

**INFORMATION TECHNOLOGY**  
**&**  
**GOVERNANCE**

**By**  
**Anupa Sarah**  
**IIInd Year**  
**NALSAR University of Law, Shamirpet**  
**May-June 2003**

## **TABLE OF CONTENTS**

**Introduction**

**The Internet in India**

Net usage

IT and Business

Infrastructure

**The Digital Divide**

Bridging the Gap

**EGovernance in Indian States**

**Bottlenecks and Difficulties: A Tough Road Ahead**

**Ideals of eGovernance**

**Corruption...still rampant?**

**The Downside of the Internet in our Lives**

Cyber Crime

**Some Issues**

**Conclusion**

**Bibliography**

# I

## A BRIEF INTRODUCTION

It took 50 years for 50 million telephones to find their way into Indian homes...just five years, and the Internet has already become an all-pervading phenomenon for an estimated half a crore Indians, a web from which any avoidance attempted would result in masses suffering acute withdrawal symptoms!! One can only imagine the extent to which Information Technology holds significance for several thousands in the Indian sub-continent. The massive tide of information and communications technology had taken India by wave a decade ago. It still is.

The possibilities the Internet holds for a country are immense; right from being able to order flowers and gifts within a matter of seconds for someone in the other quarter of the country, to conducting and participating in business transactions in and outside the country without having to move even an inch, and at many times less the actual cost of doing it in the ordinary conventional way. Of these, one such application is the possibility of Governance via the Web, an area which has evoked considerable interest and discourse, owing to the amount of potential it commands. Plans have also already been translated into action in several parts of the country, under the names of Gyandoot in Madhya Pradesh, eSeva in Andhra etc. all of which essentially attempt to offer an easier solution to the apathy of existing public services.

The role of any welfare state in today's times relate to the functions of revenue and tax collection, administration of justice, maintaining law and order and generally facilitating the development of people and society. The larger goals of society can well be achieved if the ones ruling at the helm of the country are brought into closer contact with the ruled. The Internet makes this Government-Citizen proximity factor possible.

However for all of the envisaged possibilities of the wonder of the Internet, to crystallize into reality, it is essential that resources and the available base be tapped to their fullest extent. In India the fact still remains that the Internet as a medium of communication is yet to reach 99 % of almost 1000 million Indians. 3 million households in India own a car but not a PC (which is about 10 times cheaper). The development of the Internet economy in India has arguably been limited to the metros and a couple of other towns. Only 9 out of the 28 Indian states have attracted headlines for their IT initiatives. The evil we call the Digital Divide has increasingly become a theme in the country's media reportage. It was said, and truly too, the InfoTech Park Limited (ITPL) in Bangalore might sure be a "jewel in the crown of India's Silicon Valley"...but is "a middle finger in the face of rural India"! There is hence an immense need for a uniform diffusion of these information and communication technologies in various parts of the country, in terms of both populations and regions.

Also, eGovernance would be no governance at all if the ideals and objectives of maintaining transparency, accountability, upholding democracy and ensuring

responsiveness are not fulfilled. Bringing the Internet and the governance together means bringing the greatest technology of our times to bear on the most fundamental concerns of our society.<sup>1</sup> These goals mentioned above are *crucial* for any value-based system of governance to have meaning, and are issues that need to be addressed in the current Indian technological context.

---

<sup>1</sup> Bedi, Jeet Singh & Srivastava, [\*Government@net\*](#), Sage Publications, New Delhi 2001.

## II

### THE INTERNET IN INDIA

Though the Internet economy in India might have had its roots in the Eighties, the country saw the full-fledged launch of the Internet sometime after mid-1995. Today, technology such as this has put in place an infrastructure that seriously threatens any attempt at monopolizing information. 3.9% of the annual GDP had been spent on Information and Communication Technologies. The Internet has the ability to unleash a highly democratic and transparent society and economy worldwide.<sup>2</sup>

#### Demographics & Net Usage

In 1998, the total number of Internet users in India stood at 0.7 million. Today, there is a whopping number of 40 million users online.<sup>3</sup> 68% of the users are between the age group of 15 to 30. Only 24% are women.<sup>4</sup> The usage scene is hence currently more or less a male perspective signifying the need to make it available to the female masses as well.

Though the monthly household income of around 61% of the Indians is less than Rs. 10000, 40% of them still use the Net. Information Technology therefore seems to be reaching out to the common man too, irrespective of income levels. At the same time one must also recognize the need for this facility permeating into the rural areas as well, as India is essentially a land of villages. However, contrastingly, only a little over half the richer sections use the net. If the abstinence from usage is by choice, it would imply a general sense of hesitancy in relying upon the computer and the Internet, possibly due to low security and high tendency towards malpractices and other cyber crimes, OR because of habituation to old conventional methods of transacting etc. In case it's the first, it calls for greater efforts towards ensuring protection and evolving an effective security mechanism. And in case it's the second, it signifies the amount of potential the IT market has in India for expansion and reaching out to the masses.

#### IT & Business

Information Technology has been recognized as the "enabler" of business in the 21st century. The overall success of the IT industry in India has to some extent managed to spill over to other industries in the country. The Indian economy has grown at the rate of 6.6% a year for 1998 and 1999. In the last five years (1994-1999), the Indian IT Industry has recorded a C.A.G.R. (Compounded Annual Growth Rate) of more than 40.5%, which

---

<sup>2</sup> Ahmad, Tufail, *The State of Internet Economy in India*, Inomy KnowledgeBook 2001, Inomy Pvt Ltd, New Delhi, 2001.

<sup>3</sup> Source:<http://www.nasscom.org>

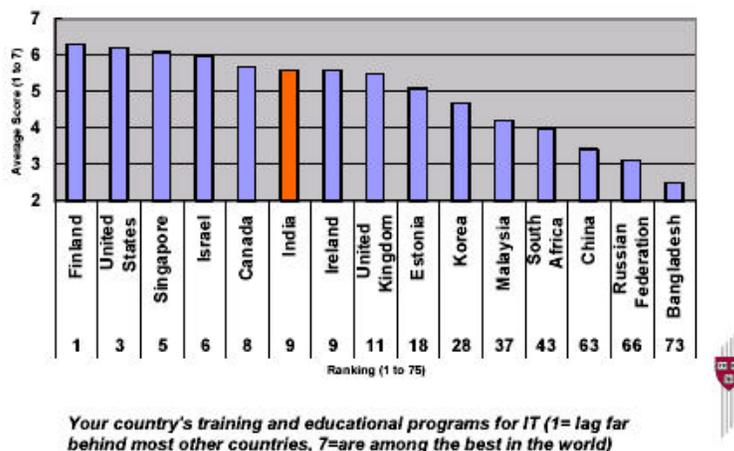
<sup>4</sup> <http://www.emediaplan.com/Internet/onlineadvertising.asp>

is almost double the growth rate of the IT industry in many of the developed countries. The business scenario within the country has gradually evolved and the credit goes to the government and the private sector. Business practices, infrastructure, knowledge base have all improved tremendously in the last decade. The Internet has wielded its magic as the great equalizer and in bringing distant places together, has brought India closer to the rest of the world, thereby boosting its developmental efforts.

The National Association of Software and Service Companies (Nasscom), estimates that India's electronic commerce transactions for the year ending March 31, 1999 was about 1.4 billion rupees (33 million dollars). However, analysts say that if the telephone network is strengthened and more people have computers, India could generate 100 billion rupees worth of business on the net in two years. India's telephone network has 20 million lines for a population of nearly one billion. Some 2.4 million Indians are in the queue for a phone connection. State-owned VSNL has set itself the target of installing 500,000 Internet connections by next year.<sup>5</sup>

The Nasscom-McKinsey study (in 1999) predicts that India can earn revenues of \$10 billion **from e-business** solutions by 2008. The survey also revealed that a combination of factors such as a developed regulatory framework, improved telecom infrastructure and increase in PC penetration could result in e-commerce transactions amounting to \$2.2 billion by 2001-2002.

Currently, India's universities are pumping out 120,000 engineering graduates a year, and the number reaches nearly 1 million when polytechnics and the country's 3,000 computer-training institutes are included. This skilled labor has enabled the country to see \$5.7 billion in exports of software products and a one-quarter growth in India's \$400 billion economy.



6

**The above graph indicates the quality of IT Training and Education in countries.**

<sup>5</sup> Asia Pacific Network Information Center, <http://www.apnic.net/mailling-lists/s-asia-it/archive/1999/09/msg00019.html>

<sup>6</sup> <http://cyber.law.harvard.edu/people/hplabfeb02.pdf>

The sector has also grown in India because of the global shortage in skilled IT force, especially in the USA and other countries like Germany, the Indian labour industry hence taking full advantage. IT has therefore become a major driving force behind bilateral relations between America, Germany, Singapore etc.

These statistics are nothing but pointers of the scope that IT spreads forth, for the building up of a fertile ground for the growth, development and augmentation of information dissemination, public services, trade and commerce and other such activities.

## **Infrastructure**

The extent of infrastructure that is required to transform these capabilities into meaningful and effective functioning is huge. But the inadequacy of the existing levels is only too evident from the available statistics.<sup>7</sup> India, with a population of 982.22 (1998 figure) had a tele-density % of just about 2.2%, while USA, in the same year, with a population of 270.37 million boasted of a 66.13% tele-density.

The scene as of today is a definite improvement, but plenty still remains to be done. As of the beginning of the year 2000, there were 28 million telephone lines in the country. Though this figure may seem large, it means that there are approximately 50 people to every telephone line. The above figure refers to LAN lines and does not include cellular connections. Taking mobile phones into account, there are 33 people to every telephone line.<sup>8</sup>

Even this does not provide an accurate picture as the distribution of telephone lines across the country is skewed. The density of available lines is much higher in cities than in the remote villages.<sup>9</sup> At present, the density in rural areas is equal to 0.5 lines per hundred. Approximately 60% of Indian villages have village telephones, but there are many villages within the country, which are not connected by telephone lines. Topped by problems of connectivity, the picture in India hardly seems like a rosy one. It suffers from an average number of 186 telephone faults per 100 main telephone lines.<sup>10</sup> The FAPCCI announced in a Seminar on World Telecom Day this year that efforts are underway to provide telephone facilities to about 5 out of the 6 lakh villages in India.<sup>11</sup>

Secondly, there is also the issue of bandwidth. Availability of adequate bandwidth is critical to the development of IT. It is like any other infrastructure facility, almost like roads: just as roads are essential to connect India geographically, bandwidth is required for connecting the Internet economy. At present India has a per capita bandwidth of 11.8 kpbs, which is about 1500 times less than that of the US, 500 times less than that of Japan and 400 times less than that of England. The main causes for this poverty in bandwidth are access lines, a rather weak national backbone and bottlenecks in the international

---

<sup>7</sup> VSNL Annual Report

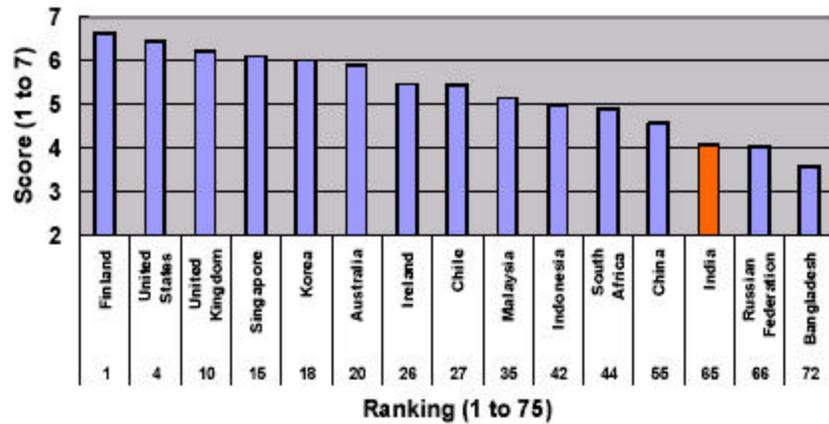
<sup>8</sup> <http://www.american.edu/>

<sup>9</sup> See chapter on *Digital Divide*

<sup>10</sup> <http://www.cid.harvard.edu/cr/profiles/India.pdf>

<sup>11</sup> *The Hindu*, May 18 2003

gateways, for e.g. Government monopoly over the service. One of the pre-requisites of attaining greater bandwidth is lifting of state monopoly on long distance telephony.<sup>12</sup> Studies have concluded that inadequate bandwidth might well prove to be a stumbling block to the country's exports, business coming in to the country in the area of back-end operations, further investments etc. **The graph indicates the quality of infrastructure.**



13

Hence taking into account projections relating to demand and expansion initiatives for international bandwidth in and out of India, national backbone capacity, teledensity, and local loop, it looks like India will make important strides this year. The government is taking adequate measures to insure that sufficient bandwidth is available to businesses and commercial establishments. A Band-width Advisory committee was formed to advise the Department of Telecommunications of providing bandwidth on demand. Nasscom's initiative known as Operation Bandwidth aims at increasing the Internet Bandwidth in India to 100 gb by the year 2003.

<sup>12</sup> Malhotra, Naresh, *Bandwidth Constraints in India*, Inomy KnowledgeBook 2001

<sup>13</sup> Supra 6

### III

#### THE DIGITAL DIVIDE

Admittedly, the 21<sup>st</sup> century is currently witnessing what is called a massive Information Revolution, made possible by all sorts of novel phenomena such as globalisation...and the brisk growth of several new technologies. No doubt, they're fueling to a great extent, economic prosperity and human advancement. But any kind of advancement in this new Digital Age is pointless unless meaningful access to such information is given. It is when this hasn't been done that issues of inequality and disparity, social and economic, crop up. Tacky infrastructure, huge cost and reach barriers are plausible causes. The fear is that the global gap between the haves and have-nots, between the know and know-nots, will only widen.

Globalisation with its open markets and laissez faire approach is constantly criticized as an instrument by which the poor are made poorer and the rich richer. The new IT revolution has also been considered on the same lines as having given impetus to this argument--it tends to worsen the gap between the rich and the poor. Inequality is exacerbated not only within the country among its peoples, but global inequality also witnesses the rise. North America, with less than 5 percent of the world's population, has more than half of its Internet users. South Asia -- home to more than a fifth of humanity - - has less than 1 percent, according to the 1999 Human Development Report sponsored by the United Nations Development Program.<sup>14</sup>

Such an issue is especially relevant in the context of large, developing countries like India. A country, which has on its one side, a population living in a period of tremendous prosperity, innovation, and growth, and on the other side, a set of people living on the edge, in misery, hunger and perpetual poverty, can hardly be called an information technology super-power. As the former South African president Nelson Mandela puts it: "Eliminating the distinction between information-rich and information-poor countries is critical to eliminating the other inequalities between north and south."<sup>15</sup>

Growing Disparity: Statistical trends have shown that the average per capita income of the poorest and the middle thirds of all countries have steadily lost ground over the last several decades compared with the average income of the richest third.<sup>16</sup> Average per capita income of the middle third has dropped from 12.5 to 11.4% of the richest third, and that of the poorest third from 3.1 to 1.9%. A recent estimate has shown that the ratio of average per capita income between the richest and the poorest countries has increased sixfold between 1870 and 1985.<sup>17</sup> Such findings only indicate how difficult it is for the poor countries to close the gap with their wealthier counterparts. However, if one is to

---

<sup>14</sup> Celia W. Dugger, *Connecting India to the World*,  
<http://www.mssrf.org/informationvillage/Connecting%20Rural%20India%20to%20the%20World.htm>

<sup>15</sup> Davos 2001 - Globalisation

<sup>16</sup> World Development Report 1999-2000, World Bank 2000

<sup>17</sup> Pritchett 1979

rely on standard economic theories, poor and developing nations ought to grow faster than rich ones as these developing countries arguably have an easier task in copying the new technology and production processes that are central to economic development than industrial countries have in generating them. A number of studies show that low income countries can grow faster than high income countries, thus catching up over time gradually, but only if they implement an appropriate mix of growth-enhancing policies. There is substantial difference between providing state-of-the-art technologies and facilities in these countries, and enabling its masses to obtain useful and valuable access to them.

Access to Internet in hard-to-reach areas is the major problem in developing nations such as ours. Poor quality of connectivity, low bandwidths are very common problems. In India, waiting for years to own a telephone connection in most parts, except metropolitan areas, is still common. The recent National Telecom Policy 1999 (NTP 99) says that it has achieved an urban Public Call Office (PCO) penetration of 1 PCO per 522 persons (95.78 per cent) as against the target of 1 per 500 and provided rural telephones to only 310,000 villages (51.01 per cent) as against the target of 600,000 villages.<sup>18</sup> A string of policies and schemes are being introduced to enhance the accessibility to technological services of the urban sections: reduction of tariff rates in STD (41%) and ISD (48%) calls, cellular phone facilities and plans etc. But at the same time there ought to be more thrust towards wiring rural people. Unless these people are connected, 'India going online' will only end up dividing the rich and the poor. It is in rural areas, where most people live, that computers must spread if developing nations like India are to close the yawning technology gap with rich countries.

Economic development has necessarily to be accompanied by human development. It is only when this is done that human capital can be built up, the poor can be assisted and productivity in general can be enhanced.

But India with a population of 1 billion has a PC penetration of merely 6 million. Only about 60 million Indians speak English, which means that the "Digital Divide" seems more like a "Digital Abyss" in India.<sup>19</sup> Essentially, this entails the creation of two basic groups at the very outset: one small group comprising the elite English-speaking, computer-literate few—the 'digeratti' and another huge conglomeration of non-english speaking, information-poverty ridden populace, who command resources hardly sufficient to procure even minimum levels of subsistence.

"When you can't give them enough food to eat, why give them a computer?"

### **Bridging the Gap**

Given the evident proportions of poverty levels in India, the land of villages, the Asian sub-continent in which 960 million people neither speak English nor have ever seen a computer, where the radio serves as the only mode of connection with the outside world

---

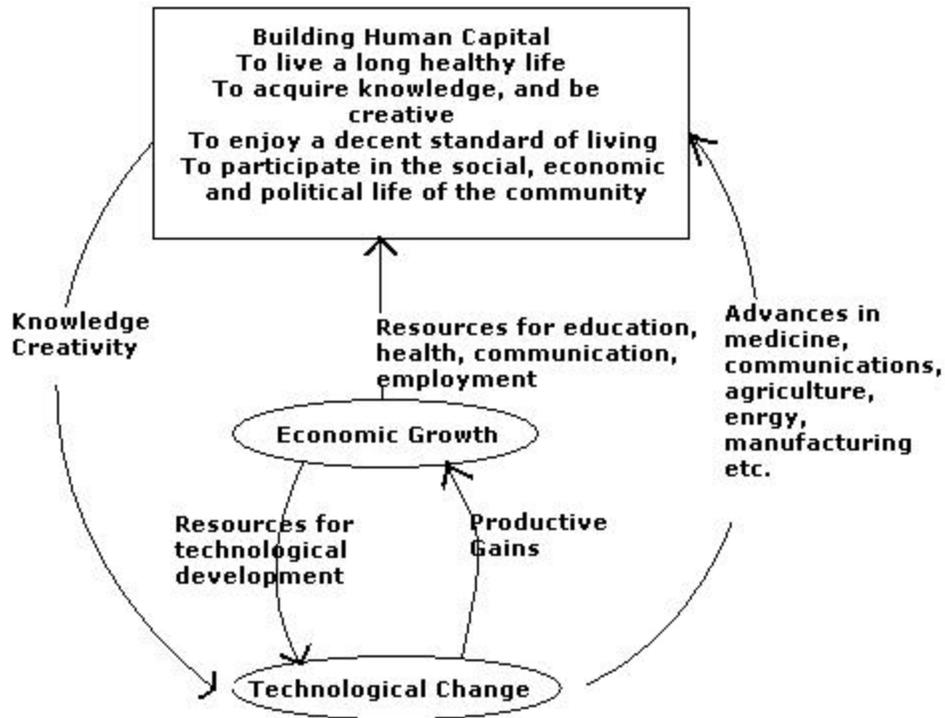
<sup>18</sup> <http://www.mssrf.org/informationvillage/SDk.htm>

<sup>19</sup> Hariharan, Venkatesh, *Shun Proprietary software, Take IT to Masses*, Inomy KnowledgeBook 2001

for a majority of poor households, the magnitude of the task at hand seems no doubt challenging, daunting, and pretty much impossible to achieve! What is required to combat this multi-dimensional challenge we call the great Digital Divide, is an innovative blend of creativity, capital, and commitment.

One might ask, “Of what use is a PC to the farmer ploughing the field with his oxen?”

**The Link Between Technology and Human Development**



Information, it is said, is the currency of the Digital Age. The poor farmer in a remote corner of the country where IT still hasn't stretched out its hand is obviously at a disadvantage. In other words, he is in a condition of information-poverty, leave alone income-poverty.

India loses an estimated Rs. 250 billion through wastage of food products due to losses in storage and transportation. This is evidently the consequence of inadequate information. If IT could ensure better flow of information and save just a miniscule percentage of this 250 billion Rs, imagine the quantum of savings the country could make!

Fishermen in Kerala began about 2 years ago to carry mobile phones on board their small boats. Useful in emergencies, for fishing intelligence and to check which village along the beach bids the best for their catch. The idea is spreading. Similarly, farmers in several states use mobile phones and intranets to find the best prices for grains, milk and whatever else that went earlier through middlemen

Bangalore-based Simputer Trust and iNabling Technologies are working on India-specific hardware devices that will cost less than Rs. 9000. And when this device is connected to the Internet to access information, value obtained in the end multiplies thousandfold. This is indubitably encouraging for a country where the average per capita income hovers at a meagre \$250.

In 2001, Electronic Voting Machines made in India were used for the first time for elections for 5 states in India. No yard long-ballots stuffed in boxes to be manually counted. People everywhere took to it with ease and are convinced 'poll riggers' would soon be extinct. Results were announced within three hours of beginning the software driven 'counting'.

Ashok Jhunjunwala who heads the TelNet group at IIT Madras is working on bringing the capital cost of telecommunications down from the current level of \$1000 to \$300. It is estimated that at this level telecommunications will be made available to around 100 million more Indians. The CorDECT technology, which is a wireless technology, can be implemented even in hilly and remote regions, hitherto unreachable, with relative ease. It has used this Wireless local loop technology to provide Internet and voice connectivity to 250 community kiosks that offer these services to over 700,000 people in rural India.

By connecting villagers through information and communications technologies, they are being enabled to call up markets and check up prices of their produce, without having to go to the various government departments. Farmers in Chile, Mexico, and the Philippines, farmers have been able to increase their profitability by almost 15 % because they were able to access the latest prices in the world markets! Empowerment indeed!

However, although the Simputer prototype was ready in April last year, to date only 150 Simputers have reached the target users. At these volumes, the contract manufacturer, Bangalore-based Bharat Electronics Ltd. cannot deliver the products at the about \$200 price point that the designers had targeted. The current price is closer to \$300. Also, there has been considerable delay in getting funds. But Simputer Trust is meanwhile adding new functionality to the product this year, including a CompactFlash expansion slot for wireless options such as GSM (Global System for Mobile Communications) and 802.11 based connectivity. The target of 100,000 Simputers in the field by the end of next year may still be achieved, according to the director and co-founder.

Inadequate Internet and telephone connectivity to India's rural areas, where more than 70 percent of India's population lives, is a key challenge for a number of government agencies, NGOs (nongovernmental organizations), and multilateral aid agencies. The corporate sector too is discovering that bridging this digital divide could translate into new market opportunities. For example, HP Labs India, which was set up in Bangalore earlier this year by Palo Alto, California, Hewlett-Packard Co., is developing products appropriate for India's rural markets. Their technological focus has been three-fold: to make technology available to those who use Indian languages, to improve connectivity

options for those outside the big cities and don't have satisfactory access to the internet, and to provide affordable devices.<sup>20</sup>

HP Labs India is also examining ways in which digital photography can add a second revenue stream to village kiosks that provide access to computer facilities and the Internet, and is also experimenting with techniques developed by its parent lab in Palo Alto to provide low-bandwidth multimedia communication. Teachers and students can create their own stories and presentations using such a system.

Private sector involvement in projects to build the digital divide in India is likely to increase, according to Ved Prakash Sharma, head of information technology (IT), and computers and communications specialist in the National Agricultural Technology Project of the National Institute of Agricultural Extension Management in Hyderabad. Public sector projects are also looking at creative ways of building up the communications infrastructure.

Encouraging private investment in the telecom sector and hence competition can help reduce communication costs and significantly foster improved access to ICTs by the poor. The teledensity in India has seen visible signs of improvement from 1997 to 2000, as a result of market oriented reforms in this sector: privatization etc.

**The table below indicates the trends in teledensity in various states in 1997 –2000.**<sup>21</sup>

State	Telephone Mainlines per 1,000 people		
	1997	2000	Change 1997-2000
Punjab	33.4	61.8	+85%
Maharashtra	33.8	52.8	+56%
Kerala	26.7	46.8	+75%
Tamil Nadu	21.4	37.2	+74%
Gujarat	24.4	36.4	+49%
Haryana	20.0	33.1	+66%
Karnataka	19.8	32.6	+65%
Rajasthan	13.2	25.7	+95%
Andhra Pradesh	13.5	22.0	+63%
Madhya Pradesh	10.6	18.2	+72%
West Bengal	9.6	13.9	+45%
Uttar Pradesh	6.8	12.5	+84%
Orissa	5.9	9.6	+63%
Bihar	3.6	5.9	+64%

Source: Nanthikesan (2000)

Large telecom operators however limit their operations to urban areas and not rural ones because of the low revenue potential, and high service costs. Small entrepreneurs on the other hand see potential for profit even in a low revenue environment. For instance cable tv in India, micro entrepreneurs install dish antennas for cable tv and provide service to

<sup>20</sup> *IT World*, 5/14/02

<sup>21</sup> Simon Checcini, *Lessons from Rural India*, World Bank Working Paper

subscribers within 700 km radius. Operators sell the connection and visit homes to collect charges. There is personal interaction and problems can be easily rectified. Cable services are hence considered superior to telephone services.

Private operators can be invited to bid for services in areas that are not commercially viable, in return for subsidies that can be financed from a Universal Access Fund. The contract can be awarded to the one asking for least subsidy. In Chile for e.g., 40\$US million has been leveraged, with just US\$2 million for subsidy. As a result, 1000 phones have been installed in rural towns at about 10% of the costs of direct public provision.

Quite surprisingly, the bureaucracy is being seen as supportive of all these initiatives. In fact some of the most successful projects *are* those of the bureaucracy.

"The Week" magazine on Nov 24, 2003 profiled Patwa Toli a weavers' village in Bihar, one of the poorest states in the country, that has so far clocked 100 IIT (Indian Institute of Technology) graduates. The numbers are likely to grow, as there is a coaching assembly line whirring away. It all started with Jitendra Kumar who left the village in 1991 for an IIT and made it to the USA in 1997. Before he left he had tutored over 60 boys to get into these premium institutions. The story is an inspiring piece on how India functions. If this can happen in Bihar, can other states be far behind?

It is true that advances in technology are always or at least most of the time appropriated by the elite and the better-off, but, with the right plans endeavouring to harness these technologies followed by their conversion into prompt action, it can well be used as a weapon to fight the evil of poverty fruitfully, and for the betterment of the common man.

## IV

### E-GOVERNANCE: A State-Wise Overview

E-governance essentially means the application of information and network technologies to the processes of governance to bring about more speed, transparency and responsiveness into government functioning, which in turn can bring in accountability.

In India, the central government and various state governments have begun to use information technology to reach out to citizens, narrow the communication gap between the rural and main centers, and enhance their internal operations. Simpler procedures and documentation; shorter waiting or queuing times; direct contact with authorities who can make relevant decisions; longer opening hours of public services - ideally 24 hours presence, etc.: it all comes as part of the package.

Internet is not some sort of a panacea for removal of constraints in governance. But, it does bring-in new information resources and can open-up new communication channels for the administration. It offers a means for bridging the gap, between the governments and the people through initiating interaction and dialogue and new alliances.<sup>22</sup> Access to these technologies is directly related to issues of economic and social development. Better delivery of education, health, nutrition, family planning services; greater linkage for researchers, students, policy makers and institutions with the rest of the country as well as the world, all signify tremendous potential for distance learning and mass education.

Geographical boundaries can no longer be clearly discerned, the masses and the Government are on a one-to-one contact basis, services which hitherto took weeks and months, now are delivered within minutes and hours. This is what eGovernance visualizes, and has been accomplishing in quite a few ways, and with considerable success. A brief insight into the various projects launched by different states in India, and perhaps across the world as well, along with a coinciding evaluation of these will throw light on the efficacy of eGovernance initiatives in general.

#### **ANDHRA PRADESH**

The **Computer-Aided Administration of Registration Department or CARD**, costing an estimated 30 Crore Rs, was launched in 1998, and is spread over 249 sub-registrar offices in AP.<sup>23</sup>

?? It aims at demystifying procedures for registration of legal deeds such as sale deeds, mortgage deeds, gift deeds etc.

---

<sup>22</sup> Speech by Chief Minister S. M. Krishna, The 16<sup>th</sup> Sardar Vallabhbhai Patel Memorial Lecture on *eGovernance*

<sup>23</sup> Profile of eGovernance Projects November 2000, Department of IT, Andhra Pradesh

- ?? Valuation of properties situated anywhere in AP can be undertaken via the Net
- ?? Computation of stamp duty, registration fee and transfer duty, accompanying the registration process is also possible.
- ?? Registration processes are speeded up and done more efficiently, and title searches on the Internet are now made within a matter of minutes.
- ?? It boasts of an efficient State-of-the-art management system for storing documents.

As of March 2002, the site stores round about 2.8 million documents, has made possible 1.4 million title searches, and ensures transparency in the valuation of properties located anywhere in the state of Andhra Pradesh.

On a survey conducted<sup>24</sup> to obtain a general feedback on the services offered by CARD, 47% of the respondents an extremely high level of satisfaction, and 46% said they were 'somewhat satisfied'. In addition, 82% of those respondents who had visited the Registration offices prior to computerization reported that they now had a better experience after CARD: it takes only twice as less time required at a non-computerised office to get the job done. The project is likely to cover about 29,000 revenue villages in 23 districts. "Previously it used to take days, even weeks, to get information; now it takes between 10 and 30 minutes," Chandrashekhar, the AP IT Secretary had said in an interview<sup>25</sup>.

The **TWINS or the Twin Cities Network**, launched in Banjara Hills in December 1999, will operate a chain of integrated citizen service centers. The basic objective is to integrate all the administrative services and make it a single office ultimately. Whether one wants to get a driver's license or to make a payment, it can be done at a single window at these centres. At the pilot stage, the project started with 20 services from six departments. The State government hopes that these service centres will eventually grow in numbers, like public telephone booths. This will generate more employment opportunities and put at rest any notions that technology will cause retrenchment.

The government of AP launched **the eSeva online services** on 25<sup>th</sup> August 2001, which is essentially an attempt to redefine citizen services using state of the art technologies. It builds on the success of the TWINS project that was launched in December 1999. Its salient features are:

- ?? 35 **eSeva** centres (with 280 service counters) spread over the Twin Cities and Ranga Reddy District.
- ?? All service counters are facilitated with an electronic queuing system.
- ?? Operating from 8.00 am to 8.00 pm, on all working days and 9.00am to 3.00pm on holidays (Second Saturdays & Sundays).
- ?? 'One-stop-shop' for over 30 G2C and B2C services.

---

<sup>24</sup> Public Affairs Centre, Bangalore, June 2000

<sup>25</sup> <http://www.cdacindia.com/html/press/archives/otdn99/spot08.asp>

- ?? No jurisdiction limits - any citizen in the twin cities can avail of the services at any of the 35 **eSeva** service centres.
- ?? Online services: eForms, eFiling, ePayments.
- ?? Payments by cash/cheque/DD/credit card/Internet

Anything, from payment utilities and obtaining certificates, licenses, transport services, to Internet and B2C services, eSeva does it all. It integrates the departments of the Central and the State governments, integrated all kinds of businesses both G2C and B2C, with efficiency, reliability, transparency and scalability as its watchwords.

A statewide multi-services network, **APSWAN**, or the AP State Wide Area Network, was launched by the Government in collaboration with the Bangalore-based United Teleceoms Ltd (UTL), on the 1<sup>st</sup> of November 1999. The project was taken up by the Naidu government as part of 'Vision 2020,' initiated by him in an effort to bringing in transparency and accountability in state administration.

It links the state capital Hyderabad with 25 District headquarters. APSWAN strives to provide efficient online information services to various levels of state administrators, and to exploit fully the benefits of Information Technology for effective Governance, responsive attitude and efficient Administration with best state of the art Command, Control and Communication resources. Its applications are in :

- ?? Communication
- ?? Video Conferencing
- ?? Virtual Private Networking
- ?? Electronic Governance
- ?? Electronic Data Interchange
- ?? Electronic Banking (E-Commerce)
- ?? Electronic distance learning, Electronic libraries
- ?? Online Project Monitoring etc..

## **MADHYA PRADESH**

**GYANDOOT**: Gyandoot is an Intranet based Government to Citizen (G2C) service delivery portal commissioned in Dhar district of Madhya Pradesh in January 2000, which aims to create a cost-effective, replicable, economically self-reliant and financially viable model for taking the benefits of Information and Communication Technology (ICT) to the rural masses. This is expected to lead to enhanced participation by citizens/government in community affairs through creative uses of ICT and also ensure equal access to emerging technologies for the oppressed and exploited segments of the society.<sup>26</sup>

---

<sup>26</sup> Rajesh Rajora, "Bridging the Digital Divide" Tata- McGraw Hill, 2002, pp 66-67).

Dhar is a typical backward and tribal region in India. A year ago, Mohan Patedar, a 40-year-old soyabean farmer from Tirla in Dhar, would spend Rs 10 on bus fare and endure a 30-minute back-breaking journey to Dhar just to find out crop prices in the wholesale market. Then the seth (middleman) who picked up his crop would pay at least Rs 50 less per quintal. But recently, he sold his last crop at the district mandi directly for Rs 600 to Rs 700 a quintal after checking the rates in different markets on the Intranet at his village cyberkiosk. He just pays Rs 5 for the service. Patedar now wants to rent a truck and ferry his crop to the Baroda mandi, more than 300 km away, because he has accessed the highest price—a whopping Rs 900 per quintal—from his village kiosk.

Infotech has also made farmers vastly ambitious: Kaluram Patedar, a soyabean farmer from Aahu, is cajoling the local cyberkiosk operator to hook up to the Internet so that he can get the D-oil cake prices—the international price of D-oil cake, a soyabean byproduct, has a direct bearing on crop prices in India—in the benchmark Chicago markets which "will let me know what price to expect in the Indian mandis in the near future".

Cyber kiosks or information centers (soochanalays) are set up under the control of the local village bodies (panchayats), and are networked to district headquarters.

- ?? Villagers can now obtain access to information about prices for crops and caste and land certificates are also provided. Grievances, if any can be emailed to administration.
- ?? Kiosks impart education to school children and offer them career-related information.

## **KERALA**

A Rs. 43 crore Information project was launched in Kerala last year, which sought to computerize and network relevant applications for 1,214 local bodies.<sup>27</sup> Starting at the local level, they had developed software for the payment of welfare pensions. A citizens' database has also been created by local bodies and elected panchayat members. Easy access is a key factor, however. The database can be used to procure information on building licenses, license fees and taxes. People living in rural areas can find out what quotas they are entitled to, what schemes are applicable to the, or, in the case of land records, where they are located and whom to contact. The IT work completed so far included the linking of 152 development blocks to a networked computer project. The network provides electronic mail identities for each block and helps monitor projects at the block level. In addition, work on the Secretariat Wide Area Network (SWAN), linking the offices of Ministers, secretaries and State departments, is also being done.

---

<sup>27</sup> <http://www.cdacindia.com/index.asp>

## **TAMIL NADU**

In Pondicherry's Veerampattinam, a small fishing hamlet on the shores of the Bay of Bengal, G. Balaraman<sup>28</sup> is preparing to set out on another day of trawling. But he won't be scanning the skies, like his father had done, trying to hazard a guess about storms that may or may not brew. Loudspeakers put up all over the village crackle to life, and announce the day's weather forecast. This is part of the Chennai based **M. S. Swaminathan Foundation** two-year project which was launched to provide critical information to six villages in the areas. The service also provides information through local centers on weather forecasts, tides, wind directions and heights of waves to this one, and other coastal villages that obtain a livelihood from fishing.

In Thiruvavur, the rice bowl of Tamil Nadu, the boon promises to reap benefits for all its residents. For this is possibly India's first electronic district where infotech is slowly reinventing the stodgy, colonial district collectorate into a modern, service-oriented edifice<sup>29</sup>. Today, Thiruvavur residents access old-age pension payments and records, land records, community, birth and death certificates in a jiffy thanks to large-scale computerisation. The results have begun to show. K.S. Ratna, a 31-year-old farmworker of Nanilam, had been trying to get a government loan for over eight months. When the e-governance scheme began and records were computerised, he got it in three weeks flat. eGovernance has hence made the government delivery system more accountable. These are available faster, as are government loans and the government is more responsive to complaints. As is inevitable, rent-seeking through middlemen has been weeded out.

The cyberkiosks themselves present employment opportunities for local young men and women. In Pondicherry's Embalam village, 50 per cent of volunteers who run the kiosks are women. In Dhar, home to possibly the best-designed empowerment project (Gyandoot) which has won the prestigious Stockholm Challenge Award, 33 youngsters operate government-funded kiosks, usually out of panchayat-owned buildings, and charge villagers anything between Rs 5 and Rs 15 for an impressive range of 17 services—from crop prices to land records to caste certificates to e-mailing grievances to matrimonials to electronic sales of farm equipment. During the lean crop season, operators make up to Rs 10 a page typing villagers' applications, giving Rs 250 worth of computer lessons to local kids and even churning out Rs 50 worth of astrological charts and forecasts.

**A state government information website has been created:**

- ?? State-level tenders are provided
- ?? Over 100 application forms in English and Tamil.
- ?? A comprehensive database of land records and application software
- ?? Digitisation of cadastral maps

---

<sup>28</sup> Supra n 21

<sup>29</sup> Supra n. 21

- ?? Application software for the Sub-Registrars' offices and District Registrars' offices.
- ?? Application software for the Regional Transport Offices (RTOs), Zonal RTOs and the Transport Commissioner's office
- ?? Application software for IT assessment circles
- ?? A pilot project for Tele-medicine between a State level tertiary hospital and a taluka-level rural hospital
- ?? Major IT projects in the Madras High Court and in the Police administration
- ?? Application software for monitoring/development projects at the Block level
- ?? A pilot project for payment of utility bills over the Internet is planned for commissioning this financial year.

Video conferencing has been set up between the various State and District departments

## **KARNATAKA**

The Government of Karnataka is the pioneering state in e-governance in the country and established a Karnataka Government Computer Centre as early as 1971 to undertake computerization projects in various government departments.

Owing to the steady responsiveness of the Bangalorean masses to IT and its possibilities, the State Government under CM S. M. Krishna initiated its IT Policy for effective governance. It involved the computerization of every department and the creation of a website for every district. Today, it has reached a point where it can indubitably hold to its own credit several achievements.

State employees are encouraged to flash visiting cards that have their e-mail IDs imprinted. The departmental examinations - a mandatory for state governmental employees - are also been managed through computers. According to Vivek Kulkarni, the state IT secretary, the government also plans to appoint Information Officers for each of the departments to ease out dissemination of information to the public.

The government is also in the process of training its employees in basic IT, which would hopefully make them more IT savvy. While the state government has been enthusiastic to rope in software powerhouses in the evolution of e-governance in the state, companies such as C-DAC, CMC, EMC, ECIL are involved in big way with the whole process of connecting the state.

The state government has also tied up with Microsoft, and Compaq in the process.

**Yuva.com** was a programme that was launched with a view to taking IT to the students and the underprivileged youth by building about 225 centres all over the state. The programme also targets women and families earning an income of less than Rs 36,000 per annum. The government has already identified these centres and allotted them IT

institutes like Aptech, NIIT, SSI etc. Apart from this, the government had also taken up a project to inject IT-based education from Classes 8 to 10 in about 1,000 schools in the state.

Today, results of all exams are made available online, even recruitment and transfer, and placement of newly recruited teachers and probationary headmasters is possible through computerised counseling.

But perhaps, like the Andhra Pradesh government, the most important initiative that the Karnataka government is undertaking at this point is to make **tax returns online**. The finance department has computerised the payment of taxes, filing of returns, dealers registration, vigilance and intelligence activities. The public works Finance Cell and the Zilla Panchayat units are computerised for monitoring monthly grants and releases.

The **treasury** department has computerised payments and receipts in 20 of the 31 districts and 184 sub-treasuries dealing with transactions worth about Rs 20,000 crore. A network center has also been developed to handle a central database in Bangalore and disaster recovery centre at Dharwad. Application software for the network center is being developed by CMC. Besides these, the Software Technology Park of India (STPI) has been entrusted with the job of installing a VSAT network, the prototype of which will be tested at five districts.

For the **farmers**, there's great news. Computerised Land records and Registered Transfer Certificates will be made available to farmers soon. About 190 lakh individual land records of 60 lakh farmers are already computerized. The government plans to update and make records online soon. In the next stage, under the recently launched "Mahithi" programme- the Millenium IT Policy, one of the primary aims is to use e-governance as a tool and deliver the government that is more proactive and responsive to its citizens.. 7,500 information kiosks all over the state, and connecting all the sections of rural development are to be set up. Zilla Parishads for example, will be connected to a central system that will monitor all of their plans.

**Mukhya Vahini**, a comprehensive decision support system for the Chief Minister is being established. Various e-governance initiatives are under implementation in the Departments of Registration, Commercial Taxes, Transport, Sericulture, Agriculture, Urban Development, Police, etc. Police IT 2000, a comprehensive computerization plan for the entire Police department in Karnataka, has been launched.

The licensing system has been computerized, and efforts are also headway to the digitalization of the **policing** system. According to the latest information, 153 police stations have been provided with computers. While complaint registration systems are already computerised, there are plans to computerise all the activities of departments.

The government also has plans to issue computerised ration cards in Bangalore and also install an information system relating to Targeted Public Distribution System (TDPS).

Work is underway to computerise 40 **municipal corporations** in the state, while C-DAC has already computerised six.

While substantial progress has been achieved in several departments, the government now proposes to establish a "Center for e-governance" under the Department of Information Technology. This center will facilitate the use of IT for the common man rapidly and effectively. It will provide technical support to all other government departments in IT projects. It will play a vital role in coordinating with the government departments as well as undertake a few critical projects that are likely to be used across the departments.

### **MAHARASHTRA**

In the Warana District of Maharashtra's sugarcane belt, some 400 kms away from Mumbai, 70 yr old cane and dairy farmer Mahadeobhau Chowgule is happy with a PC installed in his Pargaon village, which gives him information about the harvesting time for the crop, the results of crop sampling (a field officer from the cooperative takes a sample of the crop of every farmer which is tested for the volume of sugar and quality) and a forecast about the expected yield. It also keeps records of all his transactions with the local sugar and milk cooperatives. The modestly well-off farmer, whose 10 acres generate some 500 tonnes of cane every year, used to travel a dozen times every year to the Warana Sugar Factory, the local cane growers cooperative, some five km away, to obtain this critical information till two years ago. Now he trusts the computer in Pargaon, one of the 70 villages that are part of the **Warana Wired Village project**.

**A VHF and VSAT communications network**, which will connect 3,000 offices all over the state, is among the major projects being implemented. This project is estimated to save around Rs 150 crore over the next five years against its instalment cost of Rs 27 crore. As part of the network, an emergency operators centre in Mantralaya, divisional and district control rooms as well as a disaster management information system will be set up. Thus, in the event of a natural calamity like flood or an earthquake, when telephone lines are down, all government offices would still be connected electronically to formulate disaster management plans.

**A joint venture with an Indian PSU** to provide e-governance and IT services in the state is planned. Nearly 7,000 electronic kiosks would be set up all over the state and the JV would have to maintain Web application servers, system delivery operations throughout the network, develop data warehouses and facilitate government revenue collection. Several companies including Reliance Industries, which has already begun laying optic fibre cables at an estimated investment of Rs 5,000 crore, have submitted proposals to the government for the joint venture.

**The Web site of the Bombay Suburban Electricity Supply (BSES)** launched this April, is another endeavour by the state government to use the Internet to let citizens have access to services online. Bills, meter-readings can be seen , details of payment and other

billing related enquires information, besides so much more, also can be obtained by just entering the consumer and the meter number online.

Computerisation of the **State Registration and Stamps Department** developed by C-DAC is poised at facilitating efficient property transfer and stamp duty registration. Automation of document registration, archival and stamp duty calculation system will help officials and customers by allowing quick storage and retrieval of important registered documents.

Computerisation of the **Public Works Department (PWD)**, will enable it to keep track of the enormous amount of projects and contractors at various stages of the project at different locations, and also to generate reports and returns to be submitted to supervising officers and the government, the compilation of which often results in duplication of efforts in the current manual system of working. Now, businessmen, contractors, service providers and citizens will no longer have to wait for long hours at the nearest PWD office to obtain information on permissions and clearances, NoCs (no objection certificates) for works like laying pipelines or constructing buildings along a road. Contractors placing bids for PWD projects can get information on new projects, completed projects and ongoing projects.

## **GUJARAT**

Another path breaking step taken towards bringing IT into the daily lives of people is the Computerized Interstate Check Post System (CICP). The process of verification of documents, estimation of penalty amount and its collection at any traditional check post is manual, judgmental and time consuming. Due to these lengthy and cumbersome procedures, the state governments have not been effective at reducing the number of overloaded vehicles. With the manual system, the inspection of 100% of commercial vehicles is impossible thus resulting in slippage and heavy revenue losses to the state. Due to manual intervention, it is perceived that truck drivers are harassed at the check posts, held up for several hours, and arbitrary penalty charges and speed money are collected from most of them. Hence in late 1999, the transport department of Gujarat, in order to improve the governance at these check posts, created modernized ones at all the 10 interstate posts, called the CICPs.

CICP is expected to improve the processes of identification of vehicles and estimation of penalties using electronic weighbridges and computers thereby minimizing the inconvenience to the transporters. Above all, this technology is expected to plug the leakage and significantly increase revenues from the check post for the state government. The various technology components of the computerized system such as electronic weighbridge, video camera, video server, computer hardware, etc. appear to have been seamlessly integrated to fulfill the objectives of the project. Financial reports presented to

the study team reveal that the revenue from the check posts has increased significantly within a year of implementation. The process of checking, processing documents etc. now take up hardly 2 to three minutes.

It is to the credit of the erstwhile Transport Commissioner that the project could be smoothly implemented.

## BOTTLENECKS & DIFFICULTIES

Projects such as these were launched during a period when the entire world looked at the web-enabled solutions as a new opportunity of reaching customers directly and improving customer relations. It is very clear that the power supply, connectivity, and backend support (with new value propositions) are the essential pre-requisites to benefit from such technological advancements.

Roadblocks to digital empowerment however remain. In **Dhar**, for example, five-hour power cuts are a daily feature. All the kiosks are equipped with uninterrupted power systems which supply six to seven hours' back-up power. Connectivity is another bugbear: kiosk operators planning to offer Internet services fear slow download speeds. In achieving its intended objects, Gyandoot cannot be considered a success. In spite of being in existence for more than two years, the usage of the system has remained far below acceptable levels.

A study recently conducted<sup>30</sup> observed that the log book maintained at the soochanalays, showed alarmingly **low usage statistics**- 10 to 12 users for driving license, certificates, and mandi prices, for the month of April 2002, indicating a very poor turnout of citizens during past several months. According to soochaks, the number of citizens using Gyandoot soochanalayas is around 1 to 4 per day. Some soochaks gave a figure of 18 to 20 per day during the peak periods (board exam results). Women form roughly about 15% of soochanalaya users. They usually come to file grievances or check for examination results or applying for schemes like pensions, etc In all 4658 male and 944 female citizens have used the Gyandoot services over a period of two years, as per the data provided by the 18 soochaks.

25 of the 32 existing soochanalays were visited and 9 out of these were closed during normal working hours. Half of them didn't even have service display boards. Log books were found to be **poorly maintained**. There seems to be varied understanding, among the people, of what services is available through Gyandoot. At the remote soochanalayas (and away from the central hub of Dhar), confusion is more widespread and awareness levels are very low or nil. Even where a board enumerating the services exists, people are unsure of the nature of services and how to avail of them from the soochanalaya.

Out of the 28 users who responded to the survey, 14 had come to know about Gyandoot through posters, *and 0*, through public talk. About 15% of respondents wanted sustainable and on-going **public awareness** programs. For this they strongly opined that Gyandoot Samiti officials should go from village to village, to spread awareness about this project. They felt that it should be a community driven activity. However, awareness of this service existed only among the literate and middle-income groups. The local landless farmer or labourer was not aware, nor was he even interested, as according to him, there was no value addition in it for him.

---

<sup>30</sup> Centre for eGovernance, IIM Ahmedabad

The users also did not see the service of caste, income and domicile certificates as any significant improvement over the prevailing system. On being asked to **rate the efficacy** of the service in terms of Time spent, Cost incurred, Convenience offered, Accessibility of the kiosks, and Reliability of Transaction Processing, on a scale of 1 to 5, most of the users gave a rating of only about 2 on an average for the above certificates. Some users even expressed that the earlier system is superior. Grievance redressal scored well, thought it dropped slightly with reference to convenience, accessibility and reliability.

Out of 104 responses giving ranking to the services, the services ranked by largest number of users is:

<b>Service</b>	<b>No. Of Responses</b>	<b>% Ranked as 1,2 or 3</b>
1. Mandi prices	14	93
2. Khasara Nakal Avedan	17	82
3. Caste Certificate	14	71
4. Domicile Certificate	13	69
5. Income Certificates	15	67
6. Grievance Redressal	9	67

This indicates that only the above 6 services are important to the users and have provided some benefit to them. The remaining 16 services are not seen as important to the users. 50% of the users surveyed expressed strongly that mandi prices benefit only the medium to rich farmers or grain merchants, not the poor citizens.

10% of users have complained (all from either of these two places) that the soochaks have disallowed people of **lower castes** from visiting the soochanalaya. The CEO at one of the Janpad Panchayats, a woman, opines that **women** are quite hesitant to visit soochanalayas, due to the deep-rooted traditional outlook in Dhar, where women stay confined to their home and hearth and men perform all the external chores. Moreover, the almost negligible prevalence of women soochaks and women oriented services has also contributed to lack of participation by women in the Gyandoot project. The CEO is keenly involved in providing alternate livelihood means to the women, especially as Dhar is reeling under severe drought conditions, and agriculture alone is not sufficient to support families. The users interviewed in these two locations also complained that enlisted services are not being offered by the soochak.

From a multiple list on the questionnaire, users were asked to state the impact of Gyandoot:

<b>Impact</b>	<b>%users</b>
Awareness of computers	72
Computer education	66
New employment opportunity	16

Following is a list of problem areas compiled from open-ended questions of the survey:

<b>Problem</b>	<b>% Users reported</b>
1. Unresolved Grievances	70
2. Update of mandi prices not timely	25
3. Lack of English language skills	25
4. Neglect of service delivery due to hyped publicity	12
5. Delay in service delivery	10
6. Perceived backlash from officials	10
7. Inefficiencies in service delivery	10
8. New requirement of travel to Janpad Panchayat	10
9. Soochanalaya is too far	5

The total **revenue** earned by the 18 soochaks (by offering Gyandoot services) over a period of two years is a paltry sum of Rs 65,200, thus giving a meager Rs 150 per month per soochanalaya.

An instance of a failure in efforts towards bringing Information Technologies closer to people is that of **Nyala village in Rajasthan**, a village which had created a lot of hype when Bill Clinton had visited it. Supposed to have been a model village for eLearning and eBusiness, its shown nothing but stagnancy : USAID had donated 5 Dell computers, which lie unused, the remaining are yet to be unpacked. The reasons are obvious. The village gets only 3 hours of *erratic* power supply everyday.

Again, in **Maharashtra**, the Warana Wired Village project is based on entirely on Internet connectivity. Lack of bandwidth is the main hurdle to replicate this experiment in other villages. Training over one lakh state government employees to use these systems is another challenge. For now the State Government has made it mandatory for the employees to pass a basic computer literacy exam.

The **Tamil Nadu State Government information website** has not been able to implement its various projects to the fullest beneficial extent by the reason of the fact that ISDN is still not available in 40% of the districts.<sup>31</sup> D Prakash, IT secretary to the TN government pointed out to the fact that only 28 % of e-governance projects were successful while 23 % were dropped. He added that while 70 percent of the TN population is rural and 35 percent is illiterate, the others do not necessarily know English. Though the WiLL technology can improve access to the Internet, language still remains a problem. There is no point printing out land records in English to a farmer who does not know how to read or write.

The focus is on 'governance' is hence forgotten somewhere down the line.

7% of the users of the **CARD services provided in AP**, were dissatisfied with it. 70% of the respondents to the Survey conducted by PAC Bangalore did not have access to

---

<sup>31</sup> ZDNet India News

instruction sheets or 'help desk' or 'inquiry counter' from which they could get assistance. 16% neither received an acknowledgement for the application nor were informed about when to next visit the office, 23% were not told how many visits would be needed to complete the task. The survey also found that the availability of amenities such as toilets, waiting areas, seating spaces, drinking water, and some sort of information desk is unevenly distributed across the centers. The availability of these amenities was found to have a direct bearing on the satisfaction with the centers.

In Karnataka, though the schools have been identified for the eEducation programme, channeling the funds for an initiative as huge as this is yet to met.

The computerization of Commercial Tax Offices in Karnataka evoked a mixed response. 15% of the interviewed users said they were dissatisfied. There was variation in the time taken to offer services in different centers; in some it took only 7 minutes on an average, in others this figure was 37 minutes! In Andhra Pradesh, 90% of the interviewed respondents said they could not get their job done within a day.

An evaluation<sup>32</sup> of the Computerised Inter State Check Post system (CICP) launched in Gjarat indicates that though revenues from each check post have shot up, the leakage has not been plugged totally. Unaccounted money is still collected from check posts from about 36% of vehicles by collecting less than 10% of official penalty charges. This indicates poor monitoring and misuse of technology. Harassment of truck drivers continues. Around 11% of the drivers who paid the official charges for overloading / over dimensioning, were also made to pay some (Rs.38 on average per vehicle) unaccounted money, and most of them felt this was more.

The bigger clients of transporters do not perceive any difference to the transportation processes or costs due to computerization at check posts. Some feel that double documentation is now eliminated and transporters are now careful about overloading the vehicles. Some others complained that the costs have gone up with computerization as they perceive that the transporters are using the computerization as an excuse to charge extra by about 5 to 10%.

---

<sup>32</sup> Supra n. 28

## VI

### WHITHER THE IDEALS OF eGOVERNANCE...? Transparency, Accountability and Responsiveness as against Corruption

The one quintessential ideal sought to be achieved by any attempt at introducing any initiative in eGovernance is to shine light upon the “dark corners of government”. The modern day terms used to explain this would perhaps be Transparency, Accountability, and Responsiveness.

The first, **Transparency** essentially implies openness in the functioning of the authorities, in this case, the Government. The question to be answered is: are the people being governed aware of the manner in which the Government is functioning and dispensing services, of the policies, programs and the internal operations that are being run within?

Second, “Who is the Government accountable to?”. The answer to this must necessarily point to the populace. This process of ensuring **accountability** must be a two-way mutual one. Instead of the government giving the public information it wants them to know, the public are to be entitled to ask and pose questions they want answers to...a true democracy, perhaps?

Third, is the issue of **responsiveness**, which is in essence, a measure of how responsive the Government is to the people’s needs, of how immediate and effective their efforts are, in redressing grievances. A website may provide the citizen-user opportunities to avail of dozens of public and private services, it may furnish the teacher, the student, the scientist, the farmer, the common (wo)man with a plethora of valuable information...but at the end of the day, is this citizen served to his/her satisfaction? Is s(he) happy with what is being offered, with *the way* in which it is being offered..? Are his/her grievances adequately attended to? Are faults in the system duly corrected? All these questions, and many more are to be asked in order to gauge the ‘responsiveness’ of the providing authority.

Minus Information and Communication technologies (ICTs), and the typical condition in most of rural India would be that of the ordinary farmer having to travel miles to the nearest Government district headquarters in order to submit applications, obtain land records, meet officials, or seek important information. This would involve nothing but a waste of one whole working day’s income as well as the cost of transportation. To top it all, once at the office, the poor farmer faces the possibility of unavailability of the required official or documents, meaning nothing but repeated visits and additional costs incurred. Not only this, he is threatened by the likelihood of **harassment, discomfort or corruption** at the hands of the officials. At the end of it all, the poor, compared to the relatively better off, land up paying a disproportionate share of their income on bribes.

A highly regulated economy, with too excessive a role for the Government, topped off with the discretion that’s given to the administration promotes incidences of corruption.

The Commission on Prevention of Corruption headed by Santhanam, opined that **discretion** lay at the root of the problem. It also felt that downsizing the Government would be good for bringing down the corruption levels. The Expenditure Reforms Commission took up a reduction of 20000 posts in the main ministry and another 100000 in the subordinate offices. It introduced attractive new schemes for VRS, and also constituted a Division for training and redeployment. As a result of all of this, the Karnataka Ministry managed to bring down the fiscal deficit from 4.5% to 4% of the gross domestic state product!

Corruption and red-tapism are rampant not only in the Indian polity, but in every level of society, whether its processing a license application through a government department, or checking on a bank loan, or getting treatment at a government hospital, or securing admission to college, *or* ticket buying.<sup>33</sup> It is not easy at all to arrive at actual figures when it comes to measuring the quantum of monetary corruption. But it was estimated that corrupt dealings took up anywhere between **9 to 30 %** of the country's GDP (705 Bln Rs as of 1997)!!!<sup>34</sup>

A group of 6 women in Delhi basti, wanted 6 feet of a water line restored after it was damaged. They visited the Corporation office over twenty times during a period of two years, but were still not able to achieve their end. They could not even find out who was responsible and whom they should contact. Similar instances abound, whether it is a question of provision of telephones, water, electricity, ration cards or access to records of any sort<sup>35</sup>.

The World Bank, in one of its publications, estimated that the amount of corruption in India, was about **5 crores**, which formed 7 % of India's national income. That was a 1964 figure...can we even dare to imagine what that figure is like in the 21<sup>st</sup> century?

### **What IT does.**

With ICTs bringing the Government closer to the people, there is increased transparency, less corruption, better delivery of government services and better responsiveness. Information disclosure and the opportunity to interact with the public officials at the click of a button helps build government pressure and accountability.<sup>36</sup>

Gyandoot ensures transparency in the Government by constantly making available on the Intranet updated information regarding beneficiaries of social security pension, beneficiaries of rural development schemes, information regarding government grants

---

<sup>33</sup> *The Washington Post USA*, Sept 1979

<sup>34</sup> *India Today*, 1997

<sup>35</sup> Abha Singhal Joshi, *The Right to Information as a Tool for Empowerment*, India Infrastructure Report 2001

<sup>36</sup> Simon Ceccini, *Can ICTs Applications Contribute to Poverty Reduction? Lessons from Rural India*, Working Paper, The World Bank Poverty Reduction Group,

given to village committees, public distributions, data on families below the poverty line etc.

No doubt efforts are continually made by the authorities to transform such ideals into reality, and to ensure that they don't remain mere utopian concepts to be just discussed, written or debated about without their actual materialization. The Rajasthan Government aims to provide greater transparency in government-citizen interactions through projects such as "Aarakshi", which provides field officers with online information on criminals; computerization of the Ajmer Collectorate, of hospitals, of the Registration and Stamps Department; and networking of the Secretariat.

Again, in the CICIP systems in Gujarat, to enable transparency in the process, the overload weight, the permissible weight and the penalty amount are displayed on an Electronic Display Board, positioned outside the computer cabin. This is quite beneficial to the driver, as he knows the exact overload status of his vehicle. 34% of drivers have noticed an average improvement in transparency by 3.2 on scale of 1 to 5, and because of this there has been a considerable reduction in incidents of conflict among the drivers.

The BHOOMI project launched in Karnataka aims at computerization of 20 million land records of the farmers. Once this has been completed, all other manual forms will be considered as illegal. Hence, farmers, who previously had to pay anywhere between Rs. 100 and Rs. 2000 in bribes to officials can now get a copy of their land documents at a user charge of 15 Rs! Before this, procuring the document would take between 3 to 30 days, and updation would go on even till a couple of years. With BHOOMI, its done in minutes. Whats more, the project has already started earning large revenue for the state- as much as 7 to 7.5 million Rs every month.

Earlier 200 lakh records were maintained by 9000 Village Accountants. They were not open to public scrutiny, nor were they updated regularly. The Bangalore division alone registered manipulation of 25 billion Rs worth of land in the name of private influential persons.<sup>37</sup> *Mutation requests* to alter land records (upon sale or inheritance of a land parcel) had to be filed with the Village Accountant. The Village Accountant is required to issue notices to the interested parties and also paste the notice at the village office. Often neither of these actions was carried out, and no record of the notices was maintained. If no objections were received within a required 30-day period, an update to the land records was to be carried out by a Revenue Inspector.

This opaqueness has been replaced by transparency and an effective monitoring mechanism. Bhoomi has reduced the discretion of public officials by introducing provisions for recording a mutation request online. Now information can be obtained at the touch of a finger. The response from the end users has been overwhelming, queues can often be seen outside "Bhoomi" centres and more than 2000,000 people have used its services without a complaint, neither about the process nor about the access fee.

---

<sup>37</sup> <http://www.revdept-01.kar.nic.in/Bhoomi/ManualSys.htm>

But, since the role of the Revenue Inspector (update of land records in the absence of objections within 30 days) has not changed, corruption levels may not necessarily reduce.

### **Accountability & Responsiveness**

Digital empowerment is also prodding slothful administrations to become more accountable. Operators of the computerized system in BHOOMI are made accountable for their decisions and actions by using a bio-login system that authenticates every log-in through a thumb print<sup>38</sup>. A log is maintained of all transactions in a session.

One of the primary objectives of CARD was to provide faster service to the citizens. On this front, the PAC Survey results indicated that the average time taken to get the job done was 1.5 days, compared to the time taken for a non-computerised office of 3.8 days, more than twice the time required for CARD offices. There is also greater ease of transaction, lesser number of visits to the officials etc.

At the computerized CTO centers, out of the 39 centers surveyed, 36 centers had the work completed within a day or less.

If the grievances are not responded to in the time limit, the Collector can summon the officials concerned for an explanation. Thus government officials feel accountable and responsible towards responding to the grievances filed through the Gyandoot channel. The grievance redressal system at the Gyandoot centers received a fairly favourable rating in terms of cost and time dimensions. In Premnagar, Dhar, Rami Bai, 87, a destitute widow, and two neighbours didn't get their Rs 150-a-month old-age pension for four months last year. The three trudged to the nearest cyberkiosk and paid Rs 5 each to e-mail their complaint to the administration. The next day, a team of officials landed up at the village and found out that 47 other villagers were sharing Rami Bai's plight. Since Gyandoot kicked off a little over a year ago, over 6,000 e-mail complaints have poured into the central server of the district administration at Dhar. The citizen-administration electronic interface is not limited to MP. "I thought it must be just a fantasy to expect the government to be responsive. But I was proved wrong," says T. Manickam of Valangaiman, in Tamil Nadu's Thiruvarur district, of the online governance in his area.<sup>39</sup>

But this rating dropped slightly with reference to convenience, accessibility and reliability. Grievances received through Gyandoot are merely responded to, not solved. 70% of the surveyed users reported unsatisfactory grievance redressal system. They perceive that in 90% of the cases, the grievance is not resolved to the complainant's satisfaction.

56% of drivers perceive no difference in the transparency levels of both the old and new system at the CICIP posts, and 10% perceive a decline of 1.50. Also, sustenance of the project has not been ensured; the project manager, the Transport commissioner was

---

<sup>38</sup> In a bio-metric log in a thumb impression is captured at every log in by a small inexpensive electronic device and validated against a pre existing stored image of the thumb.

<sup>39</sup> <http://gyandoot.nic.in/gyandoot/outlook.html>

transferred with in a year of the commissioning of the project. Within a subsequent period of 18 months, four commissioners were posted and transferred. The maintenance and operations contracts were not renewed on time. Monitoring mechanisms to ensure that the technology is not misused were not put in place.

In the computerized Commercial Tax offices in Andhra Pradesh, 65% of the visitors had to meet more than one official at the CTO, and had to wait for an average of 20 minutes to meet such additional officials.

The average time taken to make an application request at the CARD offices ranges from 5.75 minutes for getting stamp papers to 16.25 minutes for 'registration'. The average time taken by any citizen to submit an application form is 15 minutes, that is about 50% higher than the expected ideal time. A prime objective of the computerization initiative was that the time taken to offer the services to the citizens be reduced. However in over 25% of the cases, it has taken at least 2 days for the citizens to get their work done.

The state government presented the CAG audit report for the year ended March 31, 2002 to the Andhra Pradesh Legislative Assembly here on Monday, the last day of the budget session. Referring to the functioning of **eSeva**, CAG said that the project has suffered from lack of transparency, inefficient and ineffective implementation due to unpreparedness of the participating departments and inadequate coordination. "The network was exposed to serious risks of physical access controls and logical controls."<sup>40</sup>

The report also expressed fears over the integrity, reliability and safety of the data across the project. "The e-governance project was rushed through even when the participating departments were not ready," it said. CAG has further observed that key data and huge volumes of cash pertaining to various departments had been placed in the hands of the private operators without adequate internal controls. "The bid evaluation adopted in selecting the operator lacked transparency, and only one operator was selected instead of two in violation of the government orders," it had alleged. And the project was being administered with adhoc arrangements on day-to-day basis exposing itself to high risk of lack of accountability. Also the entire private staff appointed by the operator working at Data Centre had access to servers, database, application software, operating system and associated utilities exposing the system to risk of unauthorised access and data manipulation.

The IT&C Department sanctioned Rs 258 lakhs in June 2000 for developing civil infrastructure required for 24 eSeva centres, as against which an expenditure of Rs 328 lakhs was incurred for developing civil infrastructure in 17 eSeva centres established as at the end of March 2002. The department neither rendered detailed account for amounts drawn, nor got the additional expenditure ratified by competent authority.

Though stipulated in the agreement, the operator did not make sufficient security arrangements in Data centre and the eSeva centers. . In one incident, there was a theft of systems and expensive devices like Router (total cost : Rs 3 lakh) at one of the centres

---

<sup>40</sup> ZDNet News, April 01 2003.

(eSeva centre at Ramnagar) on 31 July 2001. This incident of theft demonstrates the security inadequacies besides exposing the entire network to the risk of misuse by unauthorized persons.

The transactions in eSeva were not reconciled with the data in the respective departments and scrutiny revealed many irregularities, inadequacies and inconsistencies in the data. The logs of Internet transactions were not maintained on a continuous basis. They were neither archived nor being reviewed before they were overwritten after 7 days.

Funds were being kept in bank accounts maintained outside the Government accounts without permission, and contrary to the Rules. No cash book, no Bank Reconciliation Statement as required, were being prepared. The TWINS pilot project which was developed and maintained at Government's cost (Rs 90 lakh) since its inauguration in December 1999 was handed over to the operator in January 2002 along with the assets for maintenance free of cost, though not provided in the agreement and without any specific order of the Government thereby conferring unintended benefit to the operator.

These lapses have only resulted in defeating the very objectives of the projects.

### **Impact of Computerisation on corruption**

Computerisation of Government-owned railway reservation systems, Richard Heeks, observed, didn't really do away entirely with the evil of corruption.<sup>41</sup> Computerisation did make it harder for the clerical staff to be corrupt because the software, not the clerk, now decided – based on booking date – which passengers would fill vacated slots. However, station managers retained manual control over a certain proportion of the train places, supposedly to cover emergencies or last-minute travel by VIPs. Some continued to provide these places to non-emergency, non-VIP passengers in return for cash. Heeks also wrote about the ticket touts who, knowing that their best customers were businessmen in a hurry, would book seats in advance, using a common man's name and an average age of 35, and then sell these tickets at a premium to these last minute travelers.

The Central Vigilance Commission (CVC), launched its website in 1999, which includes instructions on how a citizen can lodge a complaint against corruption without fear of disclosure. It highlights the performance of various departments responsible for conducting investigations. In an effort to focus media attention on corruption, the CVC published the names of officers from the elite administrative and revenue services against whom investigations had been ordered or penalties imposed for corruption. But how effective can a site like this be in the case of a low computer density country like India? By April 2002 only 180,000 visitors had logged on at the site.<sup>42</sup> However, polls

---

<sup>41</sup> Richard Heeks, *Information Systems in Public Sector Management*, Institute for Development Policy and Management, September 1998

<sup>42</sup> Subhash Bhatnagar, *Administrative Corruption: does eGovernment Help?*, IIM-A, India @ [www1.worldbank.org/publicsector/egov/Corruption%20and%20egov't%20TI%20Paper%20Subhash.doc](http://www1.worldbank.org/publicsector/egov/Corruption%20and%20egov't%20TI%20Paper%20Subhash.doc)

conducted by newspapers reported that 83 percent of respondents believed that publishing the names of charged officers on the CVC website would have a deterrent effect. Officers whose names were published were indeed shamed. Newsweek magazine carried an article about this effort, calling it E-shame. Newsweek magazine carried an article about this effort, calling it E-shame<sup>43</sup>. Despite widespread cynicism in India about corruption, the website seems to have caused some stirring of conscience. And the CVC experiment may embolden other agencies like public banks to publish the names of willful defaulters.

Take the Motor Transport Department of each State, for another instance: a truck operator in Delhi and UP has to pay a sum of Rs 100 to each RTO of this Department at Faridabad, Mathura, Agra and Etawah and another Rs 150 to the RTO at Kanpur.<sup>44</sup> Apart from these RTOs in the mobile squads going on daily rounds for about 2 to 3 hours, collect about Rs.300 everyday, on a mere demand to the truck driver. The truck owners are further harassed by the Sales Tax Officers. For goods transported in perfect order, the truck owners have to shell out a minimum of Rs 30 per quintal at every check post. For goods transported without valid documents, Rs. 200 per quintal has to be paid at the sales tax check post. A transport company owner operating between Kanpur and Delhi has to pay monthly 'mamools' at 11 points every month which may come upto Rs. 30000 to RS 50000 every month. The situation is more or less the same in other states too. The CICP system would have obviously come as a relief to these drivers.

E-government, no doubt reduces corruption in several ways. It takes away discretion, thereby curbing opportunities for arbitrary action. It increases chances for exposure by maintaining detailed data on transactions, making it possible to track and link the corrupt with their wrongful acts. But it is also true that eGovernance offers only a *partial* solution to the problem of corruption.

A cost-benefit analysis of the Computerized Check post system in Gujarat revealed that 61% of the drivers felt payment of 'additional money' to the RTO staff continued, and 14% felt there was an increase in the quantity of money to be paid. Almost all the drivers interviewed told the study team that an unofficial 'entry fee' of Rs. 20 to Rs. 50 has to be paid by them irrespective of the weight of the goods being carried by them. Once the Inspector does the weighing and penalty estimation process, the driver is given an option to pay the 'official' or 'unofficial' sum of money (the former goes to the Government treasuries and the latter gets unaccounted).

In the traditional system, weighing was not an exact procedure, due to non-availability of weighbridges at the check post. The inspectors used to stop only some suspect vehicles and estimate the overload weight visually and by experience and collect penalty charges from them. With the introduction of the weighbridge, the exact weight is known for all vehicles. Neither there is a locking mechanism (where once a vehicle gets weighed through the electronic weighbridge, the system logs the transaction and does not permit

---

<sup>43</sup> CVC interview in a daily newspaper, <http://www.hindustantimes.com/nonfram/030501/htt05.asp>

<sup>44</sup> D. Venkatachalam, *Bureaucracy: An Evaluation and a Scheme of Accountability*, APH Publishing Company, Delhi 1998

non-payments for over loading) existing nor is the monitoring mechanism in place. Thus, CICP has offered a greater opportunity for 'leakage'. Inspectors now randomly bypass the system and collect a smaller 'unofficial' amount in lieu of the large official penalty charges. Unwittingly, technology has become a useful and perfect tool in the hands of the corrupt.

A similar analysis of the Gyandoot project indicated that 45% of the interviewed users perceived that copies of land records were more difficult to procure due to the introduction of a third tier in the delivery process. Speed money has to be paid to the tehsildar (the authorized signatory of the khasra), the patwari and finally, to the computer operator who will print out the land record certificate. One respondent felt that earlier khasra copy could be obtained for Rs. 50 but now it can cost up to Rs. 200.

In order to reduce corruption, e-government applications must be built on a sequence of objectives. They must first increase access to information, then ensure that rules are transparent and that they are applied in specific decisions, and finally build the ability to trace decisions/actions to individual civil servants.<sup>45</sup>

To create awareness, training programs need to be organized for political executives and senior civil servants where successful projects can be discussed. The first steps are to identify a few pilot projects in departments which have some exposure to computerization, a large interface with public, and have been assessed to be corrupt. Benefits of implementing the pilots need to be articulated in specific terms.

System designers need to identify the processes that enable corrupt behavior. Often the traditional methods of analysis used by consulting companies are not adequate to make such a determination. A high level of participation by citizens and knowledgeable civil servants is necessary to make such an assessment. Issues of weak technological infrastructure; the absence of an enabling policy framework and lack of funds will have to be tackled for a wider impact.

Government operates in a distinct structural, political, and economic environment whose ultimate aim is democracy rather than efficiency or profit. The introduction of ICTs must not diminish under any circumstances, the importance of this primary aim.

Lawrence Prabhakar, Head of Political Science at the Madras Christian College said, and truly too, 'E-Governance is the perfect conceptual solution for the challenges of running a state... But in all probability it will not revolutionize the way the government works. It can potentially ensure transparency, effectiveness, and popular access. But the factors peculiar to success are awareness, willingness to use technology, level of permeation into the bureaucracy and availability of infrastructure. Only uniform and sustained development can achieve success.'<sup>46</sup>

---

<sup>45</sup> Supra n. 40

<sup>46</sup> Zdnet June 30 2001 @ <http://www.zdnetindia.com/news/features/stories/28724.html>

## VII

### THE DOWNSIDE OF THE INTERNET IN OUR LIVES

The Internet, while being an apparatus for achieving tremendous development and progress, and the key to holding the power of information and communication, is also at the same time an area of anarchy throwing up vast possibilities of crime and misuse. Publishing a website may make worldwide business possible within a matter of seconds, but its unregulated exposure also makes it accessible to millions of individuals all over the world...and just as the human mind was ingenuous enough to contrive something as revolutionary as the world wide web, it is just as ingenuous in devising new ways and means of perpetuating crime in this cyberspace.

The Net, is no doubt, a wonderful place to work, play or study. But it is also more or less a mirror reflection of the real world we're living in, and hence is inevitably beset with practically the same problems faced ordinarily, except perhaps in a slightly altered format. One's programming abilities may enable the creation of a path breaking way to bring the Government closer to its people, but it may also enable an unauthorized or ill-meaning person to gain access to the confidential database of a bank, an organization or some other highly classified information, and the shield of anonymity that it provides may very well be pose a serious threat to the security of systems, people and governments. Cyber crime sees itself manifested in ecorruption, transmission of harmful programs, computer vandalism, unauthorized possession of computerized information, unauthorized trespassing through computer space, hacking, cracking, violations of the privacy of individuals, institutions and corporations, including the Government. The list could go on seamlessly.

After recent myriad worldwide political, economic and multi-billion dollar corruption scandals, including the Indonesian Suharto and Peruvian Fujimori Presidential resignations and the \$7 billion Bank of New York Russian money laundering case, the severity of the problem and the magnitude of the challenge should not surprise anyone anywhere. Consider, every year credit card fraud tops \$400 million, damage from hacking computers like the Philippine Love Bug virus tops \$12 billion and software piracy tops the United States alone over \$1 billion. Estimates are by the year 2005, over \$112 billion in software, music, video and text will be pirated over the Internet. Global money laundering and capital flight is now believed by many to amount to \$500 billion annually.<sup>47</sup>

In the future, illicit capital will assume a more prominent share of the world's financial markets. Before the technology revolution the movement of illicit capital was complicated. Cash needed to be moved in large physical quantities. Stamps and coins which were not easily traceable, were often used to launder money. Disposal or transfer

---

<sup>47</sup> Keith Henderson, *Can The Rule Of Law And Technology Corral International Cyber Crime And Corruption And Balance National Privacy And Security Concerns?*

of these goods was slow and awkward. Today, money in whatever quantity, can flow from banks and financial institutions throughout the world in a matter of seconds. The UN Drug Control Programme (UNDCP) estimates that US\$ 1 billion of illicit capital moves through the world's financial system on a daily basis.

The phenomenon of offshore banking has only compounded this problem. Large sums of money can now be deposited in offshore bank accounts that are outside the scrutiny of governments and beyond taxation. The absence of regulation is another plus point for the money launderer--he now has "secrecy, a tax haven and the ability to move capital with ease."<sup>48</sup>

The Cayman Islands with a total population of 30000, has 550 banks--of which only 17 maintain actual physical presence! The rest conduct business via high technology. The UNDCP estimates that 'more than half of the world's stock of money transits through offshore centers,' with about US\$ 2 trillion of private wealth (that is 20 % of the world total) invested here.<sup>49</sup>

The sad part is, an astronomical 97% of all computer crime goes undetected. This does NOT include the cost of various financial crimes such as money laundering, on-line banking (the fastest growing crime), tax and customs evasion. It is hence only too clear that the full impact of transnational crime and corruption related to technology is grossly understated and that it threatens global growth and international financial security. Only in the last year has the Pentagon with its vast resources come to know how many electronic attacks (22,000) have occurred on its various computer systems. Even today as perhaps the world's most sophisticated information data bank, network communicator and global security institution, the Pentagon cannot categorically state that its systems are secure from invasive cyber attacks.

The fundamental principle of criminology, Peter Grabosky had noted, is that "crime follows opportunity, and opportunities abound in the Digital Age."<sup>50</sup>

### **Cyber Theft & Fraud**

Government plans for introducing Information and Technology as the cornerstone for better and more efficient delivery of public services, reform of administration and performance of obligations, often do not include adequate safeguards against the risks of fraud and corruption.

#### *India's First Cyber Trial*

Before the Information Technology Act of 2000 was passed, India was confronted with one of its first ever cases of cyber crime. Krishan Kumar had been arrested by the Delhi Police for allegedly having 'stolen' and used the internet hours of a certain Retd. Col Bajwa. He was booked under the Indian Telegraph Act of 1885, and the main point of

<sup>48</sup>Louise I. Shelley, *Crime and Corruption in the Digital Age, Journal of International Affairs*-Vol 51 1998, p. 609

<sup>49</sup>Supra n. 46,

<sup>50</sup>*Electronic Theft*, 2001, p.2 @<http://www.icac.nsw.gov.au/>

debate was whether or not the provisions of the Telegraph Act could be extended into cyberspace as well. Would Internet hours count as being included under the Telegraph Act? Firstly, the definition of 'telegraph'<sup>51</sup>, though rather loosely defined, cannot be stretched to include the Internet and cyberspace within its ambit. Moreover, 'telegraph' and 'internet' today have completely different meanings in today's world, and command separate implications.

Section 378 of IPC defines theft and section 379 talks of the punishment for theft. However, section 378 of IPC defines theft as being of theft of moveable property. Section 378 makes it clear that moveable property is one which is severed from the earth. Whether or not time can be regarded as property, moveable or otherwise is a matter open to argument, though it would turn out to be a completely one sided argument as time has never been construed to mean any form of property ever.

The Information Technology Act 2000 does not purport to amend either the Indian Telegraph Act, 1885 or Section 379 of the Indian Penal Code, which defines the punishment for theft.

Along with IT, comes greater accessibility of information, and when the employees, customers, and registered suppliers are able to interact electronically and remotely from any location, the risks to corruption only increase. And this stems primarily from internal elements, rather than outside parties known as hackers etc.<sup>52</sup>

The average cost of a data theft attack is Rs. 1.8 lakh, with the cost ranging between Rs. 20,000 and Rs. 1.87 crore, and two-thirds of data theft incidents are attributable to employees (current as well as former).<sup>53</sup> There were 6266 incidents of computer crime and abuse that affected 600 organizations spanning the IT, Manufacturing, Financial services, Education, Telecommunications, Health care and Other services sectors in India during 2001 and 2002.

A US Survey conducted in 2000 concluded that external threats to Internet security were going from bad to worse, while the internal threats just 'do not go away'. It also showed that information theft and financial fraud caused the most severe financial losses, to the tune of almost \$US68 and \$US 56, respectively. US Justice Department officials estimate that sophisticated computer techniques permit thieves to steal US\$ 10 billion annually from American financial institutions.<sup>54</sup>

---

<sup>51</sup> Section 3: "telegraph" means any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals; writing, images and sounds or intelligence of any nature by wire, visual or other electro-magnetic emissions, Radio waves or Hertzian waves, galvanic, electric or magnetic means.

<sup>52</sup> 1997 Survey conducted in Australia revealed that 90% of the organizations that were victims of computer related incidents nailed internal employees or known parties as offenders.

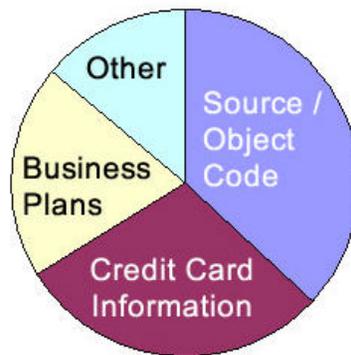
<sup>53</sup> Computer Crime & Abuse Report (India) 2001-02

<sup>54</sup> Supra n. 46, p. 611

As e-commerce expands, retailers and credit card companies are going to have to improve the security built into each card to ensure that only the authorized user is making the purchase. If not, it will be easier for individuals to commit fraud. In the current environment, a fraud artist must use a counterfeit credit card with a genuine number to make the purchase. In the cyber environment, all he or she needs is a legitimate number. Each day, employees processing the orders will be exposed to thousands of legitimate credit card numbers. Imagine the kind of opportunities it throws up for potential defrauders!!

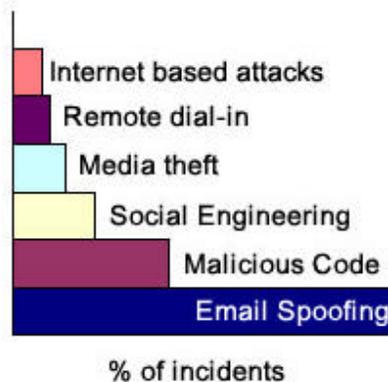
The Computer Crime and Abuse Report of 2001-2002 India, indicated that the major categories of data reported misappropriated included source and object code (37%), credit card information belonging to the organization's employees and customers (29%), business related plans (20%) and other confidential information (14%).

**Categories of data stolen**



Email spoofing was used in 52% of the incidents involving data theft. Email addresses of trusted employees, vendors and others were spoofed in order to misappropriate data.

**Methods used for data theft**



Data alteration constitutes 14% of the incidents reported in 2001 and 17% of the incidents reported in 2002. This category relates to incidents wherein unauthorized alteration of

vital information takes place. Incidents included alteration of hospital records, unauthorized changes made to quotations, financial accounts, bank records etc. Although most of the incidents of data alteration involved unauthorised access, there were many instances where persons having authorised access to the data made the unauthorised alteration. 55% of the unauthorized access was traced to persons / departments within the organization, whereas 30% was traced to rival organizations while 15% was untraceable.

A former consultant to the Department of Finance and Administration siphoned almost \$9 million of Commonwealth money in 1998 to his own companies by using other employees' computer passwords to sign on.<sup>55</sup> The consultant 'tested the water' by transferring two small amounts, making fake invoices to cover his tracks. The money transfers were not challenged, and the consultant then moved substantially larger amounts of money. The scam transfers were finally detected after the consultant's replacement queried a \$2,725,000 transaction initiated under another employee's computer user account.

E-mail, unless encrypted, is not particularly secure. They are often not saved and archived as they should be, which encourages the misuse of e-mail by staff members, for personal use, harassment, fraud, etc. It also makes investigation and prosecution more difficult.

Encryption has evolved as a practical way of ensuring secure transactions. However the fact remains that no firewall in the world is absolute or immune from any attack. Encryption also raises the crucial issue for Electronic Governments as to upto what extent would governments be able to have accessibility to scrambled code to intercept criminal communications. Another issue would be as to who would hold the encryption keys - the private sector or government, and at what level - state or Centre? Contract Law would have to be suitably amended so as to give legality to all Internet transactions. The issues of evolution of law relating to digital signatures would also be crucial to Electronic Governance.<sup>56</sup>

---

<sup>55</sup> eCrime vulnerabilities in the Public sector, September 2001

<sup>56</sup> Supra n. 37

## VIII

### Some Issues for Consideration

#### Intermediation Vs. Disintermediation

Most of Chandra Babu Naidu's programmes envisage a system that provides greater transparency in Government operations, and makes the bureaucrats more accountable to the people. One such example is the dream of APVAN or the Andhra Pradesh Value Added Network, which sought to make several public services accessible to the people directly, with as little interaction as possible with the government officials. It was to make obtaining of drivers licenses, reservations, registration, filing of tax documents, procurements by the government, payment of utility bills etc possible online. But unfortunately, this scheme met a sudden backlash of strong opposition from the employees of the government for fear of them losing their jobs, and the power they used to have by having people pay them that extra 'mamool' to avail of all of the above services. Now that the website was going to do the needy...what happens to these people? --was the question that plagued them. Other points of opposition were that the government was going to be spending \$35 million over a period of 7 years, also that it would be giving monopoly control to the Singapore company with whose collaboration this project was going to become a possibility. The main resistance was however from the labour unions members of whom were threatened with the possibility of sudden unemployment.

This has been one very common argument or issue that has evoked considerable debate and discourse on eGovernance and its allied consequences: centralization or decentralisation. Rajasthan's Department of Information Technology has developed a statewide Intranet called rajSWIFT. This system uses the Internet to facilitate *direct* online data, text and email communication between the Office of the Chief Minister and the 32 District Collectors.

Would eGovernance essentially mean less governance and hence less government employees leading to retrenchment, or would it merely mean a greater government-citizen interface. It ought to point more towards the latter proposition. EGovernance does not necessarily mean throwing all the hitherto employees suddenly out of jobs. The one primary purpose behind introducing information technology into processes of governance was to make the Authorities more accountable, their practices more transparent, and the least level of interaction between the public and the officials to ensure the non-occurrence of corruption. The Internet is an 'enabler' of channels, not a 'substitute' as feared. It constitutes the necessary infrastructure for making market processes available. It is only the tool via which customers and citizens are brought closer to their *rights*.

No doubt, the role played by the intermediaries would change, as the focus is now shifted to a relationship-intensive channel functions, and the transaction-intensive functions are

to be performed over the net. The fact is “you can eliminate a middleman, but you cannot eliminate their functions”.<sup>57</sup>

The Internet need not necessarily mean disintermediation. It probably only indicates a re-allocation of functions across the different channels to ensure optimizing the channel system. There might be some functions that can be performed best by certain channels alone. For instance, they may have specialized end-customer knowledge, specialized assets (like warehouses), and specialized capabilities (like handling international logistics) that might be very hard to replicate.<sup>58</sup> Functions like credit verification, providing product information, tracking order status, analyzing customer-buying patterns are those which are best performed over the net.

In addition, intermediaries are needed that can analyze information provided by the government. The Center for Responsive Politics, in the USA<sup>i</sup> is an example of such an agency. Its website, <<http://www.opensecrets.org>> illustrates the constructive role of intermediaries in presenting information to citizens in a format which helps them to take actions. Citizens are presented with information on the campaign finances of different congress persons. The analysis is based on data which is in the public domain but is not normally presented in a form that illuminates any corrupt practice

The Tax Commissioner at CICP ensured that all the government officials, who may have viewed CICP as a potential threat, were made parties to the implementation of the project right from its conception. They were given training on computers and some of them were involved in developing programming modules of the software. This process inculcated a sense of ownership of the computerized system in the RTO officials.

Again, when one is talking about the issues that arise when a bank moves towards sophisticated IT features like Internet banking, earlier the bank staff would be used to communicating with the customers in a verbal form. With IT, this changes to written form, and there is a tendency towards more impersonal transactions. The bank staff would not be rendered without work. On the contrary, they will only have to be re-oriented to use new communication channels effectively. The other task at hand would be that of re training the old staff to suit the modern day's requirements.

Another alternative would be to deal with the surplus staff by “exploring the possibility of using this excess for new branches, or by offering innovative VRS schemes, outplacement facilities etc.”<sup>59</sup> New technologies inevitably create new opportunities.

The only reason the government employees could have had, in antagonism to the APVAN project was of the certainty of their losing the money they could have procured by way of bribes. Apart from that, if at all there's to be any change brought about by IT, far from them losing their jobs, it would only help them perform better.

---

<sup>57</sup> Mohanbir Sawhney, Professor of eCommerce and technology at the Kellogg Graduate School of Management in an interview to Inomy 2001.

<sup>58</sup> Supra n. 33

<sup>59</sup> Infosys Vice President Girish Vaidya in an interview to Inomy 2001

## **Right to Information Vs. Right to Privacy**

In today's context, information is power, and people all over the world cannot do without it. eGovernance makes possible unhindered and extensive availability and accessibility to all sorts of information to every individual owning a phone and a computer. This however is subject to the restriction of the information being detrimental to the future of mankind, or secret coded information concerning national and international security. The Government or the concerned authority can withhold such information in larger interests.

The same concern for privacy also arises among the netizens. People using the Internet are extremely touch about private and personal details about their identities etc. and without an adequate security system to ensure the confidentiality of these details, the entire purpose behind eGovernance stands defeated. Often, websites in their opening, ask for user/visitor details including name, address, telephone number, email address, business and preferences. Electronic Governance has to ensure that this information has to be treated extremely confidentially as misuser of the same for commercial ends and/or for the purpose of the sending unsolicited email/spam can lead to different legal disputes in different national jurisdictions, thereby complicating problems. On the other hand, if the website is made to undergo strict and constant regulation as to what it does with the user details etc and is made legally responsible for violating privacy if it uses these details for sending further information, then obviously commerce would be restricted.

This conflict between the right to privacy, and the right of information hence needs to be balanced.

Another area strife with this conflict is that of banking operations. The issues involves balancing the privacy interests of the individual against the commercial interests of the holder of the information, the law enforcement interests of the State or foreign country, and the public's right to know. Banks with global operations have centralized computer files that can be accessed from most of their offices around the world. These electronic networks mean that information is at once nowhere, yet is everywhere. They make it possible for thousands of people around the globe to access highly sensitive data about individuals and corporations...a cakewalk for easy money laundering.

The right to transaction privacy is especially important. Every time an individual makes a purchase through the electronic banking system, the individual leaves a trail. The trail can offer an incredible amount of very personal information. It can disclose where people are, what they are doing and what their tastes are as well as activities that are perfectly legal but potentially embarrassing. Few people would argue that personal information of this kind should be easily available to third parties—private or governmental. The question that needs to be answered is when does a Government's right to know outweigh an individual's right to privacy?

None of the world's legal systems have kept pace with the changes in information technology. Some countries have passed laws to protect against illegal access to

information, computer sabotage and the distribution of illegally obtained data. But even these countries have a very limited law enforcement capacity. Illicit entry into systems is hard to detect and can be done from remote locations. In several recent cases, the hackers who gained access did it by working through dozens of telephone connections around the world. Very few law enforcement officials have the training and the ability to investigate such cases. Because the cases invariably cross international borders, all the same problems of international law enforcement cooperation that hamper money-laundering investigations hamper computer crime investigations.

India does not have any specific law governing privacy. The courts in India have not yet had the opportunity to look at privacy issues relating to the Internet. Analogies to the Internet will, therefore, have to be drawn from cases that the court has actually dealt with. The Constitution of India does not patently grant the fundamental right to privacy. However, the courts have read the right to privacy into the other existing Fundamental Rights: Freedom of Speech and Expression, under Article 19-(1) (a) & Right to Life and Personal Liberty under Article 21. In India, the right to privacy is one of the UN-enumerated rights granted to the individual. It is to be noted that the Constitutional guarantee of the right to privacy is valid only against the State and no Constitutional remedy for violation of privacy lies against any individual. Further, common law also does not provide direct for invasion of privacy.

E-government can only lead to transparency if there is a legal framework that supports free access to information. Until a few years ago most countries still had strict national secrecy laws. These have been repealed in favor of Freedom of Information Laws in the U.S. and much of Europe, but only after decades of lawsuits, and secrecy laws are still in effect in many developing countries. At the same time, governments must also address risks to privacy and security. For example, governments need to develop guidelines for the release of public information that may contain personal or sensitive data. Governments also need to develop standards for identifying users and ensuring the validity of official documents.

Privacy itself is a liberal notion. But in the new environment of inter-connectivity, will privacy have higher value than sharing information?<sup>60</sup>

The solution is, when it comes to the question of legal accountability, the right of privacy must give way.

---

<sup>60</sup> Pavan Duggal, *Policy Framework & Legal Issues Relating To Electronic Governance*

## IX

### CONCLUSION

Information and knowledge are sources of empowerment for the citizens, enabling them to effectively participate in decisions affecting their lives and livelihood, and in ensuring accountability and transparency of those in charge of the institutions of governance. For the government information and knowledge are vital to the formulation of the appropriate policies, the delivery of the essential services and the promotion of human development. ICTs in general, and e-governance in particular can play a very critical role in empowering the people.

eGovernance is not a panacea for India's overnight development, though. Governance is a process; and the 'electronic' is merely a tool to enhance the efficiency and effectiveness of the process of governance. Hence e-governance is not a substitute for good governance or democracy. It does not substitute for the principles of good governance or those of democracy. E-governance is about transformation that helps citizens and those in business explore new, efficient and effective ways of getting things done in the evolving global knowledge society and economy, and in responding to the challenges and opportunities of globalization.

What is needed is a clear road map and overarching strategy for eGovernance, a strategy that can address and overcome the obstacles of infrastructural constraints, quality of human capital, financial inadequacy, potential for cyber crime and societal handicaps. A working coalition of all groups in the country, the State and the public sector, the private sector, foreign collaborators, non-governmental organizations and active participation and involvement of civil society itself backed by a strong and supportive legal framework with the appropriate laws, can help realize the dream of 'electronica' in governance.

The possibilities are two. One, ICTs will emerge as a fleeting window of opportunity for us Indians to leapfrog into the 21<sup>st</sup> century world of science and technology...or two, it could well be just another lost opportunity irreparably dividing our people into unjustifiable groups, the technologically rich and the information-poverty-ridden poor, a separator and a marginaliser of the populace, a bane for *any* nation's forward progress towards change for the better...The choice is ours.

## BIBLIOGRAPHY

### The Internet

[www.emediaplan.com/Internet/onlineadvertising.asp](http://www.emediaplan.com/Internet/onlineadvertising.asp)  
[www.ciol.com/content/](http://www.ciol.com/content/)  
[www.american.edu/carmel/ph0616a/](http://www.american.edu/carmel/ph0616a/)  
[www.un.org](http://www.un.org)  
[www-wds.worldbank.org](http://www-wds.worldbank.org)  
[goidirectory.com](http://goidirectory.com)  
[www.sndp.undp.org](http://www.sndp.undp.org)  
[www.mit.gov.in](http://www.mit.gov.in)  
[www.undp.org.in](http://www.undp.org.in)  
[www.developmentgateway.org](http://www.developmentgateway.org)  
[www.digitalgovernance.org](http://www.digitalgovernance.org)  
[www.gyandoot.net](http://www.gyandoot.net)  
[www.andhrapradesh.com](http://www.andhrapradesh.com)  
[www.himachal.nic.in/lokmitra2.htm](http://www.himachal.nic.in/lokmitra2.htm)  
[www.bangaloreit.com](http://www.bangaloreit.com)  
[www.egov.vic.gov.au/research/egovernance/egovernance.htm](http://www.egov.vic.gov.au/research/egovernance/egovernance.htm)  
[www.crossingboundaries.ca](http://www.crossingboundaries.ca)  
[www.cid.harvard.edu/cr/profiles/india.pdf](http://www.cid.harvard.edu/cr/profiles/india.pdf)  
[cyberlaw.harvard.edu/people/hplabfeb02.pdf](http://cyberlaw.harvard.edu/people/hplabfeb02.pdf)  
[www.oecd.org](http://www.oecd.org)  
[Www1.worldbank.org/publicsector/egov.htm](http://Www1.worldbank.org/publicsector/egov.htm)  
[www.nasscom.org](http://www.nasscom.org)  
[www.apnic.net/mailling-lists/s-asia-it/archive/1999/09/msg00019.html](http://www.apnic.net/mailling-lists/s-asia-it/archive/1999/09/msg00019.html)  
[www.mssrf.org/informationvillage/Connecting%20Rural%20India%20to%20the%20World.htm](http://www.mssrf.org/informationvillage/Connecting%20Rural%20India%20to%20the%20World.htm)  
[www.cdacindia.com/html/press/archives/otdn99/spot08.asp](http://www.cdacindia.com/html/press/archives/otdn99/spot08.asp)  
[www.zdnetindia.com](http://www.zdnetindia.com)  
[www.revdept-01.kar.nic.in/Bhoomi/ManualSys.htm](http://www.revdept-01.kar.nic.in/Bhoomi/ManualSys.htm)  
[www.cagindia.org](http://www.cagindia.org)  
[www.cyberlawindia.net](http://www.cyberlawindia.net)  
[Docsonline.wto.org](http://Docsonline.wto.org)  
[Edev.media.mit.edu](http://Edev.media.mit.edu)  
[www.transparency-usa.org](http://www.transparency-usa.org)

### Books

Bedi, Kiran & Jeet Singh & Srivastava, *Government@net*, Sage Publications, New Delhi 2001

Rajora, Rajesh; *Bridging the Digital Divide*; Tata- McGraw Hill, 2002

Venkatachalam, D.; *Bureaucracy: An Evaluation and a Scheme of Accountability*; APH Publishing Corporation; Delhi 1998

### **Reports**

India Infrastructure Reports 2001, 2003

VSNL Annual Report

Davos 2001-Globalisation

World Development Report 1999-2000, World Bank 2000

Computer Crime & Abuse Report (India) 2001-02

Report of the Comptroller and Auditor General India 2002

### **Periodicals**

Inomy KnowledgeBook 2001, Inomy Private Ltd, New Delhi, 2001.

Louise I. Shelley, *Crime and Corruption in the Digital Age*, *Journal of International Affairs*-Vol 51 1998

### **Others**

Profile of eGovernance Projects November 2000, Department of IT, Andhra Pradesh

Public Affairs Centre Survey on CARD & CTO Publication, Bangalore, June 2000

Centre for E-Governance, IIM-Ahmedabad

E-Governance Initiatives in India, Rajiv Gandhi Institute

---