Chapter-3

e-GOVERNANCE INITIATIVES:
AN OVERVIEW
CHAPTER-3

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3.1 INTRODUCTION

Electronic governance in its simple form is the use of information and communication technologies tools and applications in government departments, civil society organisations, political institutions and to engage citizens through dialogues and feed backs to promote their greater participation in the governance of these institutions. These technologies can serve a variety of different ends, better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth and/or cost reductions. However, while the benefits of e-Governance are in theory numerous, global experience to date indicates that they remain much more elusive in reality.

3.2 BENEFITS OF e-GOVERNANCE

The major multi- faceted benefits of e-Governance are summarised below:

- Internal efficiency of various departments improves.
- There is better status monitoring and tracking of applications.
The preparation of reports becomes quicker.

Corruption among officials and harassment of the citizens is reduced.

Financial accountability improves by online search and submission of forms; payment also becomes almost instantaneous.

The citizen benefits because there is transparency, efficiency and integrity in his dealings with the government.

Easy information access through e-Governance can become a catalyst and a channel for e-Services.

Reduces redundancy and duplication.

e-Governance helps common man getting governed with minimum red tape and zero corruptions.

3.3 e-GOVERNANCE: GLOBAL PERSPECTIVE

The United Nation Public Administrative Network UNPAN Global e-Government Readiness Report (2005), with published indexes for over 150 countries, is based on five stage model of e-Governance. This is summarised in Table 3.1.
### Table 3.1
The UN Five Stage Model of e-Governance

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Emerging</td>
<td>A government’s online presence is mainly comprised of web page and/or an official website: links to ministries or departments of education, health, social welfare, labour, finance, etc. Much of the information is static and there is little interaction with citizens.</td>
</tr>
<tr>
<td>2 – Enhanced</td>
<td>Governments provide more information on public policy and governance. They have created links to archived information that is easily accessible to citizens, as for instance, documents, forms, reports, laws and regulations and newsletters.</td>
</tr>
<tr>
<td>3 – Interactive</td>
<td>Governments deliver online services such as downloadable forms for tax payments and application for licence renewals. In addition, the beginnings of an interactive portal or website with services to enhance the convenience of citizens are evident.</td>
</tr>
<tr>
<td>4 – Transactional</td>
<td>Governments transform themselves by introducing two-way interactions between ‘citizen and government’, It includes options for paying taxes, applying for ID cards, birth certificates, passports and license renewals, as well as other similar G2C interaction, and allows the citizen to access these services online 24/7. All transactions are conducted online.</td>
</tr>
</tbody>
</table>
| 5 – Connected | Governments transform themselves into a connected entity that responds to the needs of its citizens by developing an integrated back-office infrastructure. This is the most sophisticated level of online e-Governance initiative and is characterised by:  
Horizontal connections (among government agencies)  
Vertical connections (Central and local government agencies)  
Connection between governments and citizens (including e-Participation  
Connection among stakeholders (government, private sector, academic institutions, NGOs and civil society) |
In the latest United Nation Public Administrative Network (UNPAN) e-Governance Survey (2008), the related major institutional challenges are identified. The ‘infrastructure’ challenges relate primarily to the ‘emerging’ and enhanced’ stages of e-Government; ‘integration’ problems are to be faced in the ‘interactive’ and ‘transactional’ stages, whereas ‘transformation’ of government operations occurs only in the most advanced stages of ‘transactional’ and ‘connected government’:

- **Infrastructure**: Creating an information infrastructure both within the public sector and across society at large, one based upon reliable and affordable Internet connectivity for citizens, businesses and all stakeholders in a given jurisdiction;

- **Integration**: Leveraging this new infrastructure within the public sector in order to better share information (internally and externally) and bundle, integrate, and deliver services through more efficient and citizen-centric governance models encompassing multiple delivery channels; and

- **Transformation**: Pursuing service innovation and e-Government across a broader prism of community and democratic development through more networked governance patterns within government, across various government levels and amongst all sectors in a particular jurisdiction.
3.3.1 Global e-Governance Readiness Ranking

Governments have made rapid progress worldwide in embracing ICT for e-Governance in the past years. Most countries have published a tremendous amount of information online, many going beyond basic websites providing national portals that serve as a major starting point for users to connect to government services in different ministries. At the same time, many developing countries need to devote additional energy to transactional services as well as the electronic means of engaging citizens in public consultation and decision-making. The world average of the e-Governance Development Index registered a slight decline compared to previous years. Nevertheless, the decline should not be interpreted as the degeneration of e-Government on a global scale since the index measures e-Governance development of countries relative to one another within a given year. The table given below highlights the findings of the United Nation e-Governance survey 2010.
Table 3.2
Top 20 Countries in e-Governance Development

<table>
<thead>
<tr>
<th>Country</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>0.8785</td>
</tr>
<tr>
<td>United States of America</td>
<td>0.8510</td>
</tr>
<tr>
<td>Canada</td>
<td>0.8448</td>
</tr>
<tr>
<td>UK and Northern Ireland</td>
<td>0.8147</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.8097</td>
</tr>
<tr>
<td>Norway</td>
<td>0.8020</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.7872</td>
</tr>
<tr>
<td>Australia</td>
<td>0.7863</td>
</tr>
<tr>
<td>Spain</td>
<td>0.7516</td>
</tr>
<tr>
<td>France</td>
<td>0.7510</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.7476</td>
</tr>
<tr>
<td>Sweden</td>
<td>0.7474</td>
</tr>
<tr>
<td>Bahrain</td>
<td>0.7363</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.7311</td>
</tr>
<tr>
<td>Germany</td>
<td>0.7309</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.7225</td>
</tr>
<tr>
<td>Japan</td>
<td>0.7152</td>
</tr>
<tr>
<td>Switzerland</td>
<td>0.7136</td>
</tr>
<tr>
<td>Finland</td>
<td>0.6967</td>
</tr>
<tr>
<td>Estonia</td>
<td>0.6965</td>
</tr>
</tbody>
</table>

The United Nations e-Governance Survey 2010 reports that citizens are benefiting from more advanced e-service delivery, better access to information, more efficient government management and improved interactions with governments, primarily as a result of increasing use of ICT by the public sector. High-income countries enjoy the top rankings in the e-Governance Development Index in 2010 as in previous years. Among the top 20 (twenty) countries in the 2010 United Nations e-Government Survey, the Republic of Korea received the highest score (0.8785), followed by the United States (0.8510), Canada (0.8448), United Kingdom (0.8147), Netherlands (0.8097) and followed till Estonia (0.6965).

Europe (0.6227) and Americas (0.4790) score above the world average (0.4406). Asia (0.4424) is almost the same as the world average. Africa (0.2733) and Oceania (0.4193) score below the world average.

The Table also indicates that India has not been ranked in the top 20 countries according to UN’s 2010 e-Governance Readiness Index.
### Table 3.3
Top 20 Countries in e-Governance e-Participation

<table>
<thead>
<tr>
<th>Country</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Republic of Korea</td>
<td>1.0000</td>
</tr>
<tr>
<td>Australia</td>
<td>0.9143</td>
</tr>
<tr>
<td>Spain</td>
<td>0.8286</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.7714</td>
</tr>
<tr>
<td>UK and Northern Ireland</td>
<td>0.7714</td>
</tr>
<tr>
<td>Japan</td>
<td>0.7571</td>
</tr>
<tr>
<td>United States</td>
<td>0.7571</td>
</tr>
<tr>
<td>Canada</td>
<td>0.7286</td>
</tr>
<tr>
<td>Estonia</td>
<td>0.6857</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.6857</td>
</tr>
<tr>
<td>Bahrain</td>
<td>0.6714</td>
</tr>
<tr>
<td>Malaysia</td>
<td>0.6571</td>
</tr>
<tr>
<td>Denmark</td>
<td>0.6429</td>
</tr>
<tr>
<td>Germany</td>
<td>0.6143</td>
</tr>
<tr>
<td>France</td>
<td>0.6000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.6000</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.5857</td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>0.5571</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.5286</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0.5143</td>
</tr>
</tbody>
</table>

According to the ranking of e-Participation in UN’s e-Governance survey 2010, Republic of Korea received the highest score (1.0000), followed by Australia (0.9143), Spain (0.8286), New Zealand (0.771), UK and Northern Ireland (0.7714), Japan (0.7571) followed by Slovenia (0.5143) at the 20th position.

It is a comparative ranking of the countries of the world according to two primary indicators: i) the state of e-Government readiness; and ii) the extent of e-Participation. Constructing a model for the measurement of digitized services, the survey assesses the 191 member states of the UN according to a quantitative composite index of e-Government readiness based on website assessment telecommunication infrastructure and human resource endowment (United Nations e-Government Survey 2010).

3.4 e-GOVERNANCE: INDIAN SCENARIO

The Indian government is using IT to facilitate governance as public private partnerships become the order of the day. The last many years have seen e-Governance drop roots in the country. IT enables the delivery of government services as it caters to a large base of people across different segments and geographical locations. The effective use of IT services in government administration can greatly enhance existing efficiencies, drive down communication costs, and increase transparency in the functioning of various departments. It also gives citizens easy access to large benefits, be it through simple applications such as online form filling, bill sourcing and payments, or complex applications like distance education and tele-medicine (Tripathi 2007b).
Some initiatives have been taken to promote e-Governance. In this connection, the involvement strengthens the citizens’ trust in the government and helps to overcome the passive role of the citizens that was typical of the 1990s. However, at present, most e-Governance initiatives still view people from a passive perspective and not as active citizens.

3.4.1 National e-Governance Plan

Department of Information Technology (DIT) and Department of Administrative Reforms and Public Grievances (DAR & PG) has formulated the National e-Governance Plan. During the year 2003-2007 the plan provides the foundation and implementation for long-term growth of e-Governance within the country. The plan also created the right governance and institutional mechanisms, set up the core infrastructure and policies and implements a number of Mission Mode Projects at the centre, state and integrated service levels to create a citizen – centric and business centric environment for governance.

The government of India initiated e-Governance programme in the country in late 1990s. NeGP comprises of 27 Mission Mode Projects (MMPs) encompassing 10 Central Department MMPs, 10 State MMPs and 7 Integrated MMPs spanning multiple Ministries/Departments (Junu, 2013). The following table shows the central, state and integrated MMPs
Table 3.4

Mission Mode Projects

<table>
<thead>
<tr>
<th>Central MMPs</th>
<th>State MMPs</th>
<th>Integrated MMPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td>Agriculture</td>
<td>CSC</td>
</tr>
<tr>
<td>Central Excise &amp; Custom Income Tax (IT)</td>
<td>Commercial Taxes</td>
<td>e-Biz</td>
</tr>
<tr>
<td>Insurance</td>
<td>e-District</td>
<td>e-courts</td>
</tr>
<tr>
<td>MCA21</td>
<td>Employment Exchange</td>
<td>e-Procurement</td>
</tr>
<tr>
<td>National Citizen Database</td>
<td>Land Records</td>
<td>EDI for e-trade</td>
</tr>
<tr>
<td>Passport</td>
<td>Municipalities</td>
<td>National e-Governance Service</td>
</tr>
<tr>
<td>Immigration, Visa and Foreigners Registration &amp; Tracking</td>
<td>Gram Panchayats</td>
<td>Delivery Gateway</td>
</tr>
<tr>
<td>Pension</td>
<td>Police</td>
<td>India Portal</td>
</tr>
<tr>
<td>e-Office</td>
<td>Road Transport</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treasuries</td>
<td></td>
</tr>
</tbody>
</table>


After that, in the year 2011, 4 projects - health, education, Public Distribution System (PDS) and posts were introduced to make the list of MMPs from 27 to 31.

3.4.2 National e-Governance Plan: Vision

The National e-Governance plan has been launched with the aim of improving delivery of government services to citizens. It is guided by the following vision: “make all public services accessible to the common people in their locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realise the basic needs of the common people”.
The vision statement clearly underlines the following priorities of the use of G2C information services fostering good governance:

**Accessibility:** The National e-Governance Plan (NeGP) has a provision for State Wide Area Network (SWAN) to connect all the government offices up to the block level and Common Service Centres (CSCs) for providing access to the citizens up to the rural area level. The vision has been designed keeping the rural population in mind. Need is to reach those sections of the society which have remained tangential to the government sphere due to various reasons like geographical challenge and lack of awareness.

**Common Service Outlets:** At present, citizens especially those living in remote areas have to travel long distances to avail a service through a government department or its local offices. It is time-consuming and a costly affair for the common man to access citizen services. To overcome this problem, as a part of the NeGP vision, computer with Internet enabled Common Service Centre (CSC) is envisaged to be set up for every six or seven villages so that villagers can easily avail these services. These CSCs are envisaged to offer online integrated service delivery on anytime, anywhere basis.

**Adopting e-Governance for Improving the Governance:** The use of ICT will enable government to reach citizens 24 × 7 thereby improving governance. It will also help to the monitor implementation of various government schemes thereby increasing the accountability and transparency in government.
**Improved quality of life of citizens:** e-Governance would help in attaining the objective of improved quality of life of citizens through the provision of citizen-centric service delivery at nominal cost.

Hence, the vision is to use e-Governance as the route for governments to strengthen good governance. All services provided through the various e-Governance initiatives are expected to assist the governments at the Central and State levels in reaching the yet ‘unreached’ and enable involvement and empowerment of marginalized groups through their participation in the government processes thereby contributing towards poverty eradication and bridging the sharp social and economic divide.

### 3.4.3 Capacity Building of e-Governance Services

National e-Governance Plan (NeGP) is a large and complex endeavour covering 20 central departments, 35 States/Union Territories and 360 departments across these states/UTs and nearly 500 implementation agencies. Therefore, capacity gap that needs to be addressed includes engaging experts, developing skills and imparting training. Including support for creation of state e-Governance Mission Teams (SeMT), Project e-Governance Mission Teams (PeMT) and Human Resource management. The scheme of capacity building is meant for initiating through various activities like empanelment of candidates, facilitating states in recruitments and providing orientation and sensitisation at various levels of leaders/officers involved in e-Governance Mission Teams (SeMT), and
specialized training with centralized curriculum and content development for various level of officers at programme and project levels (Alka 2011).

3.4.4 G2C Projects in India

The different G2C information and service delivery e-Governance projects taken up in India may be briefly mentioned as the following:

a) AP Online (State Government of Andhra Pradesh)

An integrated citizen services portal providing citizen centric services such as: birth/death certificates, property registration, driving license, government applications & forms, payment of taxes / utility bills etc.

b) Bhoomi-Automation of Land Records (State Government of Karnataka)

It provides computerized record of rights tenancy & crops (RTC) needed by farmers to obtain bank loans, settle land disputes etc. It has also ensured increased transparency and reliability, significant reduction in corruption, exploitation and oppression of farmers.

c) CARD – Registration Project (State Government of Andhra Pradesh)

Computerised Administration of Registration Department (CARD), a project of Andhra Pradesh Government regarding property holdings has impacted 10 million citizens over a period of 3 years. It has completed registration of 2.8 million titles with title searches made in 1.4 million cases. The system ensures
transparency in valuation of property and efficient document management system. The estimated saving of 70 million man-hours of citizen time valued at US$ 35 million (investment in CARD - US$ 6million). Similar initiatives in other states like SARITA (State Government of Maharashtra) STAR (State Government of Tamil Nadu), etc. have further built upon this initiative.

d) **Gyandoot: Intranet in Tribal District of Dhar (State Government of Madhya Pradesh)**

This project offers e-governance services including online registration of applications, rural e-mail facility, village auction site etc. It also provides services such as Information on Mandi (farm products market) rates, On-line Public Grievance Redressal, Caste & Income Certificates and Rural Market (Gaonka Bazaar) (Monga, 2008)

e) **LOKMITRA (State Government of Himachal Pradesh)**

- Lokmitra, a programme of Himachal Pradesh Government offers the following services:
  - Online registration of applications,
  - Rural e-mail facility, village auction site etc.

- Key services provided to citizens include:
  - Information on Mandi (farm products market) rates
  - On-line public grievance redressal
• Sending and receiving information regarding land records, income certificates, caste certificates and other official documents.

• Market rates of vegetables, fruits and other items

f) e-Mitra-Integrated Citizen Services Centre (State Government of Rajasthan)

- Implemented using a PPP (Public Private Partnership) model
- Private partner paid by the government department/agency
- G2C services like:
  - Payment of electricity, water, telephone bills
  - Payment of taxes
  - Ticket Reservations
  - Filing of Passport applications
  - Registration of birth/death
  - Payment by cash/cheque/credit card

The above cases of e-Governance initiatives are only illustrative. Many of the State Governments have successfully implemented several such initiatives. This has positively impacted the quality of life of citizens. Hence e-Governance affords an excellent opportunity for India to radically improve the quality of governance and thereby:

- allow for two-way communication between government and citizens not only for service delivery but also to receive opinions of citizens on policies and government performance;
provide greater access to excluded groups, who have few opportunities to interact with government and benefit from its services and schemes;

include all sections of the society in the mainstream of development; and

enable rural and traditionally marginalized segments of the population to gain fast and convenient access to services in their own neighbourhoods (Sanjay Tejavee et al. 2010).

g) e-Sampark (Union Territory Government of Chandigarh)

Project e-Sampark is a multi-service single window system, which connects various public dealing departments with electronic centres. It has been awarded the Golden Icon Award for e-Governance by the Govt of India. It offers 20 services including payment of taxes, utility bills, passport application, disbursement of old-age pension and other utility services.

h) e-Pariseva (State Government of Tripura)

Project e-Pariseva is a single-window front end window system, which connects departments of the state through the state portal and offers varied information from the concerned departments.

i) The Warana "Wired Village"

This project was set up to provide a wide range of information and services to 70 villages around Warana and to increase the efficiency and productivity of the
sugar cane cooperative. Warana is a well-developed rural area located 30 kilometers northwest of the city of Kolhapur, in one of the richest states of India, Maharashtra. The National Informatics Centre (NIC), the state government, and the Warana group have set up a village information kiosk.

j) **SARI project in Melur, Tamilnadu**

It is a joint effort of the TeNeT Group at IIT Madras; Berkman Centre for Internet and Society at Harvard University Law School; Media Lab at the Massachusetts Institute of Technology; Media Labs Asia; I-Gyan, New Delhi. The project has been funded by ICICI. The aim of the project is to show that viable markets exist for information and communication services in rural areas. This can be tapped by inventing and deploying innovative technologies and business models. The project aims to develop life-long human resources. The pilot project was implemented to bridge the digital divide between rural and urban areas, establish rural connectivity, ensure that the benefits of developments in information technology reach the people in rural areas, and facilitate dissemination of information in all fronts of social development to the rural public at a location closest to them and at a substantially low cost. The project is being expanded to the districts of Madurai, Cuddalore, Coimbatore, Kancheepuram, Theni, Tirunelveli, Salem, Nagapattinam, Erode and Tiruvallur. It has been renamed as "RASI" (Rural Access to Services through Internet).
k) **Cyber Grameen**

A rural broadband venture has been launched at Venkatachalam village in the Nellore district Andhra Pradesh. The Cyber Grameen Centre provides both applications and services to villagers. The services provided include telephony, telemedicine, distance learning, high-speed Internet/e-mail, retail store, agriculture/horticulture, banking, insurance, video conferencing, digital entertainment and e-Governance encompassing delivery of Government services and information.

l) **Indian Tobacco Company (ITC) e-Choupal**

This project was started by ITC as a cost-effective alternative supply chain system to deal directly with the farmer to buy products for exports. It is getting transformed into a meta-market for rural India. The tobacco giant has already set up over 700 choupals covering 3,800 villages in four states — which include Madhya Pradesh, Uttar Pradesh, Karnataka and Andhra Pradesh — dealing with products ranging from soya bean, coffee, aquaculture and wheat.

m) **Indiagrinline by EID Parry**

The Agri Portal of EID Parry (India limited company), www.indiagrinline.com, has been designed to address the specific needs of the rural farming community and is an attempt to catalyse e-commerce in agricultural and non-farm products by offering a network of partnerships. The content is in the local language (Tamil) for ease of use. It has been developed by using in-house
expertise (EID Parry's Sugar and Farm Inputs Division and Corporate R&D Lab) and working with the TN Agriculture University and its Research Stations, TN University for Veterinary and Animal Sciences, National Horticulture Board, and agriculture related media and publishing houses.

n) TARAhaat.com

Technology and Action for Rural Advancement (TARA) have launched a new service, TARAhaat.com that brings relevant information, products, and services via the Internet to the underserved rural market. Starting October 2000, in the districts of Bundelkh and surrounding the historical city of Jhansi (a region widely known for its poverty and harsh living conditions), TARAhaat became the first major "portal" designed from the ground up for the needs of village users. TARAhaat is a gateway that connects the village user to information services, government agencies, and, above all, to all kinds of markets.

It can be seen that all the projects are diverse in nature and e-Governance is incidental to the total developmental efforts in rural areas. Additionally, they are all self-sustaining. This proves the point that there is a very great potential for IT projects in the rural areas that remains untapped. Only in three of the several cases: e-Chaoupal, Indiagrine and TARAhaat.com are purely private initiatives while Dairy Portal and Warana Project happen to be from the co-operative sector (Xavier and Gupta 2003).
3.5 CHALLENGES

e-Governance has not been able to make rapid progress due to several operational, economic, personnel planning and implementation issues. e-Governance in India has also focused towards investing in hardware and very little on developing software and services, which could maximize hardware investment. The present e-Governance dishes out information just one way about government policies with a lot of statistics. The recipient of information is not allowed to have an interface participatory role. Even the material provided is often outdated stuff clouded with bureaucratic jargons. In most states e-governance relies on private participation. Hence, some government employees feel that e-Government would deprive them of power and status. They allege that this is nothing but handling over some of the functions of the government to the private sector. They also fear that this may reduce government jobs. So they are reluctant to take the transition beginning with a presence phase followed by interaction, transaction, and transformation phase. Unfortunately it blinds that India is still in the earlier phase of the transition (Tripathi 2007b).

3.6 ISSUES IN e-GOVERNANCE

Literature presents issues in the implementation of e-Governance. Some of these are presented below:

3.6.1 Infrastructure Issues

Some of the important infrastructure issues are, power problems, inadequate network connectivity and poor rural telecommunication network. Unless these
three areas are improved, an efficient and effective e-Governance programme cannot be implemented.

3.6.2 Political and Administrative Issues

Delivery of public Electronic Data Interchange (EDI) services like utilities, rural and urban development schemes through EDI, Internet and other IT-based technologies would necessitate procedural and legal changes in the decision and the delivery making process as well as in institutions. It would mean a complete revamp of the government decision management involving faster decision mechanisms, less red-tapism, changes in organisation structures making it more flatter, higher delegation of authority and changes in legal provisions. These measures would lead to:

a) Institutional and organisational changes affecting both people and methods at all interfaces of the delivery chain. For this, acceptance of these changed processes would have to be properly understood, accepted, adopted and improved to enable full advantage of the technology.

b) De-layering of the decision-making levels leading to re-engineering and appropriate sizing of the decision-making machinery.

c) Training and acclimatization of the personnel at all levels more so at the lower rung of government management organisations.
3.6.3 Social and Cultural Issues

Implementation of e-Governance leading to information sharing at each small unit level creating awareness and transparency in governmental functioning is needed. A strong back-end functional support to successfully maintain the e-Governance initiative is needed in the absence of which the system will collapse. Majority of the people at the authority positions in the respective functional departments may dislike the transparent and smooth working after introduction of e-Governance initiative. This type of mind-set to influence the process, resistance of the staff is also an aspect that needs to be taken care of by initiating steps in advance and by spreading goodwill among the employees.

People on the other hand, always fear to experiment new things, newer means of functioning, and therefore in the initial stage, any e-Governance project is likely to face criticism and setbacks because of lesser public participation. Further, owing to lower literacy rate, the reach of the project remains restricted to the literate people in the society.

To catalyse the tremendous social returns that are possible, the available capital for the project must be invested strategically to yield maximum returns. Frequent policy changes and non-involvement of end users during this process, poor or negligible IT awareness among decision-makers, poor management of knowledge and human resources, non-compatibility between IT projects and existing functional processes, poor risk management and choice of technology are among the root causes of problems in achieving significant e-Governance benefits.
3.6.4 Security Issues

Various security issues involved authenticity of the information sent across the web. The use of digital signatures is therefore much more required in case of government documents exchanged over the internet. Confidentiality of any transaction or information available on the network is a very crucial matter and is therefore of a vital importance to the successful e-governance implementation. Protecting the information and important governmental documents from unauthorized users is all the more important in e-governance information services.

3.6.5 Funding Issues

The government should identify project champions who can push in evaluation procedures in government departments and states and also realise tendering and bid – creations procedures to encourage private participations (Tripathi 2007a).

3.7 e-GOVERNANCE INITIATIVES IN NORTH EAST INDIA

Under the NeGP, over the years, a large number of initiatives have been undertaken by various state governments of North East. The entire North East region does not have robust communication infrastructure and has therefore remained relatively less developed. The role of ICT in catalysing development is well recognised. Connectivity is a critical requirement for these regions to open them up to the rest of India and, in fact, the entire world. Satellite-based
connectivity is ideal as it overcomes the challenge of negotiating the tough terrain.

Governments of the states of the North East India aim to make all government services accessible to the citizen locally to the grass root level through the core infrastructure of e-Governance information services.

3.7.1 CORE INFRASTRUCTURE

The core infrastructure of e-Governance is presented below:

a) State Wide Area Network

The State Wide Area Network (SWAN) provides access to the e-Governance applications and services to government employees through intranet and to the citizens through Internet/CSCs etc. Through such a shared service centre implemented and managed by a competent implementation agency, the individual departments can focus more on the service delivery rather than on the issues surrounding the infrastructure (Damodar 2013).

There are two Options for SWAN implementation as detailed below:

Option I – Public Private Partnership (PPP) Model. The state identifies a suitable PPP model Build-Operate Transfer (BOT), Build-Own Operate Transfer (BOOT) etc. and selects an appropriate agency through a suitable competitive process for outsourcing the establishment, operation and maintenance of the network.
Option II – NIC Model. The state has designated National Informatics Centre (NIC) as the prime implementation agency for SWAN establishment and also responsible for the operation and maintenance of the network to envisage G2C information services under the e-Governance initiatives.

Fig 3.1

SWAN Connection

Source: Damodar 2013, ‘SWAN’, Workshop Course Material on Awareness Creation in e-Governance, IETE
b) **State Data Centre (SDC)**

The State Data Centre (SDC) a project under the National e-Governance Plan (NeGP) aims to consolidate services, applications and infrastructure to provide efficient electronic delivery of Government to Government, Government to Citizen and Government to Business services. The services are to be rendered by the service providing departments through a common delivery platform supported by the connectivity infrastructure of the State Wide Area Network and the village level Common Service Centres.

SDC is envisioned as the ‘Shared, reliable and secure infrastructure services centre for hosting and managing the e-Governance Applications of State and its constituent departments’. SDC is envisaged to establish a robust infrastructure to enable the government to deliver the services quickly and effectively to its stakeholders. The State Data Centre is currently hosting the following websites: State Portal, State Services Delivery Gateway, File Tracking System, Online Inner Line Permit etc.

c) **Service Delivery Gateway (SDG)**

The National Service Delivery Gateway (NSDG), State Service Delivery Gateway (SSDG), and Mobile e-Governance Service Delivery Gateway (MSDG) can simplify the task by acting as a standard-based messaging switch and providing seamless interoperability and exchange of data. SSDG helps to protect the investments in software and hardware by easily integrating them with other
technology platforms and software implementations. It enables transaction logging and time stamping for tracking of transactions and centralized control. MSDG delivers government services over mobile devices using mobile applications installed on the user’s mobile handset. MSDG provides different set of mobile based e-Governance services to the backend departments and citizen.

d) **Common Service Centre (CSC)**

The Community Information Centre/Common Service Centre (CIC/CSC) Project was undertaken in the North Eastern region comprising the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura in April 2000. The basic thrust is to put the region on the IT map of the world. This region lacks proper communication infrastructure due to difficult terrain. This raises the cost of setting up and maintaining equipment in the region. In such a situation, communication among villages or communities is a tedious process. The CSC project was setup to overcome this problem and provide many IT-related facilities and services to the people. These services can be categorized as follows:

- **Reaching the Unreached**

Most towns and villages in North Eastern India are situated in difficult terrain. CSCs offer them instant Internet access and facilities for entertainment via NICNET. Visitors also utilize the Internet facilities to browse for information and tele-consult doctors for serious situations. Sports enthusiasts were overjoyed by the live broadcast of the cricket tour of India to Pakistan and other such games. The viewer response in terms of turnout was tremendous.
Bridging the Digital Divide

Today, it is necessary to be IT literate for employability in any organization. IT education and certification from Department of Electronics Accreditation of Computer Courses (DOEACC) and Indira Gandhi National Open University (IGNOU) is being provided by many CSCs. Providing both education and certification, is a two-pronged approach aimed at raising the IT knowledge of the youth, children, even the elderly, while providing certification for the courses from the organizations that set the standards for the IT industry in the entire country.

Access to Government Information

People need information in the public domain from time to time for various purposes and in this regard, they need to access government information banks. Remoteness from the distribution centre of such information and lack of communication facilities make it doubly difficult for citizens to achieve this purpose. Sensing the seriousness of the problem, most government departments have set up their own websites that contain detailed information about all the forms that need to be filled up.

Citizen Centric Applications

e-Governance offers the facility of applying online for documents from a government office, from the comfort of one’s home or a cyber-cafe and now they are available at CSCs. The government has already created the e-governance
applications for many departments. Since the volume of paper work carried out as part of administrative activities is huge, total e-Governance is likely to take a long time. Meanwhile, many state governments have already begun implementing this citizen-friendly measure in piecemeal fashion.

✓ **Common platform for knowledge sharing**

CSCs provide a forum for people of various communities operating from far-flung locations to come together to exchange knowledge and information that can be of greater utility to the people of North Eastern region. This is a win-win situation for both receiver and provider of knowledge and results in greater benefit of society at large.

**3.7.2 e-Readiness in the North East**

As per India e-Readiness Assessment Report 2008, the situation in the context of North East India is not encouraging. Among the north eastern states, Tripura, Meghalaya and Nagaland occupy a better position compared with the other states of the region as evident from the following figure.
The present status of e-Readiness in the entire region of the country, as such needs to be improved upon in many areas, which is in fact, the need of the era.

3.7.3 Strategy for G2C Information Service Delivery in NE

Schemes like the e-district, State Service Delivery Gateway (SSDG), e-Form, etc. have been initiated to enable delivery of the G2C services. Core infrastructure such as State Wide Area Networks, Data Centres, Gateways, etc. forms another critical element of the NeGP. Approximately 15% of the total program outlay is earmarked for common core and support infrastructure that is shared across projects, excluding the cost of infrastructure that is created specific to, and as a part of, individual projects.
The Overall Framework of e-Governance Delivery Channels

The diagram presents the e-Governance framework that includes back-ends (databases of different government agencies, service providers, state governments etc.), middleware and front-end delivery channels (home PCs, mobile phones, kiosks, integrated citizen service centres etc.) for citizens and businesses. The middleware comprises of communication and security infrastructure, gateways and integrated services facilitating integration of inter-departmental services.

e-Governance automates and thereby speeds up routine administrative functions. It enables the government to work better, yields higher growth and costs less, apart from servicing citizen’s needs as never before. However due to the varied nature of public services provided by different governmental departments, there
is a due need to build a new distributed, multi-domain, multi-layered and intra-operable architecture preferably based on the idea of service oriented (Sophiarani 2008).

3.7.4 G2C Accessibility and Information Services in NE

In this globalised e-Governance era, libraries, especially public libraries are also on the front line of e-Governance information service delivery centres and are able to improve upon state and local implementation. All government information which is available online including policies, acts, rules, regulations, notifications that are useful to general masses including the land records, examination results, crime records, vehicle registration, birth and death registration, training and education, employment information, policies and legislation, telephone directory, banking etc. can be accessed by the public free of cost through the public libraries (Preeti and Seema 2008). Unfortunately, in the region, Arunachal Pradesh, Manipur and Mizoram are the only states where library acts have been passed but not implemented yet. It is high time for the government to look after the matter so as to get maximum G2C information services accessibility. Besides, Departmental Centres, CSC’s, NICs/DITs etc. can also provide free access to information by installing 24/7 information kiosks, as well as provide one-window information system for all issues concerning the e-Governance.

The general G2C information services under the initiatives in the region include the following:
Agricultural Information: Information on weather, seeds, implements, new methods, instruments, equipments, technology, pesticides, animal husbandry, etc.

Educational Information: List of Educational institutions, programmes of studies, advertisements, announcement, etc.

Employment Information: Competitive examination dates, etc.

Health Care Information: List of Hospitals, Health Centres, Specialities, Reference Centre, Health Policies, Preventive Medicines, etc.

Information on Local History: Account on local history of different aspects.

Public Information: Various products and services.

Public Policy information: Government programmes, initiatives, schemes, public grievances, civil rights and duties, etc.

3.7.5 Projects and Applications in North East

Some major projects and other application activities taken up under e-Governance initiatives in the region include the following:

AGMARKNET

The Agricultural Marketing Information System Network (AGMARKNET) project utilizes ICT facilities for the betterment of the agriculture sector. It seeks to provide the farmers with prompt and reliable market information thereby
improving their decision making capability and strengthening their bargaining power.

- **Management Information System for PHED**

Web based MIS for Public Health Engineering Department (PHED) is one of the major IT initiatives of the Ministry of Rural Development, Government of India for effective planning, monitoring and implementation of various activities under Rural Water Supply and Sanitation Sector in NE. The project deliverables include Revenue Collection, Complaint Monitoring, Contractor and Supplier Information, Personnel and Payroll, Water Source and Asset Management, Water Quality Management, Material and Stores Management, Equipment Information System, Finance and Work Accounting, etc (Parmeshwor & Lalhmachhuani 2006).

- **ASHA**

ASHA, a joint effort by NIC and Assam Small Farmers Agribusiness Consortium facilitates agri-business in the state of Assam through a web portal.

- **Computerisation of Land Records: Computerised Records of Rights (RORs)** i.e. Jamabandhi and online transaction for mutation and partition along with revenue collection are provided to citizens on payment of a reasonable fee.

- **Loucha Pathap**

It is an online system of maintaining land records with fingerprint as user authentication in Manipur. The software provides facilities for searching a
particular record by giving the owner name or Dag. No. or Patta No. It enables marking of mortgage/objection of a particular plot. The software prevents such marked plot from further transaction such as mutation, partition or issue of computerized ROR/Patta etc. (Tarakishori 2011).

- **Computerisation of Personnel Information System (CPIS)**

This project is aimed at creating a database of all the employees of the Government of Manipur. Each employee is assigned an eight digit employee code which his/her various details such as Name, Designation, Place of postings, Pay Scale etc. are captured. Each department is allowed to update the database using a web interface. This database would form the base of the proposed Human Resource Management System.

- **Monitoring of Daily Treasury Transactions**

Currently the gross daily transaction details (receipts and pension payments) are captured and monitored. Manipur citizens can check their pension status through mobile by sending SMS with format MN PN your PPO No. (e.g. MN PN SM/10012) send to 51969.

- **Electoral Roll Computerization**

The entire voters list of NE states assembly constituency wise has been put on web. It provides support to the election process for the Lok Sabha as well as the legislative Assembly. The randomization software of polling officials is
successfully implemented. Technical support for online election trends and results for all the districts are provided during the elections since 2008-2009.

- **National Social Assistance Programme (NSAP)**

Under its programme, Old Age, Widow and Disability Pension schemes have been implemented in the NE. The pensioner details are uploaded on the site, for e.g. Nagaland site http://nsap.nic.in and is available online to the citizen.

- **Passport Cell Computerization**

The State Passport Cell was setup at Nagaland Civil Secretariat Home Department to facilitate the collection of new applications for passport of the state. Recently, all the seven states of NE have been partially launched the passport Cell.

- **Rural Development**

A software has been developed for monitoring the progress of centrally sponsored schemes. It was implemented for Mahatma Gandhi National Rural Employees Guarantees Act (MGNREGA) and Backward Region Grant Fund (BRGF) project. Planning process is also monitored.

- **Common Integrated Police Application (CIPA)**

Computerisation of the police station activities like registration, investigation, prosecution, reports etc. are covered under this project being implemented in NE (Kezungulo & Sangtam 2011).
e-Hospital (Hospital Management System)

It is workflow-based web-enabled patient-centric comprehensive IT solution for Medical Colleges and Hospitals developed by NIC. It has a number of modules including Patient Registration (OPD/IPD), Clinics, Billing/Cash, Medical Records, Radiology, Blood Bank, Laboratory, Ward/ICU/Cabin Management, Pharmacy, Operation Theatre, Management, Birth/Death Records, Administration, etc. NIC is now popularising the solution as ‘generic application software’ for government hospitals in other States also. The project got e-World 2011 award in one of the states of NE namely Tripura. The application has already been replicated/ is proposed to be replicated in other Government hospitals including AIIMS, Ram Manohar Lohia Hospital, Delhi, Ganesh Das Hospital, Meghalaya, Ernakulum Hospital, Kerala, etc.

Tele-Ophthalmology Centres (Vision Centres)

Tele-ophthalmology (Vision) centres have been set up in blocks to provide eye-care to patients at door-steps. These centres are linked to Indira Gandhi Memorial (IGM) Hospital through Telemedicine infrastructure. Through these Centres, the patients in remote areas get the benefit of consultation with specialists in IGM Hospital. The first vision centre was set up in Melaghar Block in April 2007. Vision centres have now been set up in 40 Blocks. About 94% of the patients are getting treated in the Vision Centre itself. Average number of patients per centre per month works out to about 120. This is a unique project implemented by
Tripura for the first time. The Project got National e-Governance Gold Award for 2009, e-India Award for 2010, Manthan Award South Asia 2010, Web Ratna Award, 2012, etc.

❖ **Tele-Medicine Centres**

The Department of Information Technology, Government of India, sanctioned a Project in 2005 for connecting Sub-Divisional Hospitals/Community Health Centres (CHCs)/Public health Centres (PHCs) through tele-medicine infrastructure. Some tele-medicine centres have been made operational in Assam and Tripura.

❖ **Online Blood Donor Information System**

It is a web-enabled application. It allows citizen to:

a) Search for the donors of his/her required blood group in a particular area;

b) See the stock status of blood in various blood banks and

c) Register as a voluntary donor.

❖ **Health Booking System (Tripura)**

This is a web-enabled application which provides facility to the patients in remote areas to get advance booking for various diagnostic tests and specialist consultations in the state Hospital of Tripura.
- **Energy Billing System**

Computerised electricity billing system has been adopted in the region to increase efficiency in the billing system and to improve the transparency. It is a web based application developed by NIC. The implementation of the Project started in 2004. Billing and consumer details are already available on Internet in some states of NE. Efforts are being made to start online payment facility for electricity bills.

- **e-Pourasabha (Agartala Municipal Council)**

It is a work-flow based application developed by NIC and includes modules for Property Tax, Water Tax, Collections, Birth and Death Registration, Trade Licence, etc. The citizens can access details of property tax and water tax, birth and death registrations, etc. on the web. In fact, Agartala Municipal Council is the first Municipal body in the North East to go for IT-enabled services to citizens. Efforts are being made to implement a web-based integrated solution and to start online payment facility (Government of Tripura 2006).

- **VAHAN SARATHI (Transport)**

The functions of Transport Department have been computerised through the Project of Ministry of Road Transport & Highways, Government of India. NIC has developed this web-enabled application. The project covers modules for Vehicle Registration, issue of Driving Licence, Road Permit, Vehicle Fitness Certificate, Road Tax, etc. Smart Cards are being issued for vehicle registration and driving licence. The system operates through a vendor in PPP mode. Citizens can see status of their applications over Internet.


- **e-Suvidha**

This is a work-flow based application developed by NIC and deployed in State Data Management (SDM) offices, under which services are offered through a single window. The services include issues of various Certificates, issue/renewal of various licences, etc. The application was initiated in SDM. Citizens can see status of their applications on the Internet (Government of Tripura 2006).

- **Computerisation of Land Records and Registration**

The process of digitization of maps has also been completed in the NE. Regarding computerisation of Registration, the project was initiated in 2006 with application called ‘CORD’ developed by NIC. The project has been implemented in all registration offices.

- **e-Panchayat**

This is one of the State Mission Mode Projects (MMPs), that aims at taking the computerisation process upto Gram Panchayat level. Panchayat Department is implementing the Project. The services to be offered under the Project include issue of various Certificates, applications for Pensions, NREGA Job Card, Ration Card, Utility Bills, etc.

- **SMS-Based Election Monitoring System**

Software solution and technical support was provided during last Assembly, Parliamentary and Bye Elections. Electoral Rolls, which are available in Bengali
and English, are regularly updated and published on the official website of all the regions of NE e.g. a thhttp://ceotripura.nic.in with Unicode based searching facilities. Activities like availability of candidates’ information, affidavits hosting, results processing, randomization of polling parties and randomization of electronic voting machines, communication plan etc. were taken care by Election Software Suite.

- **IVRS & Online G.P.F. for State Government Employees**

  The Gravity Provident Fund (GPF) related information for state government employees has now been made available by the office of the Accountants General (A&E) in the North East online as well as through Interactive Voice Response System (IVRS). SMS-based information system has also been introduced in NE.

- **e-Learning**

  The following projects are currently under implementation in the North East:

  - **ICT School Project**: The project was started in 2007. Under this Project, e-Learning Software is being used in some schools to educate Class VI-VIII students like Nagaland and Tripura in states.

  - **Edu SAT Project**: The project was started in 2007. Under this Project, Satellite interactive terminals have been installed and are operational in some schools.
Finance (Commercial Taxes, Treasury/ Budget)

The following initiatives have been taken:

- **Commercial Taxes:** Application developed by NIC under State MMP for Commercial Taxes is being used.

- **Human Resource Management System:** This Project aims at building complete database of employees and pensioners. Commercial Metals Company (CMC) has been selected for implementation of the project. CMC has developed the application. Data Digitization is being done (Government of Tripura 2006).

3.7.6 Other e-Governance Applications

The following are some other important applications implemented or being implemented in the NE States:

- **CCTNS:** The Home (Police) Department is implementing the Crime and Criminal Tracking Network System (CCTNS) Project. The application has already been operationalised through Police Stations in the state of North East.

- **e-Procurement:** Rural Development and Information Technology Departments are using e-Procurement application. Tenders have been floated through this System.
- e-Public Service Commission (PSC): The NE PSCs are using the application for online submission of applications by the candidates for recruitment.


- Tripura Online RTI: Tripura is the first state in the country to introduce online system for registering complaints and second appeals through internet.

- Centre for Academic Development (CAD): The Project is being implemented by C-DAC through the Department of Handloom, Handicraft and Sericulture (DHHS) for local weavers/artisans with a view to upgrade their skills through ICT tools.

### 3.8 CONCLUSION

It can be safely assumed that information and communication technology can play very important role in the improvement of information services of government process at all links. However, any e-Government planned should have adequate plans for its horizontal and vertical integration across levels.

In order to promote home grown IT solutions in the public sector, a more elaborate insertion structure is highly needed. It is recommended that citizen
voice be given consideration in the design and development of services. This may involve closer collaboration of the government with civil society intuitions and private sector. Let these projects be the criteria for the success of e-Government intimations.

In experience, the government is using a technical lens rather than social lens to look into e-Governance solutions. It will be highly desirable if the provisions of multidisciplinary teams are considered. The government has established e-Governance directorates in different provincial headquarters. These departments are manned with personnel of technical background mostly. A shift in personnel policy is highly desirable to accommodate individuals with social development background.

Moreover e-Government is not just providing infrastructure. It offers opportunities to provide government services more effectively and effectively. For information centres and public libraries also providing access to government information online can be seen as an extension of their traditional role. Adequate weightage must be given for quality and speed of implementation in procurement procedures for IT services. Trend of delivery of services through common service centres should be encouraged and promoted where possible services should be outsourced. Full potential for private sector investment should be exploited and connectivity should be extended up to block level through NICNET/SWANS. However, with increasing amounts of information available on government websites, demand is likely to increase for this information service.
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