unique campaign, largely a product of modern information technology, concluded with a resounding victory to citizens when the Supreme Court on May 13, 2003 again held on a petition challenging the legislation curbing citizens' right to know, that such a law was unconstitutional. The issue was settled in favour of citizen's right to know, and full disclosure became mandatory. In a small, but significant way India changed forever, and vital progress was made in creating conditions for cleansing the electoral system and political process.¹

Let me give a few more examples demonstrating the power of information technology in quickly transforming whole societies.

- The computerization of some of the milk collection centers in Gujarat, India, has increased efficiency, transparency and accountability in these centers. Earlier the milk collection process was long and cumbersome. The farmers were paid once in ten days and they had to trust the cooperative official's testing procedures to determine the fat content and quality of milk, which resulted in malfeasance and corruption. The computerization of these milk centers has resulted in immediate payment to farmers and electronic testing resulted in more accurate and speedy assessment of the milk quality.²
- Information Communications Technology is being creatively used to subsidize the education in Uganda. Under the World Links Project in Uganda, the computer labs and VSAT-based Internet connection of schools are available for clients or general public in the afternoons and evenings. Such measures are generating resources to cross-subsidize daytime education. Creative use of technology has thus generated enough resources to maintain school infrastructure³
- Information Communications Technologies (ICT) are being seen as growth engines for some of the developing countries such as India. The Human Development Report 2001, observed that the Indian IT industry generated 330 billion rupees (\$ 7.7 billion) in 1999, 15 times the level in 1990, and exports rose from \$ 150 million in 1990 to nearly \$ 4 billion in 1999. This could rise, the Report goes on to state, to \$ 50 billion by 2008, leading information technology to account for 30% of India's exports and 7.5% of its GDP.⁴

¹ The various steps of this campaign have been documented in the Lok Satta Times September, 2002 issue (<http://www.loksatta.org/september.pdf>).

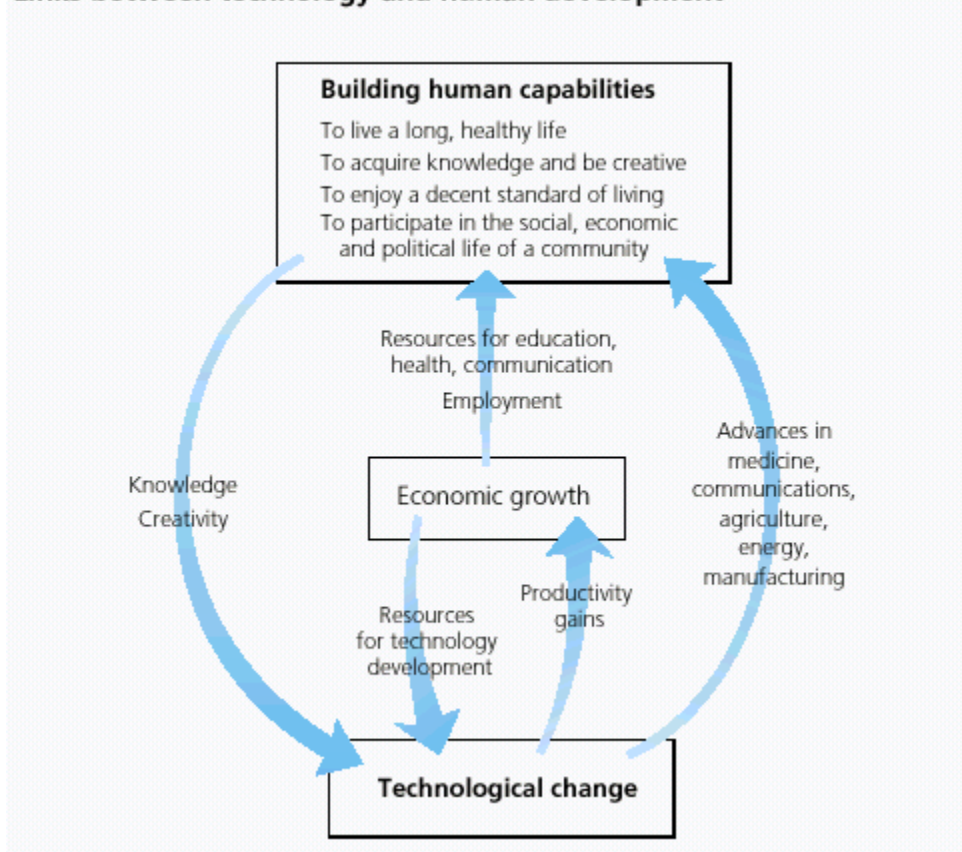
² World Bank, "Using Information and Communications Technology to Reduce Poverty in Rural India." *PREM- notes*, Number 70, June 2002, available at <http://www1.worldbank.org/prem/PREMNotes/premnote70.pdf>

³ Michael L Best and Colin M Maclay, "Community Internet Access in Rural Areas: Solving the Economic Sustainability Puzzle" available at: http://www.cid.harvard.edu/cr/pdf/gitrr2002_ch08.pdf,

⁴ UNDP Human Development Report 2001, "Making New Technologies Work for Human Development", (New York: Oxford University Press, 2001) p. 37.

The above examples demonstrate that introduction of new technology has resulted in empowering people, made governance process accountable and made business more profitable. The expected benefits of using Information and Communication Technologies (ICT) in governance process are: efficient and effective administration; cost minimization; convenience of citizen services; accountability of officials; enhancing transparency; enhancing accessibility to government services; usher in responsive government and strengthen democracy by facilitating greater citizen participation. The above examples also demonstrate that ICT is emerging as an important growth engine. It is because of these factors, ICT is being touted as an instrument that can bring many developing countries out of the vicious cycle of poverty.

Links between technology and human development



Source: *Human Development Report 2001, Making New Technologies Work for Human Development.* (New York: Oxford University Press, 2001) p.28

But having said that, is everything wonderful about information technology and its application in government of this country? I am often reminded of the words of Einstein – “The twentieth century is characterized by perfection of means and confusion of ends.” Information technology applications in government is one such field. We are so dazzled by breathtaking advances in technology, of its gadgetry, of its very complex programs and of its brilliant tools that we sometimes tend to forget what it is all about in terms of people’s lives and government. This obsession with technology, love of gadgetry and information as value for its own sake and the fascination for the latest and most

complicated tools is glossing over some fundamental realities. When we talk about using information and communications technologies in general and Internet in particular for governance processes, an important question to ask is whether it will enhance the liberty of an individual. Liberty here means two things. First it means to live with freedom without unnecessary external constraints. Second, and more importantly, it means availability of resources and prevalence of conditions in which all individuals will realize their inherent potential. Hence, when we assess the role of information technology, we need to assess whether it is enhancing citizen's freedom and whether it is creating conditions for the realization of inherent potential of all individuals. Such an assessment requires that the following questions be answered candidly. Is information technology meant to centralize or decentralize governance? Is it meant to encourage tyranny or promote liberty in society? Is it to encourage privacy of the individual or to add value to the citizen's life? Is it a substitute for effective action by the government or is it a tool for more sensible policy and decision-making? In order to answer these questions this paper is divided into the following sections.

- The first section will deal with the context in which Information and Communication Technologies (ICT) are being deployed - "the digital divide".
- The second section will examine whether the deployment of ICT will increase accountability in the governing process. This will be assessed by examining the role of ICT in reduction of corruption.
- The third section will examine the dangers to individual privacy due to the deployment of ICT.
- The fourth section will deal with the role of ICT in authoritarian and democratic systems. In the process it will also examine whether ICT contributes to centralization or decentralisation of power in democratic polities.
- The financial implications of deploying ICT and the response of the bureaucracy to the deployment of ICT will be examined in the fifth section.
- Deployment of ICT in governance process should result in strengthening of democratic processes and institutions. The last section will explain how this can be ensured.

Definitions: Before we examine the interrelationship between technology and governance process, let us briefly define e-governance. The use of Information and Communications Technologies (ICT) for improving governance process is termed as e-governance; e-governance not only refers to providing services to citizens via Internet but also digitizing and using the ICT for all governance processes. But some necessary conditions such as, literacy, communications infrastructure, public information systems, and appropriate legal frameworks have to be met for successful functioning of e-governance.

I Digital Divide

The technological progress is generally perceived to be an offshoot of economic development, but often it is the technology that facilitates faster development by reducing

the time and costs involved. For instance, the rapid development in Internet technology has reduced the time and costs of communication. As the UNDP report states:⁵

“In 2001, more information could be sent over a single cable in a second than in 1997 was sent over the entire Internet in a month. The cost of transmitting a trillion bits of information from Boston to Los Angeles has fallen from \$ 1,50,000 in 1970 to 12 cents today..... E-mailing a 40 page document from Chile to Kenya costs less than 10 cents, faxing it about \$10, sending it by courier \$50.”

However, not all countries are in a position to reap the benefits of rapid development of information technologies in similar measure due to the digital divide. As the United Nation's "*Statement on Universal Access to Basic Communication and Information Services*" in April 1997 observed:⁶

“We are profoundly concerned at the deepening mal-distribution of access, resources and opportunities in the information and communication field. The information technology gap and related inequities between industrialized and developing nations are widening: a new type of poverty – information poverty – looms. Most developing countries, especially the Least Developed Countries (LDCs) are not sharing in the communication revolution.”

Today, if we examine the Information and Communication Technologies (ICT) landscape, we find simultaneous existence of zones of high information connectivity and ‘information black holes’, which is often referred to as ‘digital divide’. “Digital divide refers to the gap between the individuals, house-holds, businesses and geographic areas at different socio-economic levels with regard to both to their opportunities to access information and communication technologies (ICT) and to their use of the Internet for a wide variety of activities.”⁷ There are about 544.2 million Internet users world wide, North America (United States and Canada) accounts for 33.27%, UK; Australia, Japan, Germany, France, together account about 25.5% and China, India and Indonesia have 10.03% of the Internet users. Even in these zones, the digital divide varies from country to country and within countries from region to region. For instance the PC penetration in India is a mere 3.6 per thousand people, as compared to 362 in the US, 217 in Singapore, 145 in Ireland and 9 in Philippines.⁸ While China has large number of Internet users in comparison with Australia, the proportion of Internet users out of the total population is low at 2.7% and in India it is about 1.7%. Similarly, while Nepal has 13 telephones per 1,000 people, India has 38 and China 137 in 2001. In India, while Maharashtra has 8.21 internet connections per 1,000 people, states like Uttar Pradesh had 0.12 Internet connections in 1999.

⁵ UNDP Human Development Report 2001, "*Making New Technologies Work for Human Development*", (New York: Oxford University Press, 2001), p.30

⁶ Subbiah Arunachalam, "Information Technology: Equalizer or Separator of Developing Countries?" available at: <http://ts.mivu.org/default.asp?show=article&id=74>

⁷ Organisation For Economic Co-Operation And Development (OECD), "Understanding The Digital Divide," available at: <http://www.oecd.org/dataoecd/38/57/1888451.pdf>.

⁸ Madan Mohan Rao, "Emerging Markets, Pockets of Excellence: India in a Global Internet Economy," in Osama Manzar, Madan Mohan Rao and Tufail Ahmad (ed.) *The Internet Economy of India*, (New Delhi: INOMY, 2001), p.32.

Country	Internet Users (Mn)	Internet Users/Total population %
USA	164.1	58.5
UK	33.0	55.3
Australia	10.6	54.4
Canada	17.0	53.3
Japan	49.7	39.3
Germany	30.2	36.4
France	15.7	26.3
Russia	9.2	6.3
China	33.7	2.7
Indonesia	4.4	1.9
India	16.5	1.7
World-wide	544.2	8.9
As on 31.07.2002		
Source: Economic Times		

As per the survey carried out by the Taylor Nelson Sofres, 31% of the Internet users in India are accessing the government services or products on line. On the other hand in countries like Sweden and Norway the percentage of Internet users accessing the government services or products on line is 57% and 56% respectively. Moreover the 31% Internet users accessing government services or products online in India is 31% of 1.7% of the total population of the country which is using Internet.

The UN's "*Statement on Universal Access to Basic Communication and Information Services*" pointed out the following reasons for the digital divide in the world:

- Lack of affordable access to core information resources, cutting-edge technology and to sophisticated telecommunication systems and infrastructure;
- Lack of the capacity to build, operate, manage, and service the technologies involved;
- Absence of policies that promote equitable public participation in the information society as both producers and consumers of information and knowledge; and
- Absence of a work force trained to develop, maintain and provide the value-added products and services required by the information economy

In case of India, the absence of technological and basic infrastructure from adequate telephone connectivity to bandwidth problems is definitely an important reason for the prevalence of digital divide in India. However, non-technological factors such as telecommunication policies and literacy levels have substantial impact on the digital divide. OECD report on digital divide points out that liberalization of telecommunications markets at the end of 1998 has led to competition and a rapid drop in the bandwidth prices, resulting in reduction of Internet access prices and increased Internet usage.⁹ As is well recognised, the digital divide in India is deepened by low literacy levels.

⁹ Organisation For Economic Co-Operation And Development (OECD), "Understanding The Digital Divide," available at: <http://www.oecd.org/dataoecd/38/57/1888451.pdf>.

This digital divide between and within various nation-states will further exacerbate the disparity between rich and poor countries, as the rich countries will be using ICT in a big way to ensure greater production, better quality and greater publicity of their products. This digital divide also has grave implications for democracy: First, a small fragment of population now has a new medium to carry out discourse or set the agenda, while denying participation to large sections of population; Second, with only a select few having access to the Internet and ICT, large sections of population cannot access the government services and products that are available online; And finally, e-governance, which is supposed to bring in transparency and accountability, will be available only to the English educated and techno-savvy populace but not to the illiterate poor. As the Economist stated: “If putting government online is just a way of reinforcing access for people, who already have more opportunity to access to government and decision-makers, then it hasn’t really been much of an advance after all.”¹⁰ It is in this context of “digital divide”, (a more appropriate term would be ‘digital abyss’), that we are implementing e-governance initiatives with an intention of ensuring greater accountability and thereby reduce corruption in the governance process. Let us critically examine the role of ICT in combating corruption.

IT and Corruption

An important reason for the prevalence of corruption is the availability of required information or resources with ‘select few’ in various departments or institutions. As a result the ‘select few’ would prefer to trade the available information/resources that they have, for a price. Introduction of Information and Communications Technology (ICT) may result in easy availability of information through web sites. And introduction of ICT may reduce the discretion of staff in allocating resources to citizens. Take the case of ticketing system in the Indian Railways; computerization of ticketing system substantially reduced the scope of corruption. Further, due to computerization of the ticketing system, the Indian Railways was able to handle the substantial increase in the workload without commensurate increase in the work force. But the introduction of ICT will not be able to remove the human element in the administrative process and will not be able to ensure continuous surveillance of the staff in various departments or institutions. Let us take the example provided by Richard Heeks:¹¹

In a public works department, there was concern about the number of 'ghost workers' in the system. These are people listed on the payroll, and therefore paid, who do not exist in reality. Someone else collects the wages paid out under their name. The payroll system was computerised and, during this process, a check was made between listed and actual workers. Any non-existent staff were removed from the system. This seemed to have solved the problem, assisted by the word being spread that the computer could make an automatic check between the payroll list and reality, and could automatically detect who was picking up

¹⁰ The Economist, 24th June 2000.

¹¹ Richard Heeks, “Information Technology and Public Sector Corruption,” Information Systems for Public Sector Management, Working Paper Series Paper No. 4 September 1998, Institute for Development Policy and Management, View/Download from: http://www.man.ac.uk/idpm/idpm_dp.htm#isps_wp_p.4

ghost worker wages. Of course, it could do no such thing. An audit 18 months later uncovered a very well-to-do computer operator who was collecting his own wages plus those of thirty other workers he had entered into the payroll system.

As the above example demonstrates mere introduction of ICT does not reduce corruption. Moreover ICT might also facilitate easy corruption for someone who is conversant with the technology. Referring to the Harshad Mehta scam, N. Vittal, former CVC, said, “the famous Harshad Mehta scam took place in 1992 because the Public Debt Office of the Reserve Bank of India was not computerized. The manual system provided a 15-day float, which was exploited by the unscrupulous elements.” The optimism of the former CVC should be tempered in the light of the recent developments. For instance, Arthur Andersen was a completely computerized consulting firm and used latest ICT in big way. Complete computerization of its system did not prevent rampant corruption in the organization. The corruption and consequent collapse of Arthur Andersen demonstrates that it is absence of non-technological factors such as protection and encouragement of the “whistle blowers” that facilitated rampant corruption to go unchecked. A survey carried out by the Public Affairs Center also came to similar conclusions. The survey, pertaining to the computerization process in Andhra Pradesh with specific reference to Computer Aided Registration Department (CARD) and Commercial Tax Office (CTO), revealed that the computerization process did not take away the capacity to extract bribes. As the survey stated:

“the MRO can remain in the same ramshackle building, with the exception of a computer and printer in the hands of the assistant, who prints out the birth certificate, and now at least - collects his ten rupees *mamool* (bribe) from the villager, but atleast delivers the service with minimal time delay.”¹²

Discretion and truck inspection in Gujarat, India

Inspectors responsible for enforcing restrictions on overloaded trucks in the Indian state of Gujarat were notoriously corrupt. They had considerable discretion over which trucks to stop for inspection. Moreover, since there was no system for reporting to the motor vehicle department the number of trucks found in violation of overloading rules, individual inspectors could negotiate a combination of reported fines and unreported bribes with individual truckers.

In 1998 a program to reduce corruption using information technology was implemented. Individual checkpoints—and their weigh-scales—were connected by computer to central offices, so that information on vehicle weights and collected fines was automatically reported to the motor vehicle department. In addition, inspectors' discretion over which trucks to stop was removed. The combination of these two measures to reduce discretion dramatically reduced opportunities for corruption.

Source: www1.worldbank.org/publicsector/egov/gujaratcs.htm.

While the limits of ICT's capacity to control corruption are evident, the integration of firms/companies and economies of various countries due to the advent of ICT has also made corruption and crime truly global. New forms of criminal and corrupt activity have come to the fore due to globalization and the presence of ICT. A few examples will illustrate this argument better:¹³

- As per US Justice Department, an amount of US \$ 10 billion is stolen annually, by using sophisticated computer techniques, from the American Financial Institutions.
- \$ 1 billion of illicit capital moves through world financial system, through wire transfers, on daily basis as per the UNDCP estimates. This is largely due to the weakness in regulation of the international monetary markets.

¹² Ramesh Ramanathan and Suresh Balakrishnan, “*State of the Art as Art of the State, Evaluating e-governance Initiatives Through Citizen Feed Back*,” Public Affairs Centre, June 2000, p.13

¹³ Louise.I Shelly, “Crime and Corruption in the Digital Age,” *Journal of International Affairs*, Volume 51, No.2, Spring 1998, p.605-620

- Money laundering has become easy due to a range of electronic concealment strategies facilitated by the encryption technologies.

ICT are facilitating other crimes such as the online auction of babies and body parts. Such auctions by the company e-Bay caused outrage in the United States. It is estimated that at least 3,000 children have been kidnapped in 1999 in the United States because of on-line messages posted by their abductors.¹⁴ Similarly, even in India new forms of digital crime are coming to fore. A survey conducted by Asian School of Cyber Laws in India has analyzed 6,266 incidents of computer crime and has found the following:¹⁵

- Data theft incidents were most widespread accounting for 33 % of the total reported crime. The average cost of data theft is Rs. 1.8 lakh, with the cost ranging between Rs.20,000 and Rs. 1.87 crore. The major categories of data theft are:
 - Source and Object Code 37%
 - Credit Card Information 29%
 - Business related plans 20%
 - Other confidential information 14%
- E-mail abuse incidents were second at 22.5%
- Incidents of unauthorized data alteration were fourth at 15.5% followed by others.

An analysis of the perpetrators of these crimes revealed that 21% and 31% of the crimes were traced back to the employees and former employees respectively and the rest were perpetrated by the business rivals and others.

India's First Cyber Crime Conviction

A typical case in point was seen a couple of months back when India saw its first cyber crime conviction. This was the case of CBI V/s Arif Azim, a case in which India's first cyber criminal was convicted. In this case despite conviction for online cheating, the court took a very pragmatic approach. The court noted that the accused Arif Azim was a 24 year old Software engineer who committed the crime for the first time and keeping in mind the totality of the circumstances, the court released the accused person on probation for a period of one year after obtaining necessary bonds.

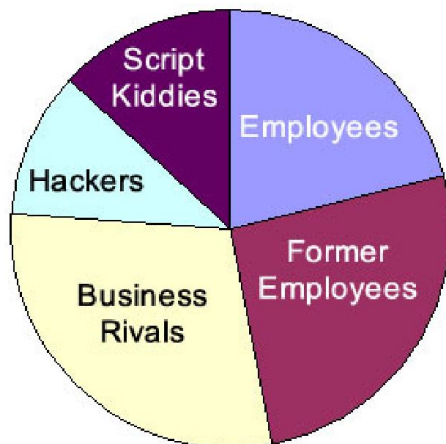
Source:

<http://www.newbangaloreonline.com/archive/nbo/issue15/pavanduggal.htm>

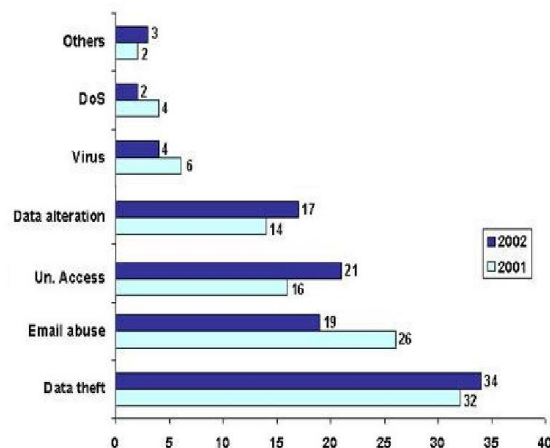
¹⁴ C Satapathy, "Role of the State in the E-World," *Economic and Political Weekly*, September 23, 2000, available at <http://www.epw.org.in/showArticles.php?root=2000&leaf=09&filename=1773&filetype=pdf> p. 3496

¹⁵ Asian School of Cyber Laws, "Computer Crime & Abuse Report (India) 2001-02," Available at <http://www.asianlaws.org/report0102.htm>

Perpetrator-wise breakup



INCIDENT WISE BREAK UP



As the above examples attest, the introduction of the ICT may reduce petty bureaucratic corruption but cannot on its own, reduce the predatory and political corruption. As Richard Heeks points out: “Management of corruption is ultimately shaped more by management decisions and by broader organizational and environmental factors than it is by technology. Put simply, IT-based systems guided by the Panoptic vision affect symptoms of a corrupt system rather than causes.”¹⁶ Further, the above examples also demonstrate that the introduction of the ICT has prompted the emergence of crimes such as theft of data and e-mail abuse. If new forms of crime are coming to fore, then it is pertinent to see the impact of deployment of ICT on individual liberty. More specifically it is imperative to examine the impact of ICT on the privacy of individuals.

IT and Privacy

What is privacy? It is state of not being disturbed or watched. Then in the context of Internet, privacy of an individual means following:

- First, an individual should not be disturbed with large amounts of unsolicited information.
- Second, an individual should not be watched or tracked while s/he is using Internet or after the usage, unless otherwise determined by law.
- Third, information pertaining to an individual should not be accessed without the permission of the individual concerned.

Spam, unsolicited communication on net, is being increasingly seen as violating the privacy of individuals by overloading the mailboxes. According to Brightmail Inc 40% of all e-mail traffic in the U.S. is Spam.¹⁷ However, measures are being contemplated to control the spread of Spam, by making it illegal. For instance sending messages to an e-

¹⁶ Richard Heeks, “Information Technology and Public Sector Corruption,” Information Systems for Public Sector Management, Working Paper Series Paper No. 4 September 1998, Institute for Development Policy and Management, View/Download from: http://www.man.ac.uk/idpm/idpm_dp.htm#isps_wp.

¹⁷ Jonah D. Seiger, “Privacy, Security & Trust on the Political Web,” available at http://www.democracyonline.org/privacy_survey_final.pdf

mail without the permission of the individual is being made illegal in the European Union. Spam may be relatively harmless, when compared with other ways through which an individual's privacy is being and can be violated. New technologies such as "bots" and "crawlers" have the capacity to track various consumers and their purchasing preferences on net, along with maintaining detailed databases containing their names and addresses. This tracking of the consumer behaviour and maintaining the databases of various consumers without the knowledge and the approval of the consumers was termed by an American court as constituting a trespass.¹⁸ There have been numerous occasions where hackers have broken into various websites and accessed information which has been stored. Most banks and credit card companies have complete financial statements in a few centralized servers for customers to access their accounts from any part of the world. In a recent incident, a hacker accessed 5 million Visa and Master Card accounts throughout the US; however the hacker did not indulge in any fraudulent activity.¹⁹ The incident demonstrates how personal financial statements can be accessed through Internet. Similar danger is prevalent for various government web sites that store information pertaining to citizens. Integrity of citizen's information must be ensured by the e-governance. As a consequence of e-governance, sensitive departments such as Income Tax will have to maintain financial records in a few centralized servers for users to access their personal records with a given password. Will that information be secure? What if the personnel maintaining information of the tax-payers release it to commercial operators for financial gain or put the information for a more sinister purpose? What if the hackers are able to obtain data? These are some of the important questions which the e-governance initiatives have to address. As the government is the largest service provider and has access to most vital information of citizens, from educational qualifications to financial records, it is imperative that the governments maintain the integrity of the citizen's information. The failure to do so will only result in abridgement of the fundamental rights of the citizens. Instead of protecting citizens' right to privacy, State can also abridge it. In the name of national interests many countries are contemplating measures that violate the privacy of individuals using Internet. In United Kingdom it is being proposed that various agencies of the government, including local councils, would be allowed to demand from telephone companies, internet providers and others details about:²⁰

- Source and destination of e-mails
- Websites that people visit
- Mobile phone data showing where a user was at a certain time

E-governance projects in India also raise an important question as to what extent should the private parties be involved and how to protect the information databases of citizens from misuse by the private operators who are running the e-government initiatives. For

¹⁸ C Satapathy, Role of the State in the E-World, *Economic and Political Weekly*, September 23, 2000, available at <http://www.epw.org.in/showArticles.php?root=2000&leaf=09&filename=1773&filetype=pdf> p. 3496

¹⁹ Economic Times, March 20th 2003.

²⁰ http://news.bbc.co.uk/1/low/uk_politics/2037459.stm

instance, Andhra Pradesh Value-Added Network (APVAN), which has been shelved, a joint venture with Consortium of Singapore Companies envisaged.²¹

- Handing over six key services pertaining to road transport, commercial taxes, utility services, government procurement, land registration and employment exchanges to APVAN for seven years with exclusive rights for the first five years.
- Exclusive service contracts between government departments and APVAN, specifying commercial terms and guaranteed service levels resulting in monopolized transactions pertaining to these six services worth Rs 120 billion a year.

The privacy of the individual has been one of the gray areas in the APVAN as the private entrepreneurs have substantial control over information pertaining to citizens and the government. The e-seva of Andhra Pradesh also faces a similar criticism. CAG in its report pointed out that the source code, technical documentation of software and hardware, key data and huge financial transactions pertaining to various departments had been left to the administration of private operator without adequate internal controls.²² Therefore all e-governance initiatives should clearly specify the role of the private entrepreneurs in maintaining and controlling the information databases. And all e-governance initiatives should develop internal controls, both technical and administrative, to protect the integrity of the databases. The above discussion points to the necessity of comprehensive cyber crime legislation which protects the privacy of individuals, as the current legislation leaves out crimes such as cyber stalking, and cyber harassment. There is also a need to train the judiciary and the police in tackling cyber crimes.

The violation of privacy on Internet will inhibit political participation, as the citizens will be reluctant to participate in various online political forums and will be reluctant to donate to various causes through Internet. The deployment of ICT also has far reaching impact on the political systems. The ICT deployment for governance purposes can either promote centralized or decentralized tendencies depending on the way they are deployed.

Centralization, Decentralisation and ICT

Information and Communications Technologies are amoral. They don't have any intrinsic quality because of which we could characterize them as being inherently good or bad. The consequences of the use of the ICT depend on the motives, actions and strategies adopted by the user. For instance, Internet was initially designed with a specific intention of facilitating information sharing in a decentralized manner. In 1969, Pentagon launched APRAnet (Advanced Research Project Agency) and e-mail was later developed to send messages within the APRAnet. In APRAnet there was no centralized server or host through which communication was to be carried out. Rather, communication was split into tiny packets, which could be disseminated through different routes. This decentralized dissemination of information not only made it difficult to eavesdrop but was also designed to facilitate communication in any eventuality. In case of nuclear

²¹ <http://www.rediff.com/computer/1999/mar/19apvan.htm>

²² "CAG critical of e-Seva project," The Hindu, April, 1st 2003

attack wiping out large sections of the country, the remaining portions of the network would be in a position to facilitate communications and information sharing. Though the intention behind the creation of Internet has been to facilitate decentralized communication networks, the political outcomes of deploying ICT differ with political institutions/systems. While the authoritarian political regimes try to enhance their surveillance mechanisms by using ICT, the political consequences of deploying ICT in democratic polities are varied.

“Socialism in Central Europe failed because people received more information than was necessary” – this statement of Fidel Castro aptly sums up the power of information.²³ It is precisely for this reason that authoritarian regimes try to control the access of information by their citizens. However, there are many who argue that the advent of ICT has reduced the capacity of the state to control information flows. Contrary to popular perception, the authoritarian regimes can determine the information/data system that an individual can visit, thereby moulding the thought process of the individuals. The report by the Carnegie Endowment for International Peace titled “*Repressive Regimes Easily Subvert Internet*,” concluded that the authoritarian regimes have been successful in controlling the Internet usage of their citizens. For instance, by using various filtering processes, the Chinese government routinely blocks web sites of various media corporations and organizations, and information it considers as subversive. Similarly the Cuban government gives conditional access to Internet for universities and other organisations. However, there have been instances where various political groups and religious organisations have successfully evaded the authoritarian regimes’ scrutiny, by using Internet and e-mail, to participate in “subversive” activities such as the Falun Gong members’ demonstrations in Tiananmen Square, Beijing, in the recent past. But the sporadic nature of these incidents only demonstrates that authoritarian regimes are successfully controlling the ICT. Moreover, ICT provides one more tool of surveillance for the authoritarian regimes, as they can now maintain an efficient information infrastructure to monitor their citizenry. The authoritarian regimes also routinely violate the privacy of the citizens by tracking the usage of ICT by the citizenry, thereby undermining the principle of liberty.

On the other hand, the consequences of deploying ICT in a democratic polity are contingent on the attitude of the central leadership. An information-rich government by selectively releasing the information can dominate the thought process of its citizens, resulting in the manufacturing of political attitudes and actions of the citizenry. The leaders of political parties, by using ICT, can now directly interact and mobilize the citizenry. For instance, during the presidential elections in 2000, John McCain, in matter of a few hours and days after his victory in New Hampshire, was able to raise, \$6.4 million on-line and recruited 142,000 volunteers during the primaries.²⁴ Owing to this direct communication between the leaders and citizens, the political parties are being seen as anachronistic institutions especially in Europe and the United States where the usage of ICT has increased rapidly. The emergence of Ross Perrot in 1992 as a major

²³ CIPE, *How Information Technology Can Promote Democracy*, available at <http://www.cipe.org/publications/fs/ert/e29/demoe29.htm>

²⁴ Jonah D. Seiger, “Privacy, Security & Trust on the Political Web,” available at http://www.democracyonline.org/privacy_survey_final.pdf

presidential candidate without support of the two main political parties in the US also exemplifies the role of ICT in weakening the political parties. A major reason for Ross Perrot's high ratings during the presidential poll was his creative use of participatory media such as the talk-shows, and call-in televisions shows.²⁵ A more successful use of the information and communications technologies could be seen in Berlusconi's election to the office of Prime Minister of Italy in 1994. Berlusconi not only owned Italy's major television networks but also major newspapers and an advertising agency, which he used fully and effectively in pursuit of his political ambitions.²⁶ The use of ICT has reduced the distance between the leaders and the people, and enhanced leaders' capacity to carry out political campaigns or advance their political ambitions without substantial support from the political parties. This empowerment of the central leadership is ephemeral, as the leaders will not be able implement decisions/policies that are prudent but not populist. As the experience of the US demonstrates, it is the pressure groups, in the context of weak political parties, who will be able to control the policy making. Moreover, the ICT has spawned opinion polls, online plebiscites, on-line mobilization and other cost effective measures of mobilizing citizens, which are also being effectively applied by the pressure groups/lobbyists to gain disproportionate influence in the legislatures. During October 2002, the Moveon.org campaign collected \$1 million on-line in just 48 hours, providing a stunning example of the power of the Internet to quickly mobilize large numbers of people to join a campaign and open their wallets with the click of a mouse.²⁷ This growing strength of pressures groups, is reducing the autonomy of the legislative domain. For instance, the elected members of the legislature, such as in California, fearing the wrath of the pressure groups, are abdicating the legislative duties by preferring to go for a referendum resulting in the weakening of the legislative institutions.²⁸ Thus the use of ICT has resulted in a paradoxical situation. On the one hand it provides tools and mechanisms for citizenry to voice their aspirations and concerns effectively; on the other hand the same ICT facilitates the weakening of the political parties and legislative institutions. Obviously ICT cannot be banished from the political realm; the solution lies in applying ICT effectively for strengthening parties and institutions. Political parties can use the ICT for reaching the marginalized groups, state their party positions and solicit feedback, strengthen inner party democracy through communication networks and energize the party leadership at the grass roots.²⁹ Further, ICT can substantially improve the election process by introducing technologies such as database for voter registration, electronic voting, bio-identification systems and scanning or geographic information systems.³⁰ The use of these technologies along with other

²⁵ Lawrence K. Grossman, *The Electronic Republic*, (New York: Penguin, 1995), p. 12 – 19.

²⁶ Lawrence K. Grossman, *The Electronic Republic*, (New York: Penguin, 1995), p. 12 – 19.

²⁷ Jonah D. Seiger, "Privacy, Security & Trust on the Political Web," available at http://www.democracyonline.org/privacy_survey_final.pdf

²⁸ For more details see Fareed Zakaria, *Future of Freedom, Illiberal Democracy at Home and Abroad*, (New York: Viking, 2003), pp. 161-198

²⁹ International Institute for Democracy and Electoral Assistance (International IDEA), *Democracy and the Information Revolution: Values, Opportunities and Threats, Democracy Forum 2001*, available at http://www.idea.int/2001_forum/policy/Initial_Policy_Points.pdf

³⁰ International Institute for Democracy and Electoral Assistance (International IDEA), *Democracy and the Information Revolution: Values, Opportunities and Threats, Democracy Forum 2001*, available at http://www.idea.int/2001_forum/policy/Initial_Policy_Points.pdf.

policy measures such as debarring criminals from politics and appropriate state funding can facilitate easy participation, and clean election process.

In many developing countries and nations in transition, where the nascent institutions such as political parties are relatively weak, the increased use of ICT may result in centralization. Such centralized rule can also reduce the effectiveness of the executive arm of the state and promote arbitrariness and personalized despotism. Computerization could be good, if efficiently managed. In some Indian states, excessive obsession with gadgetry and micromanagement at centralized level in the name of ICT have undermined institutions and stifled local initiative. For instance, enormous data gathering like information pertaining to tens of thousands of transformers, marks obtained by each school student subject-wise, weekly status reports of each drinking water source in the whole state – this kind of mindless collection, transmission, processing and retrieval of information has ultimately reduced our institutions to a state of complete helplessness. The *district magistrate* and local governments are increasingly becoming messenger boys. Devoid of initiative, the *zilla parishad* is reduced to the status of a branch office of the state. If that is the end product of computerization, clearly ICT is not an unmixed blessing. A lot of data does not constitute policy; brilliant policy does not guarantee execution; micromanagement cannot yield desired results. In our quest for ICT and technical wizardry, a lot of activity and glitz are becoming substitutes for effective and sensible action. Again, it is not technology which is at fault, but the governance process. We must reinvent the government and administration, applying technology to the benefit of the people.

ICT, Costs and Bureaucracy

The cost of ushering e-governance is also a factor that needs to be taken into account while considering e-governance initiatives. In India, Planning Commission directed that state governments and various departments should earmark 3 % of the budget for e-governance initiatives. If the total budget outlay of a state is Rs 45,000 crore, 3 percent, or about Rs 1,350 crore should be for IT or e-governance. Similarly, the proposal to establish community information centers in 6,000 blocks across the country will cost around Rs. 1,500 crores. These are substantial amounts and care must be taken that the e-governance initiatives developed at such cost will facilitate better citizen services and also result in better revenue mobilization. A major criticism against the e-governance initiatives has been that they have depended excessively on proprietary software rather than opting for the open source and free-software technologies such as LINUX. The disadvantages of using proprietary software are as follows:³¹

- Governments tend to become dependent on the private suppliers for the supply of the software. It is possible that private suppliers may withdraw their support resulting in a lot of data becoming unusable or costly. On the contrary the governments using the free software are not dependent on any single provider.

³¹ Roy Mathew, “Free software best option for e-governance?,” The Hindu, Jul 22, 2002.

- e-governance initiatives based on proprieted software compel the users to use the same. On the contrary the source code is free in case of the open source software and it can be easily procured by the users also.
- Proprietary Software companies keep changing their formats, forcing the governments dependent on them to indulge in costly updating procedures.
- As the source code is available only with the private providers, the security of the government data will always be in jeopardy. And the privacy of the individuals may be violated, if the information gets into the hands of interested parties.

In order to overcome the disadvantages of using the costly proprietary software, Latin American countries such as Brazil, Argentina and Peru have been promoting free software technologies. Some of the state governments in India are exploring the possibility of using the open source or free software technologies for e-governance initiatives. The West Bengal Electronics Industry Development Corp Ltd, the state's nodal IT body, has created Linux cell to support various e-governance initiatives.

The other major hurdle that the e-governance initiatives in India might face is the resistance from the bureaucracy. For instance the Andhra Pradesh Value-Added Network(APVAN) was shelved after the employees opposed it vehemently fearing redundancy. Most of the services that the government provides are monopoly services in which there is no competition from others. In the absence of any pressure from markets or substantial incentives to the employees for innovation and performance, bureaucracy may be lethargic in implementing e-governance initiatives. As former Union Minister Pramod Mahajan succinctly summed up, this reluctance to adopt e-governance initiatives by the bureaucracy will result in government offices becoming the 'graveyard of computers'.³²

ICT and Public Policy

Very often, the medium becomes the message! Very often this love and exhibition of technology becomes a substitute for effective action. Let me give a few examples to illustrate the point that information lag is not necessarily the most important difficulty, and therefore, information technology as merely sources of information, is not adequate. Information is necessary, but not sufficient for sound policy or effective implementation. Take the case of census in the country. We have highly reputed, world class operations in India. Even the mighty United States is not much better than India. But all that wonderful data has not made a significant impact on population control.

Similarly, the National Sample Survey is possibly one of the finest tools in the hands of any economist in the world. Yet all this rich and wonderful information has not made a significant impact on our economic policies. Repeated sample surveys and the rich data are not used efficiently for refining our policies and their implementation. Take the Planning Commission, the richest source of information. Despite information of a variety of kinds – about our lifestyles, our income status, our economic and social status – the

³² <http://www.zdnetindia.com/news/national/stories/25076.html>

planning process and implementation have been largely ineffective and at times counterproductive.

Take the case of the power sector. There is no dearth of data, and yet we continue to blunder even today. It took almost a decade to realize that the problem is not in generation but in distribution. Even after recognizing the need for better distribution management, we have not fully designed institutions to improve systems. Clearly, no matter how much computers and information technology are embraced, outputs have not significantly changed. These problems are because of our incapacity to learn lessons from past experiences. The first well-known principle in the computer industry is *garbage in, garbage out*. Technology cannot improve the quality of information. Technological processes make it more presentable, but cannot improve the quality of information. Nor can information automatically result in better decision-making or improved lives. Sensible information is a necessary, but not sufficient, condition for sound public management.

Take the example of land records. In Andhra Pradesh, Karnataka, Maharashtra and a few other States, several dedicated officials have done outstanding work in computerizing all available land records. *Bhoomi* in Karnataka, CARD in Andhra Pradesh etc are all excellent initiatives whereby, Registration Offices are fully computerized. Yet we simply do not have accurate information about land holdings and land records. So much so, if you buy a piece of land in Hyderabad city, there is a high probability of you being cheated. The Government actually collects the stamp duty very happily, and registers documents legally and solemnly, without even verifying whether the seller has legitimate title! Several innocent buyers who invested their life-time savings in a house site were cheated only because of government's apathy in updating land records. Mere improvement of data access and retrieval without periodic land surveys on ground and determination of ownership does not improve outcomes for the citizens. Let us continue with the example of the Computer-aided Administration of Registration Department (CARD) one of the first departments to be computerized in Andhra Pradesh. Its main objectives are:³³

- Demystification of procedures for registration of legal deeds like sale deeds, mortgage deeds, gift deeds, etc
- Implementation of a transparent system of valuation of properties and computation of stamp duty, registration fee and transfer duty, accompanying the registration process
- Enhance speed and efficiency of registration process and title searches
 - Registration of deeds in 1 hour as against 1 week earlier
 - Title search over past 20 years in 15 minutes as against 3 days earlier
 - Certified copies of documents in 30 minutes as against 3 days earlier
 - Automation of back office functions
- Efficient document management system

CARD project was initiated in 1998 with an estimated costs of Rs 30 crores and was often shown as an exemplary model of e-governance. The CARD definitely provided

³³ http://www.ap-it.com/itprojects_mar03.pdf

better services to its customers when compared with non-computerized counter parts. However the personnel of the CARD did not maintain basic data such as the stamp papers received from the Government Printing Press in Pune, the stamp papers that have been used by the 249 sub-registrar offices in various parts of AP and comparative statement of stamp papers that have been sold and the stamp papers that have been used for registration purposes. It is this failure to maintain this basic data and reconcile with actual receipts that has facilitated the recent stamp scam in Andhra Pradesh. Nor has CARD been able to contain corruption in registration of transfer of immovable property. Clearly, ICT is a valuable tool, but cannot guarantee either elimination of corruption or safeguarding of public revenues unless systems are designed specially, and instruments of accountability are put in place.

Information technology is not a *substitute* to sensible policies and resource allocation. Wide dissemination of information may, however build pressure for policy changes. For instance the fact that the public expenditure on education in India has been only 3.2% of GDP. Even this limited allocation is badly utilized, with neither a sense of priorities, nor accountability. Similarly the public health expenditure in India is only 0.9% of the GDP. Public expenditure in these two sectors together account for 4.1% of GDP. The expenditure on education and health in OECD countries is of the order of 12 – 15% of GDP. This is not a problem of technology. Information technology cannot bridge this gap. What we need is reinventing the Indian state, and restructuring our governance process and resource allocation.

What needs to be done

First, better information has to be generated. We have to pay particular attention to basic administration, as the British did during survey and settlement. Once we have accurate basic information, computerization will have tremendous value to citizens. In countries like Norway, four centuries ago, they had absolutely impeccable information on land ownership and holding status, births and deaths and other relevant areas. It is this accuracy and reliability of information and its ready availability in the public domain which make citizens' lives easy, and rule of law a reality. Only with rule of law and enforcement of predictable standards of behaviour can economic prosperity be a realizable goal.

Second, we have to focus on citizen-friendly models. Take a simple case like voter registration – fundamental to citizens in a democracy. The law is wonderful on paper. In theory, any citizen can access electoral rolls and bring about corrections. In reality, even educated Indians cannot access the voter register. Even if citizens find something wrong, it cannot be corrected easily. We need to find simple mechanisms to allow citizens access to simple, ordinary, day-to-day information.

Third, we must use available infrastructure within reach and build on that rather than try and build new structures. Take the post office. In an enormous governance gloom in this country, there is this island of excellence – the post office. About 2½ lakh post offices, spread throughout India function efficiently and in a citizen-friendly manner with extraordinary reach. Across the counter transaction in post offices is very business like.

When an ordinary citizen walks into the post office, he is certain that business will be transacted immediately without a bribe, as there is fairly high level of efficiency. Instead of treating a post office as a relic of a by-gone age, it can be used effectively to disseminate information across the vast stretches of this country. A post office can be made a nodal agency for accessing electoral rolls of a given area and for voter registration. The main reason for the errors in the electoral rolls, which are to a tune of 15 % in rural areas and 40 % in urban areas, is their non-availability to citizens. If post office is made a nodal agency, it will ensure easy access of electoral rolls by the ordinary citizens and will improve the quality of the voter lists. Therefore, there is a need to creatively utilize the existing infrastructure and institute people-friendly mechanisms and administrative apparatus that facilitate better citizen-government interface in the country.

Fourth, better citizen-government interface can be ensured only if there is convergence of services. The E-Seva Kendras in Andhra Pradesh are an excellent example of this. There is a need to expand E-Seva not only in terms of services that are being offered but also in terms of reach. Only when E-Seva offers wide range of services and expands its services to rural and hinterland areas will the real benefits of e-governance become visible. In Germany, for example, to obtain a passport, the application has to be submitted in a municipal office, but not in a separate passport office located in a few select cities as in India. Issue of passport a federal service everywhere in the world, and yet the citizen's interface in Germany is with her local municipal authorities. This German model exemplifies the potential benefits through e-governance procedures. Further, all the information that is needed should be made available at one single point – a nodal point, not at several points in various administrative departments. Moreover information overload should also be avoided. People need simple, accurate, verifiable, digestible, sensible packages of information; not mountains of data which is not amenable to easy analysis or interpretation. Mere computerization of different departments or offices will not bring about qualitative improvement of services for the citizens. Rather, application of ICT should bring about greater convergence of services, and involve collection and dissemination of appropriate information, which will reduce the time spent by a citizen in accessing different services located at different places.

Fifth, introduction of ICT amidst a culture of secrecy will not help. Technology should not be used for empowering officials and to deny information to citizens. Information is source of power, which cannot be denied to citizens. In the US ordinary citizens have been empowered to combat corruption through the False Claims Act. The Act not only facilitates citizens' initiatives to highlight and resist corruption in public procurement, but also rewards them for doing so. On the contrary in India, the rules for Right to Information Act are yet to be promulgated and an ordinary citizen is treated as an intruder rather than as legitimate stakeholder in the government. Mere introduction of ICT in the context of culture of secrecy will not empower citizens. In fact it may weaken citizens by eliminating the interface between the people and public servants. The fundamental premise of democracy is citizen participation in the governance process. The introduction of ICT should result in sharing information, and allowing people to participate in decision-making and in managing their own affairs, resulting in better decision-making environment.

Sixth, governments should strive to create IT enabling environments. Take the Government of Andhra Pradesh – out nine lakh employees directly employed by it, half are clerks, drivers and peons. An information technology-enabling environment demands a preponderance of decision-makers, not file-pushers and providers of personal services to those in authority. Can information technology transform the governance in India if the old fashioned culture of clerks, peons and drivers continues to pervade the administrative apparatus? We need to create an administrative apparatus that is not only info-savvy but also responds to various situations with prudence and alacrity, which requires new recruitment, training and career enhancement procedures.

This discussion has shown many areas that need immediate attention – such as the digital divide, transparency in administration and IT enabling environments – for e-governance to yield better results. Neither uncritical admiration that characterizes the contemporary discourse on information technology, nor cynicism and resistance to all change is a sensible response. Despite everything that we say about this country and the current state of affairs in the world, this is a wonderful age! Information technology is one of those tools that has made this possible. Most of the problems today are amenable to simple solutions. The best practices elsewhere need to be internalised and adapted and replicated everywhere. Technology is necessary, but not sufficient. If wisely used in public interest, it can decentralize administration, and will make democracy a real meaningful experience. However, we need to go beyond technical parameters. Happily, the cost of these technologies is falling by the day, even as their efficacy is improving. Therefore, it will be prudent to apply technology and make it our servant in furtherance of public policy and delivery of services. But we need to go into the heart and soul of governance and make citizen the center of our universe. If such an effort is made earnestly, the new technologies, among others, can certainly be effective tools to make our democracy real and meaningful.

E- seva, Andhra Pradesh

Project Name	:	e-Seva
Expanded Name	:	electronic-Seva (electronic citizen services)
Department/Agency	:	Information Technology & Communications Dept.
Year of Launch	:	Pilot :TWINS December 1999 e-Seva : 25 August 2001
Number of Sites	:	Twenty four(24) in the twin cities of Hyderabad and Secunderabad
Project Cost	:	TWINS Pilot site Rs. 1.0 crore (US\$200,000)
Objectives	:	To provides efficient services to the citizens in an integrated manner at the Integrated Citizen Service Centres (ICSCs) Citizen services currently offered include: <ul style="list-style-type: none"> ▪ Payments of utility bills/taxes ▪ Registration of births/deaths ▪ Registration of applications for passports ▪ Issue of birth/death certificates ▪ Filing of Sales Tax returns ▪ Trade licenses of MCH ▪ Online citizen services at www.esevaonline.com
Results	:	Performance of eSeva from 25.08.2001 to 31.10.2002 <ul style="list-style-type: none"> • Number of citizen transactions effected : 35.11 lakhs • Total Value of transactions : Rs. 405.2 crores
Roadmap	:	Establishing 229 eSeva Service Centres in all the 117 municipalities in AP by March 2003