CHAPTER III
E-GOVERNANCE EXPERIENCE- INTERNATIONAL AND INDIA

The present chapter summarises E-governance experience of various countries across the world and its impact on service delivery in the respective areas. Besides this a detailed analysis of E-governance programme at the national and state level in India along with various institutions established for the same purpose are also done.

3.1. International Experience

The nature and impact analysis of international experience of E-governance have been done with respect to projects for service delivery and information. The assessment on international experience on E-governance is attempted at region and country levels. The Table:-3.1 summarises the important E-governance initiatives implemented at global level.

<table>
<thead>
<tr>
<th>Region</th>
<th>Countries</th>
<th>Programmes</th>
<th>Targeted Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASIA AND THE PACIFIC</td>
<td>Australia</td>
<td>Centre link</td>
<td>Family income estimate update service, Service Delivery etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Business Entry Point</td>
<td>All B2G services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Information Management Initiative</td>
<td>Cost effective infrastructure supply, Provision of Up-to-Date information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E-Taxation</td>
<td>Lodging of IT returns</td>
</tr>
<tr>
<td></td>
<td>Azerbaijan</td>
<td>RICS</td>
<td>Information and communication services</td>
</tr>
<tr>
<td></td>
<td>Bangladesh</td>
<td>BRIS</td>
<td>Birth Registration</td>
</tr>
<tr>
<td></td>
<td>Japan</td>
<td>E-Japan Strategy</td>
<td>Providing digital information and service</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>Civic Service Innovation System</td>
<td>Digital form management system, Digital signature authentication service, Online payment system and Digital document issuing system</td>
</tr>
<tr>
<td>Country</td>
<td>Service/Project</td>
<td>Description</td>
<td></td>
</tr>
<tr>
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<td>------------------------------------------------------</td>
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<td></td>
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<tr>
<td>Malaysia</td>
<td>National ID Card(MyKad)</td>
<td>It is used for Identification, Drivers’ license, Payment of tolls, accessing health facilities etc.</td>
<td></td>
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<tr>
<td>New Zealand</td>
<td>Upper Hut City council Web Site</td>
<td>Property Information and Service Delivery</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Customs Service Online</td>
<td>Clearance of imports, Payment of duty etc.</td>
<td></td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>Ministry of Hajj Portal</td>
<td>Issuing Visas and other facilities to Hajj Pilgrims</td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>Car Park Portal</td>
<td>Information to the motorists.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online Application System for Integrated Services</td>
<td>Integrated to 30 govt. agencies. Providing 154 types of licenses.</td>
<td></td>
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<tr>
<td>Thailand</td>
<td>E-Tax Filing</td>
<td>Online filing for tax returns</td>
<td></td>
</tr>
<tr>
<td>Vietnam</td>
<td>Online Business Service</td>
<td>Issuing license to investors.</td>
<td></td>
</tr>
<tr>
<td>Mauritius</td>
<td>Contribution Network Project</td>
<td>Income tax assessment and submission of returns</td>
<td></td>
</tr>
<tr>
<td>Mozambique</td>
<td>GovNet</td>
<td>Public service delivery and decision making</td>
<td></td>
</tr>
<tr>
<td>South Africa</td>
<td>Cape Gateway Portal</td>
<td>Providing information and service over the Web</td>
<td></td>
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<tr>
<td>Armenia</td>
<td>E-visa</td>
<td>Paperless visa</td>
<td></td>
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<tr>
<td>Austria</td>
<td>CRR</td>
<td>Issuing certificate of residence</td>
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<tr>
<td>Belgium</td>
<td>Electronic Identity Card</td>
<td>Authentication and digital signature capabilities to the Belgium citizens</td>
<td></td>
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<tr>
<td>Bulgaria</td>
<td>Electronic Information System for Civil Registration and Administrative Services</td>
<td>Issuing of digital certificates, smart cards etc.</td>
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<tr>
<td>Denmark</td>
<td>Nordpol.dk</td>
<td>Participative decision making and service delivery</td>
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<tr>
<td>Estonia</td>
<td>Special Citizen’s Web Portal</td>
<td>Accessibility of 100 database and registers</td>
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<tr>
<td>Finland</td>
<td>Web Portal of the Finnish Government</td>
<td>Press release description service, records of govt. etc.</td>
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<tr>
<td>France</td>
<td>Service-Public Local Platform</td>
<td>Qualitative service delivery, Information dissemination</td>
<td></td>
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<tr>
<td>Germany</td>
<td>MOIN</td>
<td>Online Civil Registration</td>
<td></td>
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<tr>
<td>Greece</td>
<td>Citizen Service Centres</td>
<td>One-stop shopping for administrative documents</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>Business Incubator</td>
<td>Integrated service network and video conferencing</td>
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<tr>
<td>Ireland</td>
<td>Inter-Agency Messaging Service</td>
<td>Single mechanism for accessing all public services</td>
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<tr>
<td>Country</td>
<td>Service/Programme</td>
<td>Description</td>
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<tr>
<td>Italy</td>
<td>e-Government Code(eGC)</td>
<td>Act as a Digital Constitution and has a unique code</td>
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<tr>
<td>Netherlands</td>
<td>Municipality Meeting Online</td>
<td>New way of interacting with the govt.</td>
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<tr>
<td>Poland</td>
<td>Integrated Customs Duty and Tax System</td>
<td>Budget accounting, tax settlement, auditing etc.</td>
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<tr>
<td>Romania</td>
<td>E-licitatie</td>
<td>Multi-utility govt, Web Portal</td>
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<tr>
<td>Spain</td>
<td>Modernisation Programme</td>
<td>Service delivery and Information for Employment</td>
<td></td>
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<tr>
<td>Sweden</td>
<td>Vacancy Bank</td>
<td>Information about Employment for both employees and employers</td>
<td></td>
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<tr>
<td>Switzerland</td>
<td>Geneva E-voting System</td>
<td>Cast vote through online ballots</td>
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<tr>
<td>United Kingdom</td>
<td>Fife Direct Web Site</td>
<td>Employment services, Local and National database and bringing communities online</td>
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<td></td>
<td>e@syConnects</td>
<td>Emergency services, voluntary sector, transport services etc.</td>
<td></td>
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<tr>
<td>Canada</td>
<td>Online Labour Market</td>
<td>Labour market information</td>
<td></td>
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<td></td>
<td>My Account</td>
<td>Information about Tax remittance and different savings plan.</td>
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<tr>
<td></td>
<td>Government On-line Initiative</td>
<td>Service delivery available 24*7</td>
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<tr>
<td>Jamaica</td>
<td>ASYCUDA</td>
<td>Online Customs Service</td>
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<tr>
<td>Mexico</td>
<td>Citizen Portal</td>
<td>Single point of access to govt. services and information</td>
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<tr>
<td>USA</td>
<td>Washington DC Website Portal</td>
<td>Portal available in 10 language, online transactions and information</td>
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<tr>
<td>Argentina</td>
<td>Electronic Tax Payment System</td>
<td>Online submission of tax returns forms, payment of taxes, access to customs procedures etc.</td>
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<tr>
<td>Bolivia</td>
<td>Customs Service Online</td>
<td>Facilitates foreign trade</td>
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<tr>
<td>Brazil</td>
<td>Poupatempo</td>
<td>Highly time saving service delivery of public utilities</td>
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<tr>
<td>Chile</td>
<td>Online Tax System</td>
<td>Collection of both individual and corporate tax</td>
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<tr>
<td>Colombia</td>
<td>The Government Portal - PEC</td>
<td>Accessing information relating to budget, law, investment, employment etc</td>
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<tr>
<td>Peru</td>
<td>Tributación Online</td>
<td>Computerised tax system</td>
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<tr>
<td>Uruguay</td>
<td>Portal of Tax Return Forum</td>
<td>Providing assistance to all matters relating to the remittance of taxes</td>
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</table>

Source: compiled from various UNDP Publications
3.1.1 ASIA AND THE PACIFIC

Major countries listed for assessing the role played by E-governance programmes in the process of development and overall welfare of people are Australia, Azerbaijan, Bangladesh, Japan, Korea, Malaysia, New Zealand, Philippines, Saudi Arabia, Singapore, Thailand and Vietnam.

3.1.1.1 Australia

The important E-governance programmes evaluated for Australia are the Customer Services Online (Centrelink), the Business Entry Point (BEP) and Information Management Initiative.

The Customer Services Online (Centrelink) started in 2001 is committed to offering customers a wider range of options for accessing services, with extended contact hours and help to access the options most appropriate to their needs. One of the important services offered by this initiative is the Family Income Estimates Update Service which allows customers to prepare revised family income estimates. The Centrelink structured the program as a proof-of-technology to test the viability of the Customer Services Online approach and learn about customer behaviour. Customers will be able to make real time updates of their income estimate, thus making this aspect of their record completely transparent to them and engendering increased public trust and confidence in government service delivery. Social benefits would accrue significantly from improvements to service quality, throughput and reduced lead times, and accessibility. For customers, this will be achieved from a progressive move to increased convenience of 24*7 accesses, the ease and speed of update. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022287.pdf, 2010). Agency benefits include service cost reductions of more than $5 million for the three years to 2005.

The Business Entry Point (BEP) provides a simple and convenient access to all the government information, transactions and services needed and facilitates business-to-government (B2G) interactions online. The BEP uses cross-agency and cross-jurisdictional cooperation and private industry partnerships. In pursuing a strategy
focused on allowing businesses to carry out transactions online, an innovative online transaction management system has been developed. The system allows businesses to discover, manage and complete transactions with all levels of government. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022284.pdf, 2010). This program reduces the government compliance burden placed on business; it helps to deliver better quality, user friendly and consistent service to the user; and it enables people to interact with government online.

**Information Management Initiative have** been undertaken to facilitate access to cost-effective infrastructure for government agencies. They include:

1. Fedlink: a virtual private network for electronic communication between government agencies. It can operate securely across all infrastructures, including the Internet, to transmit a variety of data types

2. Open Source Content Management System: a content management system as implemented in the Australian Government Information Management Office and made available to government agencies in an easily installed package;


5. Gatekeeper Policy and Administration: a framework for implementation of public key infrastructure in government;

6. Source IT web site: a resource for agency chief information officers and staff with sourcing information and tools.

7. Australian Government Service Delivery Principles: principles developed as the first component of the Access and Distribution Strategy of the Government of Australia; and
8. Govdex: used to develop and test infrastructure that government agencies can use to align standards, promote interoperability and facilitate federated services. The Govdex infrastructure is based on Web Services registry technology and a collaborative governance framework. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022071.pdf, 2010)

Through this programme, the citizens have access to up-to-date information and quick service. The public sector is thus more reliable and efficient and it meets citizens’ needs. The use of open source technology has enabled the Government to link its agencies together and thus provide an integrated network.

3.1.1.2 Azerbaijan

The Government of Azerbaijan in collaboration with UNDP is currently establishing a number of Regional Information Centers (RICs) throughout the country, so as to ensure a more widespread and equitable access to information and communication services. The Regional Information Centers are shared facilities providing access to the Internet and ICT-enabled services, with the aim of promoting local and regional development (http://www.ejisdc.org/ojs/, 2010). The rationale for the establishment of these facilities in the Azerbaijani context is twofold. On the one hand, Regional Information Centers are seen as an effective way to provide valuable information services to a larger segment of the population, and to increase the general level of awareness of information and communication technologies. On the other hand, RICs are expected to have a positive social and economic impact on the communities they serve, through the development of new skills and capacities.

3.1.1.3 Bangladesh

The electronic Birth Registration Information System (BRIS) is based on distributed application architecture, with four clients and one server connected via a local area network. It registers births electronically, providing a basic citizen identity, and building this data together with other into a population database that can be shared with other public agencies with Bengali and English languages. The system could also be used to assist with the process of school enrolment. The electronic system of registration was
proposed, with financial assistance from UNICEF in April 2001(http://www.egov4dev.org/rajshahi.htm). BRIS has removed duplication and redundancy from birth/registration records through centralized storage of data. It has automated searching, sorting, processing and reporting tasks (such as those associated with immunization) and very significantly reduced the time needed for such tasks. Error rates have also been reduced, with a combined ID number and bar-coding system.

3.1.1.4 Japan

In January 2001, the ICT Strategy Headquarters adopted the e-Japan Strategy, which envisaged Japan’s becoming the world’s most advanced ICT nation within five years. “The Programme for Building e-Government” was adopted in 2003. It provides the basis for the ongoing E-government initiatives. The Programme for Building E-Government has two main goals: creation of a user-oriented administrative service and establishment of a cost-effective, efficient administration. In order to achieve these goals, three objectives need to be met: provision of better services to the public; renovation of business processes and systems; and development of infrastructure for E-government. In its effort to provide better services to the public, the E-Japan Strategy envisaged government to consumer and government to business administrative procedures going fully online, making a commitment to treat digital information on an equal footing with paper-based information. As of March 2005, about 14,000 (i.e., 96 per cent) of the targeted national administrative procedures could be conducted and completed online, including in such areas as service delivery, real estate registration, national taxation and social insurance (http://unpan1.un.org/ inradoc/ groups/ public/ documents/ other/ unpan022094.pdf, 2010). With the introduction of the Government public key infrastructure through an encrypted key code; citizens can securely perform online transactions with any Ministry. They are able to obtain a digital certification that confirms their respective identity, thus reducing identity theft and fraud.
3.1.1.5 Korea

The Government for Citizen (G4C) civic service innovation system, an integrated Internet portal site (www.egov.go.kr), has been promoted by the Ministry of Government Administration and Home Affairs. The system has been designed to: Serve as the foundation for various e-government services such as digital form management system, a digital signature authentication service, an online payment system and a digital document issuing system and having different government offices share information online. The system offers the following key services:

- A single service window (www.egov.go.kr) that provides information on all government offices, which are linked together into an integrated Internet portal site that represents the government;

- Information on over 4,000 civic services handled by government offices, including the handling agency’s name, processes, fees, documents required, and applicable legal provisions, through the unified e-government portal site (http://www.egov.go.kr/, 2009).

The G4C service has had the following impact on citizens and the government offices. (http://www.korea.go.kr/eng/index_portal.html, 2010). First, since citizens may enter their civic service requests electronically on the Internet from their home or office, receive the outcome by mail or view it on the Internet, and print the outcome output on their own printer using the Internet issuance service, they can save time and money spent on visiting government offices or using third-party service agents. In addition, efficiency and transparency in the civic service have increased as the new system has greatly reduced various government certificates issued by public servants personally to citizens. Finally, administrative savings have been achieved owing to the sizeable reduction in the number of government certified documents that citizens must obtain from one government office to another office (http://unpan1.un.org/intradoc/groups/public/documents/un/unpan022067.pdf.2010).
3.1.1.6 Malaysia

The Government of Malaysia and the **Government of Multi-purpose Card (GMPC)**, a consortium of five internationally prominent technology suppliers, developed and implemented “**MyKad**” – a multipurpose digital application card for all citizens over the age of 12. MyKad deployment began in May 1999, and had its official introduction in September 2001. It replaces the national identification card and the driver’s license. Availability of passport information enables quick exit and re-entry of Malaysians at immigration checkpoints (however MyKad does not replace passports for overseas travel). Confidential health information - such as allergies, medications, medical history, etc. ensures immediate medical attention during emergencies, eliminating the need for costly tests prior to treatment and delays caused by paperwork (http://unpan1.un.org/intradoc/groups/public/documents/un/unpan022067.pdf, 2010).

MyKad can be used for payment of tolls on highways; citizens pre-pay and the toll device automatically deduct the proper amount from the smart card. It can also be used for parking and for the public transportation system. Citizens can perform ATM transactions with the smart card. Citizens can use MyKad as an E-purse for small purchases, pre-paying small dollar amounts and using the smart card to purchase everyday items.

3.1.1.7 New Zealand

**Upper Hutt City Council Web Site** developed in 2003 provide property information online.(http://www.uhcc.govt.nz, 2010). The Upper Hutt City Council has been giving people access to land information, including aerial photographs. The uniqueness of the Council service lies in the functionality that it provides for people. Through XPLORER, which uses GIS technology, the Council offers a fast, free and easy way to find details about local property.

The Upper Hutt City Council has a strong customer focus and emphasis on public access to information as demonstrated by its web site, where several services are brought together for visitors and residents. The online service has resulted in greater convenience. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan021999.pdf, 2010). The service has been extremely popular, with 26,000 maps downloaded per month. Council staff noticed a reduction in the number of people seeking property information in
person as the online service became more widely used. They now refer property enquiries to their web site. This saves staff time and minimizes the time it takes for people to obtain Council information.

3.1.1.8 The Philippines

Customs Service Online developed by Customs Bureau is an on-line system to process clearance of imports, payment of duty, and delivery of release orders for shipments to leave the docks. The Bureau implemented a standard software package ASYCUDA. The system also has become nearly paperless. An encrypted file verifying the payment received at banks is sent to Customs via a gateway. Customs computers match this information with the amount of duties and taxes payable. The new on-line system has lessened the cost of trade for businesses, reduced opportunities for fraud, and helped the Bureau to maximize revenue collection. Quick clearance of a majority of transactions has brought down the cost of trade significantly (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022355.pdf, 2010). Under the new system, business people also enjoy the greater convenience of making payments at familiar banks, instead of lining up for service at the Customs collection stations.

3.1.1.9 Saudi Arabia

The Ministry of Hajj portal was designed to address the entire range of visitors’ needs from obtaining visas and plane tickets, to the accommodations and services visitors will need during their stay. For this reason, the project comprises a mix of government and private sector. The uses of the portal to obtain visas, plane tickets, accommodations and services are limited to, approved intermediaries such as travel agents. The main objectives of the Ministry of Hajj portal are to serve the Muslim community, service providers and government entities; assist members of the Muslim community worldwide, interested in performing Hajj and/or Umrah, by providing access to necessary services and information; Serve Ministry of Hajj employees, M2E (Ministry-to-Employees); Serve business owners (service providers), M2B (Ministry-to-Business); Serve government organisations, M2G (Ministry-to-Government) etc. The Ministry of
Hajj can bring new service providers on board to serve visitors more effectively and efficiently, while ensuring and monitoring quality of service levels (http://unpan1.un.org/intradoc/groups/public/documents/undp/unpan022486.pdf, 2010). Travel wholesalers can make data about pilgrims available online to licensed travel agencies, ensuring that visitors get high-level services.

3.1.1.10 Singapore

The important E-governance programmes evaluated for Singapore are: Online Application System for Integrated Services and the BizFile System.

The Online Application System for Integrated Services is an innovative cross-agency project that spans more than 30 government agencies. It focuses on cutting red tape for licenses and making the application for licenses efficient, more affordable and hassle free for businesses, especially for start-ups. It provides an opportune platform for purging bureaucratic inefficiencies within many government agencies. Extensive policy reviews were conducted for 154 licenses, through which 11 were identified for removal. The application procedures for the remaining licenses were systematically re-engineered; this allowed the average processing time to be reduced from 3 weeks to 12.5 days. Coupled with the revised fee structures, savings accrued to business exceed $1.8 million annually. Eighty per cent of all new business in Singapore, or more than 30,000 businesses annually, can apply online through the Online Business Licensing Service for one or more of the 69 licenses that are commonly needed to start their businesses without resorting to offline means. As a natural extension to the online application service, the Online Business Licensing Service would enable applicants to complete license renewals, updates and terminations online.

The BizFile System is the first fully electronic filing government project in Asia Pacific and amongst the world pioneers to allow members of the public to perform filing of all legally prescribed business/company forms for the purposes of registration and statutory disclosure requirements online without the need for signatures. The entire framework has been transformed from a manual form based filing to a transaction
oriented online filing system, both at the frontend and backend. The turn-around time for some transactions has reduced from 10 days to 2 hours (www.rcb.gov.sg, 2010).

The BizFile System enhances productivity and improves turnaround time for customers by eliminating labour intensive work processes; it enhances accuracy and timeliness of information provided by removing manual data entry; it builds an effective user friendly filing system for all forms and supporting documents; it builds an effective compliance system to monitor statutory disclosure requirements. Legal amendments and a re-engineered processing framework in the system have resulted in a drastic reduction in the processing time (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022726.pdf). The system is also accessible to customers without time and location boundaries.

3.1.1.11 Thailand

As part of the department’s strategy to collect more taxes, it makes paying taxes easier for Taxpayers, the Thai government implemented E-Tax Filing in the year 2002. Key changes include a comprehensive database, “E-Taxinfo”, “E-Service” and online filing for tax returns. “E-Taxinfo” is a free E-mail news service that sends updates and changes to tax laws, relevant news, and tax seminar information directly to taxpayers’ inboxes. “E-Service” features important information online – VAT refund for tourists, downloadable forms, electronic payment, customer service via E-mail and most importantly, E-filing (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022487.mht,2010). E-filing has come a long way in a short time: back in 2002 the system failed in the last two days before the tax deadline, and as a result only 69,000 taxpayers managed to file online. The second year of e-filing saw this rise to 259,000 before it jumped to 2 million in 2004. This application has been awarded the E-Asia 2003 Award.

Online filing is not only convenient; it is also free from error. The system ensures that all calculations are correct and all information has been entered. Another benefit for those who file online is that they receive their refunds very quickly, say 15-30 days. According to internal estimates by the Revenue Department, each taxpayer that chooses
to file online saves the government more than US$1 each (http://www.rd.go.th, 2009). This refers to the savings in the form of not having to manually enter data from erstwhile paper forms, as well as the improvement in the accuracy of the data submitted, and the handling and storage costs of taxpayer data.

3.1.1.12 Viet Nam

Hanoi and Ho Chi Minh City each launched Web development projects for business service agencies in 2000. The two web sites (Hanoi Ministry of Planning and Investment and Ho Chi Minh Department of Planning and Investment) are designed to serve as the first point of contact for potential investors, especially foreign investors (http://www.mpi.gov.vn, 2010). Investment license applications now have been Web-enabled in both cities. Companies can submit their applications via the agency website. The sites are now interactive, content rich, and have the potential to set standards for related agencies elsewhere in the country (http://www.dpi.hochiminhcity.gov.vn, 2010). The site has been able to reduce turn-around time in processing by the agency and, most importantly, the search cost by prospective investors who traditionally pay professional services companies several thousand dollars for a simple registration process (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022356.pdf, 2010). The benefits of this E-government application could be extended to related agencies in Viet Nam, thus justifying the high cost of development.

3.1.2 AFRICA

The important country experiences discussed here are Mauritius, Mozambique and South Africa.

3.1.2.1 Mauritius

The Contributions Network Project (CNP) (2000) connects all large employers, and the majority of small ones, to the relevant government tax departments via a single point of contact. The system enables employers to submit their returns directly through a two-way, fully electronic system. In return, employers receive
confirmations from the respective departments. Payments are also made electronically through a direct debit arrangement. The payments covered under the project include PAYE (Pay As You Earn), Corporate Income Tax, VAT (Value Added Tax), NPS (National Pensions Scheme), NSF (National Savings Fund), the IVTB levy and company registration. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022295.pdf, 2010). The important advantages of the programme are: allows submission from the comfort of one’s office with a PC and modem; eliminates paper returns and paper payments; no physical movement required to the Government departments; saves time and increases efficiency for businesses/employers and Government; and guarantees confidentiality and security.

3.1.2.2 Mozambique

The Government of Mozambique has recognized the importance of establishing government electronic network (GovNet) in both the Implementation Plan of the Public Sector Reform Strategy and the National ICT Policy Implementation Strategy (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022093.pdf, 2010). This Government Intranet would be an essential building block in providing an enabling environment for fostering the rule of law, increased transparency, accountability, efficiency and effectiveness of government operations; improving the quality and coverage of co-productive public service delivery; and allowing for increased participation in government decision-making processes – in short, for fostering the establishment of systems of good governance.

3.1.2.3 South Africa

The Cape Gateway portal offers transparency by providing information about all government departments and services over the Web. A detailed structured data model was developed in order to indicate how to express government information consistently. Information on the entire vertical market segments such as health, housing, licensing, transport and education is provided using this standardized data structure. Various views on the information are provided: a citizen or business can have a view according to a life event/stage
A content management system (Bee) and supporting policy were developed that prescribe minimum content requirements for content input, work flow and reporting. The software and source codes are freely licensed to all government organizations in South Africa and internationally. The project is contributing to transparency by providing easy access to government information, resources and services, information that previously had not been readily available to citizens in the Western Cape. Other benefits include: convenience, simplicity of use and empowerment through higher efficiency.

3.1.3 EUROPE

The country level E-governance experience discussed here are with respect to Armenia, Austria, Belgium, Bulgaria, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Poland, Romania, Spain, Sweden, Switzerland, Northern Ireland and United Kingdom.

3.1.3.1 Armenia

Armenia was the second country in the world to create and launch an E-visa program in 2005 (Australia was the first) (http://armeniaforeignministry.com/eVisa/). An E-Visa is equivalent to a conventional visa, but no paper is inserted in your passport and there is no need for you to visit an Armenian diplomatic mission to submit an application. Applications for E-Visas can be submitted online, verified online, and the reference number will be assigned to enable individuals to check the status of their applications. In most cases, E-visas will be approved and issued online within two business days. Visa number and other particulars are given and will be served as the paperless entry visa. Although the E-visa is currently the most expensive option (60 USD, compared with an average price of 50 USD for visas obtained at a consulate, and 30 USD for airport arrival visas), the number of people opting for the e-visa is growing (http://unpan1.un.org/intradoc/groups/public/documents/un-other/unpan022486, 2010). This is testimony to the fact that people estimate their overall e-visa transaction costs to be lower regardless of the higher one-time payment. For visitors residing in a city or
country where there is no Armenian Consulate, the savings are significant with regard to travel time and costs of postal/courier charges back and forth.

3.1.3.2 Austria

The Central Register of Residence (CRR) created in 2002 is the core of all public services offered to citizens respectively of services where up-to-date residence information is needed. All 2,359 municipalities are connected to the CRR. Currently, an average of about 120,000 and a maximum of 360,000 queries are conducted per day. With the CRR, all addresses of an Austrian resident are centrally available. These offers implies various benefits to the public authorities as well as to the people demanding others who require registration information or certification (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022349.pdf, 2010). The important advantage of the programme are the availability of all residents' list, better quality of registration of data, exclusive online delivery of the certificate of residence and reduced workload.

3.1.3.3 Belgium

In October 2002, the Government of Belgium launched the project, Electronic Identity Card (eID Card), which is a smart card that provides authentication and digital signature capabilities for Belgian citizens. The card is used to secure applications ranging from online income tax returns and medical scheduling to online applications for a Certificate of Residence and safe chat rooms, as well as private-sector applications such as online banking. It provides the Belgian citizens with maximum access to government information and services. In less than three years, approximately two million smart eID cards have been issued. By 2009, all Belgian citizens over 12 years of age will have their own eID card, making a total of over eight million cardholders (www.eid.belgium.be, 2010). The Government has not only developed middleware to enable the large-scale deployment of low-cost eID-compatible smart card readers, but it has also distributed more than 125,000 readers to youngsters receiving their first eID card at the age of twelve. This programme has resulted in a substantial reduction (more than 50 per cent) in
the price of entry level smart-card readers. The Belgian eID card is the largest deployment of smart-card-based identity cards in Europe and is often viewed as the benchmark for such programmes (http://unpan1.un.org/intradoc/groups/public/documents/Other/UNPAN022137). This has led to multinational corporations creating Centre of Excellence in Belgium to explore the technological and organizational requirements for successful, large-scale smart-card projects.

3.1.3.4. Bulgaria

The Electronic Information System of the Department of Civil Registration and Administrative Services stores personal data for all Bulgarian citizens. Web access to stored data for government staff is the primary service of the system and contributes to a seamless government. If required by their job, government employees can access stored personal data relating to citizens. Since the service uses the Internet for the transfer of confidential personal data, it is essential that the latest ICT technologies provide a secure environment for this function. The main security feature implemented is the public key infrastructure using digital certificates stored on smart cards. Another service, Web access to election rolls, helps citizens to check their data on the electoral rolls and find out where they can vote. A range of general population data is also provided for agencies and national organizations that can be used to support decision-making (http://nbd.grao.government.bg/2010).

3.1.3.5 Denmark

The Nordpol.dk Website is an E-democracy web site inviting the citizens to participate in the political decision making process in the County of North Jutland, Denmark. The target groups of the project (i.e., citizens, especially young citizens and politicians) have been invited to take part in the project in all its phases (i.e., definition, test, appraisal and plans for future development). This has ensured an appropriate focus of the content and design, and constitutes a significant reason for the overall success of the project (http://www.nordpol.dk.2010). The debating site allows both politicians and citizens to define the agenda and bring up the topics on which a dialogue is desired. The goal is to create a more transparent decision-making process and to reach more qualified
decisions, allowing larger groups of citizens to rise and speak than is the case with the conventional channels for their involvement and participation (http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan023593, 2010). It facilitates access to debates on current political topics and connections to other electronic news media in order to create a coherent framework for civic involvement in the process of democracy.

3.1.3.6 Estonia

**Special Citizen’s Web Portal** is a project to ensure the availability of a Web-based service for citizens and government staff to enable them to access one hundred government databases and registers. These include ten large registers with thousands of local interactions a day. The set of standard services available includes answers to typical queries, such as “Give me my data” from the population register and from the motor vehicles register (http://x-tee.riik.ee/, 2010). All services available through the citizens’ portal have a common user interface, which is not dependent on a database management system for managing the back office. A standard authentication system for all citizens has also been developed. As an additional option for organizations that have data security problems, a special standard Mini Info System portal, which is very similar to the citizens’ portal, has been developed. This portal, designed primarily for civil servants to use in their offices, includes one additional function: the authorization of users(http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022018).

Development of a similar portal and a set of standard services is planned for private companies as well. The project has ensured the availability of a Web-based service for citizens and government staff to enable them to access one hundred government databases and registers.

3.1.3.7. Finland

The **web portal of the Finnish Government** was re-opened on 13 March 2006, with new functions include a press release subscription service, an event calendar, a larger image bank, and materials of Government sessions available on the website. Reforms are ongoing. Already existing sections include: Current issues, cabinet in office,
Government activities, European Union affairs etc. (http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan023591, 2010). Each page of the website provides an access to the search function, directories, Finnish and Swedish pages, feedback, contact information, sitemap and the presentation of the website (http://e.finland.fi 2010).

3.1.3.8 France

**Service-Public Local Platform** is the project is the result of a partnership between la Documentation franchise (Prime Minister’s department and editor of service-public.fr) and public finance body whose remit is local development. The purpose of the partnership was to develop a platform enabling co-branding with service-public.fr for local web sites and promoting exchanges of data. The platform service-public local enhances the local, citizen-centered one-stop-shop e-government portal developed by local authorities by organizing data exchanges between national, regional and local public bodies. This platform is operational since the last quarter of 2002 and is already used by more than 50 local authorities and cities from Paris to Aubazine (http://www.service-public.fr, 2010). The public receives better service with respect to all the services covered by service-public.fr (about 2,700), including relevant local information (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022020). Duplication of official data can be avoided, the image of local administrations has improved, and confidence in service delivery by E-government versus traditional government has increased. In addition, cooperation between local public services has been strengthened.

3.1.3.9 Germany

**Online Civil Registration** which aims at the formulation of basic principles in order to provide standards for the communication between citizen and public administration as well as among public administrations. Aside from the registry information service online, the services of changing of address (in case of relocation) via the internet and the automated exchange of data among the German registration offices are also available (http://www.moin.ag).
The online registration services help to make it cheaper for the customer and decrease the personnel costs on the authority side (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022351,2010). There is more timely receipt of better quality registration data (up to 20% better data quality) and a faster processing of registration services. The red-tape is also reduced on both sides.

3.1.3.10. Greece

The Citizen Service Centers (KEP in Greek) have been created with the objective of simplifying traditionally complex, bureaucratic procedures in the relationship between government services and Greek citizens (http://www.ypes.gr, 2010). The main objective of the Centers is to establish local e-government information supermarkets for one-stop shopping for administrative documents (i.e., tax records, business licenses, pension and insurance documents, passports, birth certificates and voting cards) everywhere in Greece. There is an enormous potential impact on the relationships between government and citizens. As the project on Citizen Service Centers gains technological strength, it can be a good demonstration of how e-government organizational and technological innovations can change the day-to-day life of citizens (http://www.kep.gov.gr, 2010). Beyond this, it can play the role of “innovation Trojan horse” for the entire Greek Administration. The project introduces the concept of front-end innovation (“downwards”, at the level of relationships with the citizens), which introduces pressure for reforming “upwards” stages of the public administration value chain (http://www.polites.gr/kep/kep.asp).

3.1.3.11 Hungary

The business incubator, located in Kecskemét, supports local and regional start-ups and growing businesses in Bács-Kiskun County through the critical period by offering a supportive, sharing environment (http://www.etw.org/2003/case_studies/ eGov_hungary_startups.htm, 2009). It provides modern ICT infrastructure, including integrated services digital network telephones, asymmetric digital subscriber line (ADSL) Internet connections and video conferencing. Its two major activities are business incubation and training. All these services are offered at a very low price because
businesses can share these costs. The incubator is sector-neutral: it is open to all local and regional small businesses (http://www.bacskiskun.hu, 2010). The business incubator in Kecskemét has managed to invite a critical mass of entrepreneurs; it has therefore become profitable. From the point of view of the start-ups, the greatest advantage of settling down in the incubator is the reduction in the costs and complexity associated with establishing and operating a business (http://npan1.un.org/ inradoc/groups/public/documents/other/unpan022125,2010). Another major advantage of incubators is that they increase the visibility and the credibility of their “settlers”.

3.1.3.12 Ireland

REACH is an agency established by the Government of Ireland to develop the infrastructure for the integration and improvement of services to customers of the public service. In particular, it is mandated to build or procure the Public Services Broker, an integrated set of processes, systems and procedures designed to provide a single mechanism for access to public services (http://www.reach.ie/iams,2010). In creating an infrastructure for the integration of services, REACH developed an **Inter-Agency Messaging Service** to support the electronic exchange of customer data among agencies in the public service. The first service launched was the exchange of birth registration data between the General Register Office, the Department of Social and Family Affairs and the Central Statistics Office. The Inter-Agency Messaging Service enhances cooperation and information-sharing across a broad range of service providers, from doctors, registrars and hospitals at local and regional administrative levels to government agencies and departments at the national level. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022024, 2010). The benefits will be apparent both to agencies and citizens through the electronic provision of services and a reduction in administrative costs associated with either paper processing or the development of stand-alone agency systems

3.1.3.13 Italy

The effort to strengthen the use of ICT in public services has acquired, in Italy, juridical validity thanks to the **e-Government Code (eGC)**, which came into force on 1st
January 2006 (http://www.innovazione.gov.it/ita/index.shtml, 2010). Essentially, the E-government Code aims to free Italians from numerous, out of date bureaucratic procedures. (http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan023595.pdf, 2010). The eGC represents a unique code, which, unifying all the several existing statements, along with defining new ones, will work as a “digital constitution” for all public operators in the field of ICT.

3.1.3.14 Netherlands

In collaboration with the Municipality of Eindhoven and Omroep Eindhoven, Noterik developed the Municipality Meeting Online application. Council meetings are transmitted live over the Internet, with unique media features, providing citizens and journalists with new ways to interact with local politicians. Additionally, Web casts are enriched with meta-data, which enables the advanced retrieval of recorded council videos by using the system’s search engine (http://www.bestuuronline.nl/index.html, 2010). The project is presently the most advanced online video application for council meetings in the Netherlands. It demonstrates the potential of new technology in the effort to provide transparency in governance and reduce the gap between the world of the citizen and the world of politics. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022055, 2010).

3.1.3.15 Poland

Two programmes evaluated here are the Integrated Customs Duty and Tax System and The Social Insurance Institution.

Integrated Customs Duty and Tax System (2001) supports the implementation of an integrated customs duty and tax system for Polish Customs. It comprises several discrete projects, covering activities such as ZEFIR, a budget accounting and tax/customs settlement system, and CELINA, a declaration processing system that includes validation and risk analysis modules, a reference data sub-system, and a data warehouse and customs government gateway (http://unpan1.un.org/intradoc/groups/public/...
The system is well established, operates on a large scale all over the country and offers extensive functionality in supporting all customs procedures and documents, as well as the financial processes relating to collection, settlement and justification of customs duties and taxes due. In addition, it supports the budgeting and accounting functions of all the Customs Department activities and provides a well-used means for electronic data interchange with traders. This programme provides significant benefits for all its users and for the country. It shortens and automates the financial accounting process, streamlines document flow and makes comprehensive and up-to-date data available for audit and analysis. It has been nominated for the e-Europe Awards for e-Government for the second time.

The Social Insurance Institution (2004) focuses on pension reform, with a multi-channel, secure system for filing pension information that involves citizen-to-government, business-to-government, and allows intermediaries to work on behalf of citizens and businesses (http://www.europeawards.org.2009). ZUS, as the first public institution in Poland, made it possible for the payers to use the public key infrastructure and submit their documents by e-mail (www.egov-goodpractice.gov, 2010).

3.1.3.16 Romania

E-licitatie is a nation-wide governmental web portal for procurement in Romania where government clients and private sector vendors can interact after being authenticated into the system (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022657,2010). The system covers a broad range of procurement from the purchase of office supplies for some schools to services such as construction contracts. The system works on a reverse auction basis (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022658,2010.). The contracting authority from the government side issues a public notification through the system with terms of reference for the purchases to be made, including a clear description of the goods required. There is a time-bound automated bidding system, and the choice of winner is based on the lowest price bid to supply the required goods. The system provides equal chances and a transparent environment for all players.
3.1.3.17 Spain

Castile and Leon constitutes the second largest region in Europe, representing 9 provinces, 2,249 municipalities and nearly 2.5 million inhabitants. In 2003, the Public Employment Service of Castile and Leon (Ecyl) was designed and launched. Ecyl is responsible for carrying out activities that promote employment and training for employment, as well as orientation and mediation in the job market. In response to needs identified through dialogue between all interest groups, the vision of a new public service that would close the gap between the needs of job seekers and job suppliers was realized in the Modernization Programme 2004. This Programme, which became a reality through Ecyl using vertical and horizontal deployment, took into consideration the needs of society, employment suppliers and citizens looking for employment (http://unpan1.un.org/intradoc/groups/public/documents/un/unpan020566, 2010). Ecyl staff members conduct job market research (online and in-person assessments and reviews with companies and organizations) and then analyse and disseminate the information for position offers and courses. Finally, Ecyl provides the job seekers with job profiles that align with their experience and career goals. Success factors facilitating the deployment of the programme include the increased integration of personnel, institution of a culture of team work, assimilation of all interest groups in knowledge management, and reliance on a technological platform that permits efficient use of resources.

3.1.3.18 Sweden

The Swedish National Labour Market Board web site offered services for job seekers, employers and their businesses (http://www.ams.se/2009). In 1995, the Swedish National Labour Market Board launched The Vacancy Bank, where all vacancies reported to the employment offices in Sweden were published on the Web. The vacancies have been supplemented by a range of interactive services to support the unemployed and those seeking a change of employment in their search for new opportunities. The job seekers are able to upload their CVs so that potential employers can match skills and competencies to their vacancies (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022030, 2010). The service also includes the setting up of a range
of databases covering such specialist areas as education, art, photography and the performing arts. Various types of labour-market information, including labour-market conditions in different parts of the country, provide further background information together with information about job content and other details on a range of occupations.

3.1.3.19 Switzerland

The State of Geneva is working on an internet voting solution and organizing official on-line ballots on a regular basis (swissworld.org). The **E-voting project** involves a complex and highly secure system of servers and databases that are used to verify the identity of the voter and protect their privacy and the integrity of their vote. The Geneva E-Voting project was selected among the finalists for the e-Europe Awards for e-Government 2005. A poll conducted in 2003 on behalf of the Swiss Federal Government has shown that 72% of the Swiss population wants to be able to vote online (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022422, 2010). Furthermore, the Geneva authorities have concluded that e-Voting strengthens the legitimacy of the popular choices by allowing for a better age balance of the voters’ group, on the one hand, and by confirming the choices expressed by the two other voting channels, on the other.

3.1.3.20 Northern Ireland

In the Scottish region of Fife, an innovative project called **Fife Direct** (1999) is bringing about online collaboration between public-sector agencies and delivering services electronically to the public (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022123, 2010). Fife Direct has a clear primary aim: to use the Internet and new ICT to combat social disadvantage in the region of Fife. Fife Direct is a pioneering access-to-opportunity web site bringing to Fife citizens information about job and business (http://www.fifedirect.org.uk, 2010). The project has received acclaim from various quarters both within Fife and beyond. In many respects, it is a unique project, bringing together such a socially useful and inclusive range of information and services into a cost-effective delivery mechanism via a single web site.
3.1.3.21 United Kingdom

Electronic Services for South Yorkshire (e@SY Connects) in 2001 was introduced in response to the need to ensure that all citizens have equal access to citizen information and services. e@SYConnects is a public sector partnership consisting of the South Yorkshire local authorities, health authorities, emergency services (ambulance, fire and police), voluntary sector, Yorkshire Forward (Regional Development Agency), South Yorkshire Passenger Transport Executive, Job Centre Plus and a myriad of other organizations, all benefiting from working together offering true joined-up services (http://www.sycop.gov.uk, 2010). The e@SY Connects approach enables people with no knowledge or experience of using Web/Internet services the ability to access information and services. It delivers true citizen centered services, which include rather than exclude people, successfully exploiting innovative channels such as mobile telephones, digital interactive television (DiTV), internet PCs including touch-screen kiosks, and simultaneously reducing the demands upon service providers (public, private and voluntary sector), enabling tangible benefits to be realised by both the citizens who use the services and the service partners who collaborate to offer these new services. Among the myriad of services available, users can book, view or cancel an appointment with their doctor on-line 24 hours a day, seven days a week (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022655, 2010). Users can also search for jobs; get advice on education, report a crime or get debt or benefits advice.

3.1.4 AMERICA

Under this region, the country experiences are connected to the countries of Canada, Jamaica, Mexico and United States.

3.1.4.1 Canada

The important E-governance programmes evaluated for Canada are Online Labour Market, My Account- Electronic Tax Payment and Government Online Initiative. The Online Labour Market, available at www.emploiquebec.net, is a unique, universal and free Web counter with the aim of full employment in Quebec. Through
online placements, it provides access to placement services that support and facilitate the encounter between employers and job seekers. These online services also allow for better coordination and adjustment between the characteristics of the workforce and the needs of the labour market (http://unpan1.un.org/intradoc/groups/public/documents/un/unpan022005, 2008). The services are offered in 17 regional branches, often in collaboration with organizations from the same geographical area. The online labour market is a valuable Internet tool that provides benefits to the population through the improvement of service delivery (http://www.emploiquebec.net/anglais/index.htm, 2010).

“My Account” My Account: Electronic Tax Payment (2003), implemented by the Canada Revenue Agency, is a fast, efficient and secure self serve Internet application designed to provide Canadian taxpayers with a Web-based tool for accessing tax information and managing their personal income tax and benefit account online (http://unpan1.un.org/intradoc/groups/public/documents/un-other/unpan022070,2010). Using My Account, individuals can obtain information on income tax returns for the current and prior years and on the individual tax account such as the tombstone information, refund status, balance owing and benefits received, and tax payments that they have made. Where applicable, they can also obtain information on the Registered Retirement Savings Plan, Home Buyers’ Plan and Lifelong Learning Plan calculations and limits; the goods and services tax/harmonized sales tax credits (http://www.cra-arc.gc.ca/eservices/tax/individuals/myaccount/menu-e.html, 2010). Individuals can also change their tax return after it has been submitted or disagree with an assessment or determination. My Account has increased the Canada Revenue Agency hours of personalized service to 21 hours a day, seven days a week. It is generating ongoing cost savings for the agency through reduced numbers of enquiries along with increased compliance and client satisfaction. Between June 2003 and December 2004, over 2.3 million Canadians successfully accessed My Account (http://www.cra-arc.gc.ca/eservices/tax/individuals/myaccount/help-e.html2010). It generated significant intangible benefits, such as heightened client satisfaction and an improved image for the Canada Revenue Agency.
The **Government On-Line Initiative (1999)** has succeeded in making the Canadian government more and more connected to its citizens. Throughout the initiative, the objectives remained focused on:

1. Providing clients with a more accessible government, where information and services are organized according to clients' needs, and are available 24/7 around the world, in English or French;
2. Delivering better and more responsive services by implementing more efficient and timely electronic services;
3. Build partnerships among federal departments and agencies and with other levels of governments to cluster services for the benefit of clients, not according to jurisdictions. ([http://www.gol-ged.gc.ca/index_e.asp](http://www.gol-ged.gc.ca/index_e.asp), 2010)

With strategic use of limited funds, the Government On-Line Initiative has been a catalyst for change to improve government services and multi-channel service delivery, and during its implementation period (October 1999 - March 2006) it was capable of meeting its objectives ([http://www.gol-ged.gc.ca](http://www.gol-ged.gc.ca), 2009). By March 2006, the Government On-Line Initiative allowed 34 departments and agencies to: provide citizens with a more accessible government, where information and services are organized according to their needs, and are available 24/7 around the world, in English or French; accelerate the design and delivery of 130 of the most commonly used services that are now delivered on line; share experiences, approaches, learning and tools while becoming more client-centric; build a secure and robust electronic infrastructure capable of expanding to support steadily more sophisticated on-line transactions in the future([http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan023528,2010](http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan023528,2010)). It also allowed important policy-related work to be undertaken to fundamentally transform the ways in which government interacts with citizens.

**3.1.4.2 Jamaica**

The **Automated System for Customs Data (ASYCUDA)** in 2003 was developed by the United Nations Conference on Trade and Development in 1981 for computerized
customs management as part of an assistance programme to support improved compilation of trade statistics for its member States. ASYCUDA was widely implemented and is currently being used by over eighty countries, including most Caribbean Common Market (CARICOM) countries (http://www.fsl.org.jm/, 2010). After having reviewed the ASYCUDA software package, the Government of Jamaica, unlike its CARICOM neighbours, took the decision to build its own computerized solution for customs management. The task to design, develop and operate the new system was given to Fiscal Services Limited, a Government-owned information technology company (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022058.pdf, 2010). The lack of linkage between cash collected and entries processed remained, however, even when the entries were keyed into the computer system. On the foundation of the initial suites of the software for customs online services that were successfully implemented, a complex programme of administrative reform that affected both the organizational structure and the processes started. As a consequence, a number of positive results were produced, including a significant increase in revenue collection. Several international funding agencies have joined the Government in providing funding to add enhancements and to complete the customs modernization process in Jamaica (http://www.jacustoms.gov.jm/, 2010). Customs supervisors are now better able to monitor and distribute the work flow, thereby achieving greater efficiency. Inconsistency and errors in duty calculation have been totally eliminated.

3.1.4.3 Mexico

The citizen portal (2003) is one of the most important lines of action of the Digital Government Strategy in Mexico. It incorporates the six strategic principles of executive power: transparency, low cost, professionalization, digitalization, quality and improved regulation (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022586, 2010). As part of the e-Mexico National System, it functions as the single point of access to government services and information and acts as a content supplier for the e-Mexico portal. In order to eliminate inefficiency in the provision of public services, the citizen portal seeks to provide citizens with state-of-the-art customer service in a seamless relationship. It enables access to different services and content in

3.1.4.4 United States

The District of Columbia comprehensively expanded and redesigned its government web portal, **Washington DC Website Portal** (2003) i.e, www.dc.gov, to provide the District’s 575,000 residents, 95,000 businesses, and 19 million visitors a faster, easier, and richer avenue to the District’s wealth of information and services. The portal features a set of online information centers—or sub portals—that address residents’ top concerns; an online database of more than 1,800 social service providers and provides tourism information through various languages (www.dc.gov, 2010). The District of Columbia web portal improves the government’s interaction with the public by reaching more constituents, providing greater customer satisfaction, enhancing participation in government, supporting education, and increasing tourism-based tax revenues (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022727,2010). The portal’s content is easier to navigate and brings services to the forefront. The portal also results in content made available in 10 languages, improved online transactions, and personalization features, and more intuitive search functions.

3.1.5 LATIN AMERICA

The important countries included in the evaluation of E-governance are Argentina, Bolivia, Brazil, Chile, Columbia, Peru and Uruguay.

3.1.5.1 Argentina

**Electronic Tax Payment System** (2002) is to enhance the already-existing web site in order to enable the electronic payment of taxes started in October2002. The main objective of this solution is to enable modernization of the system and thereby increasing its efficiency and transparency in the tax payment(http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022059.pdf,2008). The system has been gradually expanded in order to make it accessible to additional groups of taxpayers, the purpose
being to include all the different groups of contributors. The web site offers such services as online submission of tax return forms and payment of taxes, printouts of invoices and access to customs procedures. Users greatly appreciate the possibility of submitting all the documentation relating to tax payment via the Web instead of in person or through the banking system. In fact, more than 30 per cent of the users submit the forms outside of the official working hours of the public offices or the banks (http://www.afip.gov.ar, 2008). This points to an improvement in the quality of the service through the satisfaction of a demand that had not been contemplated earlier.

3.1.5.2 Bolivia

Bolivia’s National Customs has initiated an administrative reform and modernization process with a strong computer science component. The main reform is the creation of Customs Service Online (2002). The computer science architecture introduced is centrally operated, so that all the country’s customs and foreign trade operators are connected to the national office through the Internet. The national office has a main server which processes and stores all foreign trade operations. Transactions are carried out on-line, in real time, without transcription processes and avoiding subsequent quality controls. The online customs system brings significant benefits for all its users and the country. It strengthens customs operations and allows automated registration of customs procedures (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022414.pdf). It also facilitates foreign trade operations and increases the institution’s transparency and efficiency

3.1.5.3 Brazil

In Sao Paulo, Brazil, the State government has created centers called Poupatempo (time-saver) centers (2000) to provide public services that traditionally have been delivered by disparate government agencies to citizens (http://www.poupatempo.sp.gov.br, 2009). These centers have been placed in locations convenient to the public, close to major public transportation stops etc. They have an integrated information system for providing assistance and information via the telephone and the Internet on a range of topics, such as the location of the centers, the agencies and
services offered at each centre, the documents required for a service, how to obtain the documents and the fees (if any) for the services. The Poupatempo project results in significant cost savings while providing citizens with efficient public services of a high standard. A customer satisfaction survey conducted by the government shows that over 94 per cent of respondents rated as “excellent” or “good” (http:// unpan1.un.org/ intradoc/groups/public/documents/other/unpan022119.pdf, 2010). By treating each person who enters a Poupatempo centre with respect and dignity and by applying the same service rules and standards to everyone, the Poupatempo centers also earn greater respect from the public for State government and its employees.

3.1.5.4 Chile

The Internal Taxation Service of Chile is responsible for the collection of both individual and corporate taxes. In 1998, it launched a new online tax service to replace its manual system for filing tax returns (http://www.ssi.cl, 2010). The technological platform created by the Internal Taxation Service can streamline the tax-filing and information process while maintaining reliability. The system could also be expanded painlessly to meet projected growth. The new online tax system has saved money on printing, distribution and processing time and has increased the accuracy of tax collection. It equipped the tax authority with the resources it needed for the foreseeable future and offered taxpayers a higher standard of service along with swift, easy access to vital tax information. Just three years from the start of Internal Taxation Service interactive services, over 400,000 taxpayers have checked their assessments online, with over 183,548 sworn returns and 89,355 income tax returns received (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022120.pdf, 2010).

3.1.5.5 Colombia

The government of Colombia made a serious commitment to e-government in 2000-01, mandating that all federal government agencies develop an Internet presence, and creating a unit in the Office of the President to assist and monitor their progress. The centerpiece of this initiative is the State of Colombia Portal (PEC). As a result of this Internet initiative, Colombia's citizens now have access to a huge volume of public
information related to budgets, government plans, purchasing, etc. All government regulations since 1900 are available online. In addition, businesses (and citizens) can access government procurement information online. (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022293.pdf, 2010).

The PEC provides an entry point to every government agency website, and facilitates thorough searches for government-related information. Citizens are able to email government representatives from the PEC site, either to complain of problems with government services or to offer suggestions (http://www.gobiernoenlinea.gov.co, 2010). The spread of information contributes to making public officials more accountable and the citizens better informed and participative.

3.1.5.6 Peru

**Tributación Online: A Computerized Tax System** 2003 in which tax payments started to be accepted online (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan022091.pdf, 2009). In addition to tax administration, telematics have also been of benefit to other public institutions. (http://www.icamericas.net/ Cases_Reports/ Tributacion/ OnePager-Tributacion-SP.doc, 2009). For example, it has enabled the Office of Social Security Normalization (ONP) and Social Security and Health of Peru (ESSALUD) to relinquish their tax collection function to the National Superintendent of Tax Administration. ICTs have reduced the costs of digitizing forms by 20 per cent, and this efficiency in tax administration has reduced the number of personnel required to process taxes (http://www.sunat.gob.pe/, 2009). At the same time, the number of returns that require verification and correction has been reduced, and fines for incomplete tax returns have been eliminated since the system rejects such returns.

3.1.5.7 Uruguay

The design and development of the **web site for the online submission of the tax return form** in 2002 is the results of a wider initiative started in the 1980s and further developed in its current form only in the 1990s (http://unpan1.un.org/intradoc/groups/public/documents/other/unpan021995.pdf, 2010).
The main purpose of the system is to provide taxpayers with the assistance needed when they opt for filing the tax return form via the web site. The web site provides four main services: access to institutional information and to relevant laws, rules and regulations; downloading of forms; online submission of the tax return form; and online issuance of tickets for payment of taxes. The web site greatly reduces the time needed by the public officers to manage the information received and to provide an answer (http://www.dgi.gub.uy, 2009). The user can now submit the form online and, with the printed copy of the same, pay the taxes to the cashier. As a result, the time required to complete the entire process has been reduced by half since the taxpayer can submit the form and obtain its approval as well as the payment ticket online. Although the impact cannot be quantified financially, the simplifications of the process and the reduction in the time needed to complete the process have decreased the transaction costs for the users.

3.2 E-governance and India

3.2.1 History and Growth of E-governance in India

The concept of E-governance has gained prominence in India during the seventies. It mainly focused on development of in-house government applications in the areas of defense, economic monitoring, planning and the deployment of IT to manage data intensive functions related to elections, census, tax administration etc. India is one of the developing countries currently launching major E-governance projects aiming to improve government process, connecting government to citizens and build interaction among civil society (Madon Shirin, 2004). The efforts of the National Informatics Center (NIC) to connect all the district headquarters during the eighties was a very significant development. From the early nineties, IT technologies were supplemented by ICT technologies to extend its use for wider sectoral applications with policy emphasis on reaching out to rural areas and taking in greater inputs from NGOs and private sector as well (Ravi Kiran and Aupam Sharma, 2008). There has been an increasing involvement of international donor agencies under the framework of E-governance for development to
catalyze the development of e- governance laws and technologies in developing countries (Backus Michel, 2003 and Barthwal, 2003).

While the emphasis has been primarily on automation and computerization, state governments have also endeavored to use ICT tools into connectivity, networking, setting up systems for processing information and delivering services. At a micro level, this has ranged from IT automation in individual departments, electronic file handling and work flow systems, access to entitlements, public grievance systems and service delivery for high volume routine transactions such as payment of bills, tax dues to meeting poverty alleviation goals through the promotion of entrepreneurial models and provision of market information. The thrust has varied across initiatives, with some focusing on enabling the citizen-state interface for various government services, and others focusing on bettering livelihoods. Every state govt. has taken the initiative to form an IT task force to outline IT policy document for the state and the citizen charters have started appearing on government websites.

It started as a revolution in way back 1998, when the government was beginning to take note of IT imperatives. It spread across the country and felt that a comprehensive IT policy would indeed be crucial if the diffusion of IT is to occur among the larger masses. This was for the first time that the government decided to give priority (though not in terms of an institutional framework) and focused on using IT as a major vehicle for all-round socio-economic development in the country and as an alternative to facilitate a strong and vibrant domestic IT market. The government and private sector have taken steps to promote E-governance both at the centre and state level.

3.2.2 IT Policies, Initiatives and Emphasis on E-governance at the Centre.

Recognizing the potential for IT, the central government had set up, the ‘National task force on IT and Software Development’ in May 1998. A working group on citizen- IT interface was later constituted as a part of the National Taskforce that deliberated on issues pertaining to the use of IT in various aspects of day-to-day life. The recommendations of the working group, recognizing the impediments in the growth of IT industry, pledged to implement a number of regulatory and promotional measures to
facilitate the growth of IT industries across the board. In 1999, The Ministry of Information Technology (MIT) came in to existence that aimed to necessitate the promotion of IT in all sectors of the society. Later, the recommendations of working group on citizen-IT interface and other simultaneous initiatives lead to the following developments,

1) Information Technology Act 2008, passed in May 2008 was “A legislative mechanism in the country to ensure the large scale application of IT in various areas related to daily lives of people-enable mass spread of IT in the country”. This was the first policy or institutional framework for IT, though there was no integrated document for reference and certain key issues were not given thrust such as privacy and security.

2) ”Freedom of Information Bill” drafted that requires all public offices to maintain records – appointments of public information officers (PIOs) in different departments to assist citizens gaining access to information.

3) Committee on “Improving Efficiency in government through IT” set up in 2000. It was conceived out of the realization that government, being the largest service provider in the country could play vital role in bridging the digital divide and enable effective diffusion of IT in the masses (MIT, 2000). The working group delivered on following issues; infrastructure, E-governance, education and IT awareness. For the first time, government acknowledges the need for citizen oriented approach to take the benefits of IT to the large masses through efficient service delivery mechanism. Moreover governance was recognized thus as a top priority and rational by the government which signifies a change in the mind set of government viewing E-governance as simply a series of automation process were technology is the main stay. Later, a National IT Mission was created in 2001 to oversee the implementations of the recommendations of the working group on IT for masses and also to identify and focus on time bound projects.

The MIT, GOI had set up a centre for E-governance that was formally inaugurated on fifteenth Aug.2000 aimed at providing transparency and facilitating speedy dissemination of information to all citizens, focusing on E-governance and services. Apart from showcasing several E-governance applications successfully deployed in various states, it offers services like technical consultation and conducts
workshop and conferences. The centre draws upon leading practitioners, technical institutions and business partners in India and abroad to enrich its repository of best e-government practices. To take stock of the ongoing E-governance projects in the concerned states, a comprehensive National Data base on E-governance projects is being built, which presently serves as a dynamic data base of various IT led projects across the states (Dey, Shard 2001). Yet another initiative is the creation of E-governance website http://egov.mit.gov.in for dissemination of public information at the department of IT. The ministry of IT also produced a concept paper (MIT,2001 b) on E-governance that was a clear impetus emphasizing the fundamental transformation of service delivery by government and envisaging SMART(Simple, Moral, Accountable, Responsible and Transparent) government. It stresses the need for appropriate institutional mechanism and infrastructure for effective governance and empowerment of citizens.

Additionally, the department of Administrative Reforms and Public grievances (ministry of personnel, public grievances and pension) has charted out policy guidelines on website developments, hosting and maintenance of various departments/ ministries that is inspired from the need to facilitate the realization of E-governance in the spheres of the governance. The objective is to deliberate development and deployment of citizen-centric services through web-enabled process, electronic workflow; IT enabled applications, collaborative partnerships and participations of citizens, clients and stakeholders keeping the envisaged national agenda for quality governance in perspective. Interestingly, the PC constitutes a working group on convergence and E-governance for the tenth five year plan (2002-07).

3.2.3 Institutions for E-governance in India

3.2.3.1 National Informatics Centre

National Informatics Centre (NIC), an attached organization of the Department, has been playing a pioneering role in propagating IT-led development. The countrywide Network, NICNET consists of Satellite, Wireless and Wired networks. A number of work flow based applications and services like Video Conferencing, e-mail, Web Portals, e-
learning, Geomatics etc, have been deployed in various sectors through this backbone network infrastructure for facilitating the E-governance initiatives across the country. During the year over 500 additional portals were hosted relating to various Government agencies. Open Technology Centre has been set up to provide open technology solutions. Project Sanctioned for computerization of 14,000 courts across the country is being implemented by NIC (NASSCOM ,2003). Expert Committees on E-governance have formulated standards for Digital Signature, Biometric, Meta Data & Data Standards and Technology standards for interoperability.

The ministry of IT had drafted the National E-governance Action Plan (NeGAP) for implementation during the year 2003-07. The plan seeks to lay the foundation and provide the impetus for long term growth of E-governance within the country. The objectives are broadly based on the creation of right governance and institutional mechanisms, setting up of core infrastructure and policies and implement 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.

3.2.3.2 The National E-governance Plan (NeGP) and Mission Mode Projects (MMPs).

NeGP comprises of 27 Mission Mode Projects (MMPs) encompassing 10 Central MMPs, 10 State MMPs and 7 Integrated MMPs spanning multiple Ministries/Departments. "Mission Mode" implies that the objective and the scope of the project are clearly defined, that the project has measurable outcomes and service-levels, and the project has well-defined milestones and timelines for implementation.

MMPs are owned and spearheaded by various Line Ministries concerned for Central, State, and Integrated MMPs. The concerned Ministry/Department are entirely responsible for all decisions related to their MMPs. However, decisions impacting NeGP as a whole are taken in consultation with DIT. Additionally, wherever required by the concerned Ministries/Departments, DIT provides necessary support for project
formulation and development. Every State has the flexibility of identifying up to 5 additional State-specific MMPs (relevant for economic development within the State).

### Table: - 3.2 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; Customs</td>
<td>➢ Commercial Taxes</td>
<td>➢ e-Biz</td>
</tr>
<tr>
<td>➢ Income Tax (IT)</td>
<td>➢ e-District</td>
<td>➢ e-Courts</td>
</tr>
<tr>
<td>➢ Insurance</td>
<td>➢ Employment Exchange</td>
<td>➢ e-Procurement</td>
</tr>
<tr>
<td>➢ MCA21</td>
<td>➢ Land Records</td>
<td>➢ EDI For e-Trade</td>
</tr>
<tr>
<td>➢ National Citizen Database</td>
<td>➢ Municipalities</td>
<td>➢ National E-governance Service Delivery</td>
</tr>
<tr>
<td>➢ Passport</td>
<td>➢ Gram Panchayats</td>
<td>➢ Gateway</td>
</tr>
<tr>
<td>➢ Immigration, Visa and</td>
<td>➢ Police</td>
<td>➢ India Portal</td>
</tr>
<tr>
<td>Foreigners Registration &amp; Tracking</td>
<td>➢ Road Transport</td>
<td></td>
</tr>
<tr>
<td>➢ Pension</td>
<td>➢ Treasuries</td>
<td></td>
</tr>
<tr>
<td>➢ e-Office</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Ministry of Information Technology

### 3.2.4 Infrastructure and E-governance.

#### 3.2.4.1 State Wide Area Network (SWAN)

Wide Area Network is an advanced telecommunication infrastructure, which is used now-a-days extensively, for exchange of data and other types of information between two or more locations, separated by significant geographical distances. Such wide area networks, in a way, create a highway for electronic transfer of information in the form of voice, video and data. Department of IT in Government of India is implementing an approved Scheme known as State Wide Area Network (SWAN) Scheme, envisaged to create such a connectivity in each State / UT, to bring speed, efficiency, reliability and accountability in overall system of Government-to-Government (G2G) functioning. When fully implemented, SWAN would work as a converged
backbone network for voice, video and data communications across each State / UT. SWAN is designed to cater to the governance information and communication requirements of all the State / UT Departments. When fully implemented, SWANs across the country are expected to cover at least 50000 departmental offices through 1 million (10 lacs) route kilometers of communication links.

3.2.4.2 State Wide Area Network Scheme:

Department of IT obtained Government approval in March 2005, for the SWAN Scheme for an overall outlay of Rs. 3334 Crores. This outlay has a Grant in Aid component of Rs. 2005 Crores, to be expended by Department of IT in five years. The Scheme has a State / UT share of balance Rs.1329 crores, which has been provisioned by the Department of Expenditure, Govt. of India, under Additional Central Assistance (ACA). Under the SWAN Scheme, Wide Area Networks are being established in 27 States and 6 UTs across the country. The State of Goa and UT of Andaman & Nicobar Islands have implemented Wide Area Networks in the respective State / UT, outside the SWAN Scheme. Implementation of the SWAN Scheme is in full swing in 33 States/ UTs and the Department of IT has so far approved an outlay of Rs. 1965 Crores of GIA for this purpose. SWAN Features: A wide area network deployed in a State or UT would have two components viz.

- Vertical Component

- Horizontal Component

The vertical component of SWAN is implemented using multi-tier architecture (typically, three-tier) with the State/UT Headquarter (SHQ) connected to the each District Head Quarter (DHQ) which in turn gets connected to the each Block Head Quarter (BHQ). Each SHQ, DHQ and BHQ point of connection is called a Point of Presence (PoP), which is a point of bandwidth aggregation for several network links getting connected at this point.
The SWAN aims to create a dedicated Closed User Group (CUG) network of minimum speed of 2 Mbps by connecting around 7500 pops, providing Data, Voice & Video connectivity to more than 50,000 government offices. The network aim at increasing the efficiency of the government delivery mechanism and optimizes the performance. The backbone thus created would provide reliable, vertical and horizontal connectivity within the State / UT administration and would facilitate electronic transactions between all the government departments.

3.2.4.3 Data Centre

State Data Centre (SDC) has been identified as one of the important element of the core infrastructure for supporting E-governance initiatives of National E-governance Plan (NeGP).

Under NeGP, it is proposed to create State Data Centres for the States to consolidate services, applications and infrastructure to provide efficient electronic delivery of G2G, G2C and G2B services. These services can be rendered by the States through common delivery platform seamlessly supported by core Connectivity Infrastructure such as State Wide Area Network (SWAN) and Common Service Centre (CSC) connectivity extended up to village level. State Data Centre would provide many functionalities and some of the key functionalities are Central Repository of the State, Secure Data Storage, Online Delivery of Services, Citizen Information/Services Portal, State Intranet Portal, Disaster Recovery, Remote Management and Service Integration etc. SDCs would also provide better operation & management control and minimize overall cost of Data Management, IT Resource Management, Deployment and other costs.

Department of Information Technology (DIT) has formulated the Guidelines to provide Technical and Financial assistance to the States for setting up State Data Centre. These Guidelines also include the implementation options that can be exercised by the State to establish the SDC. SDC scheme has been approved by Government with an
outlay of Rs. 1623.20 Crores over a period of 5 years. It is expected that the State Data Centres shall be set-up and operationalised in all the States/UTs by March 2011.

3.2.4.4 National E-governance Service Delivery Gateway (NSDG)

In order for the Government to realize the NeGP vision, it is imperative that the different departments in the Centre, States and Local Government cooperate, collaborate and integrate information across the various levels, domains and geographies. Government systems characterised by islands of legacy systems using heterogeneous platforms and technologies and spread across diverse geographical locations, in varying state of automation, make this task very challenging. The National E-governance Service Delivery Gateway (NSDG), a MMP under the NeGP, can simplify this task by acting as a standards-based messaging switch and providing seamless interoperability and exchange of data across.

Figure 3.1 Vision of NSDG

The emergence of many E-governance applications for different departments to provide online services to citizens, businesses and government would require increasing interactions amongst departments and with external agencies at various levels in Government. Departments would need to develop connectors/adaptors for point to point connections between departments creating a mesh as shown in figure and also tight coupling between applications. This would lead to applications that are difficult to maintain and upgrade in case of version change and change in government policies and
business rules. The NSDG is an attempt to reduce such point to point connections between departments and provide a standardized interfacing, messaging and routing switch through which various players such as departments, front-end service access providers and back-end service providers can make their applications and data interoperable. The NSDG aims to achieve a high order of interoperability among autonomous and heterogeneous entities of the Government (in the Centre, States or Local bodies), based on a framework of E-governance Standards.

**Figure 3.2** e-Governance Service Delivery Framework

Source: Report on E-governance (2006), Department of Information Technology, Govt. of India,

### 3.2.4.5 Common Services Center

The CSC is a strategic cornerstone of the National E-governance Plan (NeGP), as part of its commitment in the National Common Minimum Programme to introduce E-governance on a massive scale. The CSCs would provide high quality and cost-effective video, voice and data content and services, in the areas of E-governance, education, health, telemedicine, entertainment as well as other private services. A highlight of the
CSCs is that it will offer web-enabled E-governance services in rural areas, including application forms, certificates, and utility payments such as electricity, telephone and water bills.

The Scheme creates a conducive environment for the private sector and NGOs to play an active role in implementation of the CSC Scheme, thereby becoming a partner of the government in the development of rural India. The PPP model of the CSC scheme envisages a 3-tier structure consisting of the CSC operator (called Village Level Entrepreneur or VLE) the Service Centre Agency (SCA), that will be responsible for a division of 500-1000 CSCs and a State Designated Agency (SDA) identified by the State Government responsible for managing the implementation over the entire State. The CSC Scheme has been approved by Government in September 2006 with an outlay of Rs. 5742 Crores over a period of 4 years. It is expected that 100% CSCs would be rolled by March 2011.

The CSC Scheme as approved by Government of India in September 2006 for setting up of 100,000+ (one lakh) internet enabled centers in rural areas under the National e-Governance plan (NeGP) is being implemented in a Public Private Partnership (PPP) mode. The CSC Scheme is envisaged to be a bottom-up model for delivery of content, services, information and knowledge, that can allow like-minded public and private enterprises - through a collaborative framework - to integrate their goals of profit as well as social objectives, into a sustainable business model for achieving rapid socio-economic change in rural India.

As on 28th February 2011, a total of 90,018 CSCs have been rolled out in thirty one States/UTs. 100% CSCs have been rolled out in 11 (Eleven) States (Chandigarh, Delhi, Goa, Gujarat, Haryana, Jharkhand, Kerala, Manipur, Puducherry, Sikkim & Tripura). More than 70% of the rollout has been completed in 12 (Twelve) States (Assam, Bihar, Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Nagaland, Orissa, Tamil Nadu and West Bengal). In about 3 (Three) States (Arunachal Pradesh, Uttar Pradesh and Uttarakhand) implementation of
CSCs have crossed half way mark (more than 50%). It is expected that the roll out of 100,000 CSCs would be completed by March 2011.

### 3.2.5 E-governance Initiatives in Various States

Central and State governments have initiated many strategies to promote ICT in all walks of life. The Central Government announced the IT policy in 1998 to make IT available to all Indians by 2008. High power national tasks force on IT and software development was set-up in 1998. The policy envisages the creation of a government-wide information infrastructure, which would simplify service delivery, reduce duplication and improve the level and speed of services to the public. This would provide the public with the opportunity to send and receive information through electronic terminals instead of by writing or paper communication. Efforts are taken to increase ICT accessibility through computers and internet to reach wider sections of society with the help of civil society organizations (CSOs). Government processes and procedures would be reengineered to bring about several benefits, such as transparency at work, reduced constraints, increased efficiency and productivity and reduced cost of service delivery. Projects are integrated across departments to provide a single point of electronic delivery of services to citizens. Maximum transparency in government has been ensured through citizen charters available over the internet, for every government department. A number of projects are in operation in different states for promoting electronic governance in India. The significant ones among them have been listed in Table:-3.3

<table>
<thead>
<tr>
<th>States</th>
<th>Programmes</th>
<th>Targeted Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>e-Seva</td>
<td>Remittance of Various Bills and Taxes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Availing Certificates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Providing Information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Issuing Application Forms</td>
</tr>
<tr>
<td></td>
<td>CARD</td>
<td>Property and its Registration</td>
</tr>
<tr>
<td>State</td>
<td>Project</td>
<td>Description</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Karnataka</td>
<td>MPHS</td>
<td>Household Database</td>
</tr>
<tr>
<td></td>
<td>SKIMS</td>
<td>Converting the Secretariat into a Paperless Office</td>
</tr>
<tr>
<td></td>
<td>Bhoomi</td>
<td>Issuing the Record of land within 30 minutes</td>
</tr>
<tr>
<td></td>
<td>Kaveri</td>
<td>Land Registration</td>
</tr>
<tr>
<td></td>
<td>Khajane</td>
<td>Service Delivery Project for Treasury and LSGs.</td>
</tr>
<tr>
<td>Tamilnadu</td>
<td>SARI</td>
<td>Service Delivery Software for various government department including LSGs.</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>Gyandoot</td>
<td>Rural Intranet Network</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>Warana</td>
<td>Information to Farmers</td>
</tr>
<tr>
<td></td>
<td>Computerising PDF</td>
<td>Computerised Ration card</td>
</tr>
<tr>
<td>Gujarat</td>
<td>CICP</td>
<td>Computerised check post system</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>Rajnidi</td>
<td>Information relating to Investment, tourism, employment etc.</td>
</tr>
<tr>
<td></td>
<td>Lokmitra</td>
<td>Multi- Utility Services</td>
</tr>
<tr>
<td></td>
<td>Rajswift</td>
<td>GIS, email to chief minister etc.</td>
</tr>
<tr>
<td>West Bengal</td>
<td>Telemedicine</td>
<td>Hospital Service</td>
</tr>
<tr>
<td></td>
<td>Webel</td>
<td>File Management</td>
</tr>
<tr>
<td></td>
<td>WBSWAN</td>
<td>Government Department</td>
</tr>
<tr>
<td>New Delhi</td>
<td>mcdonline</td>
<td>Several multi-utility services</td>
</tr>
</tbody>
</table>

Source: Compiled from various NASSCOM Publications

### 3.2.5.1 Andhra Pradesh:

The principal objective of the IT policy in Andhra Pradesh is to extensively use IT in government for enhancing efficiency, transparency, accountability in Government departments and agencies, and providing better services to citizen. AP is one of the few states, which has introduced ICT in a big way to make a good impact on the quality of life of the citizens (Madon and Kiran 2003). Implementation of about 1,500 applications across 160 departments at about 10,000 sites, involving huge financial, technical and managerial resources reflects this trend (www.ap-it.com/egovernancego/go23governance.pdf). The major E-governance projects in the state are: Andhra Pradesh State Wide Area Network (APSWAN), Computer-aided Administration of Registration.
The TWINS project in AP provides a variety of services at one spot to the citizens of Secunderabad, Hyderabad and Ranga Reddy districts. Department functionaries interact with citizens through 39 e-seva centres and 350 service centers to deliver services (Caseley, Jonathan (2004). The services include the payment of electricity, telephone bills, water and sewerage, property and sales tax, registration and issue of births/deaths, caste and nativity certificates, sale and receipt of applications for passport and telephone connections, driving license. Information regarding government departments like tourism, education, health, revenue, and rural development etc. can be obtained from these centers. Citizen can also avail online service facilities such as, e-Forms, e-Filing, e-payments, reservations and so on. (http://www.esevaonline.com/).

The centre handles 3,000 transactions a day, of which 80 per cent involves the payment of utility bills. The investment on the pilot project was $2 million, including hardware, software, networking, and training and site preparation. The project has been renamed e-Seva and has been extended to eighteen other locations with private participation (Bhatnagar 2003). The centers are partnerships between the government and private firms, which provide the hardware in return for transaction fees. The government supplies the staff for running the project (http://www.iimahd.ernet.in/egov/india.htm). The Fully Automated System for Transport (FAST) project is aimed at providing services like issuance of learner’s licenses, driving licenses and registration of vehicles in all thirty-seven regional transport offices in the State. All of these offices are computerized and networked (http://www.iimahd.ernet.in/egov/india.htm).

CARD - enables digital registration of property in 214 sub registrars’ offices across the State, leading to faster, easier and transparent property registration process and also provides accurate calculation of stamp duty across the counter (http://www.iimahd.ernet.in/egov/india.htm). The Multi-Purpose Household Survey (MPHS) is a comprehensive household database covering the entire population of the
State. The data include the date of birth, religion, land-holding status, type of shelter, occupation and annual income of each citizen (Madon and Kiran 2003). A data warehouse, using a supercomputer, has been set-up in the secretariat. Also all the geographical and infrastructure data in the state have been captured under the GIS (Geographic Information System) (http://www.iimahd.ernet.in/egov/india.htm).

Secretariat Knowledge and Information Management System (SKIMS) project was launched in 2000 by networking the entire Secretariat. This project is aimed at facilitating and extending the concept of a paperless office among the heads of all government departments and districts. It is also aimed at storing and managing secretariat data, information and knowledge efficiently (http://www.iimahd.ernet.in/egov/india.htm).

3.2.5.2. Karnataka

The important projects undertaken by the Govt. of Karnataka are Bhoomi, Khajane and Kaveri.

A. Bhoomi:

Twenty million rural land records belonging to over 6.7 million farmers have been computerized in Karnataka. Citizens can obtain land records with ownership and crop details to obtain loans from banks through 177 government kiosks (Chawla Rajiv, 2003). This facility has helped farmers to not only secure land records speedily without speed money and middlemen, but also save the time and money earlier spent on visiting government offices where they were harassed by corrupt officials. Now, farmers can obtain all RTC (record of rights, tenancy and crops) copy of their land records within 30 minutes by paying Rs.15.00. Copies can be obtained for any land parcel in the taluka by providing the name of the owner or the plot number (http://www.bangaloreit.com/html/egovern/Bhoomifrm.html).
**B. Kaveri:**

Computerization of land registration in Karnataka known as Kaveri intends to facilitate speedy registration without intermediaries and speed money. Indeed, the registration of sale and mortgage deeds earlier required much manual labour and time for registration, which has been reduced with the introduction of this project.

**C. Khajane:**

Treasuries all over Karnataka have been computerized under a project known as Khajane to facilitate transparency and speedy delivery of services. Treasuries have been directly connected to rural local bodies accounting around for 4,500 zilla Panchayats, taluka Panchayats and gram Panchayats. As a result of this network, Rs.20,000 crores are handled in 225 treasuries serving 4.7 lakh clients in the State (Sangita, S.N, 1995).

### 3.2.5.3 Tamil Nadu

As noted before, SARI project had strong institutional and financial support from key International educational institutions. It also had full institutional and administrative support from the state government in the beginning. However, the state government and the district officials failed to show sustained commitment towards the E-government component of the project after about a year and half after the project was launched (Bajpai, Nirupama and Radjou Navi, 2000). As the interviews with the government and the SARI project officials revealed, the project also faltered due to the transfer of key district and Taluka officials and opposition from lower hierarchy in the bureaucracy as it posed a threat to their rent-seeking opportunities. The project was also not successful in reaching out to the socially and economically marginalized communities (Kumar, 2004) and did not involve the local self-governing institutions in implementing the project. In terms of the sustainability failure model, the project thus suffered failure along the political/institutional and social sustainability dimensions.
3.2.5.4 Madhya Pradesh

**Gyandoot** is an important project implemented in the State. It is a rural intranet network started in 2001 in Dhar, a remote district in MP, to benefit nearly a million people across 311 gram Panchayats covering 600 villages. The project provides 15 types of services through a network of 35 information centers. Citizen can avail of various benefits, such as information about crop prices, copies of land records, government applications assistance, obtaining of income, domicile, and caste certificates, redress of grievances, and so on. Trained local people manage it and the gram panchayat meets the entire cost.

This project has received worldwide recognition and received the Stockholm Challenge IT award 2000 and the Computer Society of India IT award 2000 for best IT usage in India (http://www.gyandoot.nic.in/). The local bodies, in collaboration with government officials have started ICT kiosks operated by unemployed youth who were selected and have been trained to run these kiosks. It caters to the ICT requirements of a wide section of rural consumers.

3.2.5.5 Maharashtra

In Maharashtra, the “Wired Village” project in Warana, a rural area, gives information in the local language to the people of 70 villages about crop prices, farmer’s payment dates, employment and educational opportunities through 54 kiosks. It has helped the Warana Group of Cooperatives (WGC) and the farmers who supply sugarcane to the cooperatives to achieve better productivity. Before the implementation of the project, there were communication problems between the farmers and the WGC leading to inefficiency and lower productivity (www.mah.nic.in/warana/).

In order to detect bogus ration cards and black marketing in the Akola District of Maharashtra, all ration cards were computerized by the public distribution system (PDS) after a household survey in 2000 at the district as well as the tehsil level. After a month, 37,000 bogus cards and 9,000 duplicate cards were detected. One million litres of kerosene could be saved in the first six months, and sugar, wheat and other ration items
worth Rs.56 - 60 million were saved annually in the district. Computerization of the data, thus, helped to check corruption in the PDS in Akola District (Barthwal, 2003).

3.2.5.6 Rajasthan

The E-governance projects mentioned in the present context are: Rajnidhi, Rajswift, Lokmitra Electronic service and Vikas Darpan.

**Rajnidhi Information Kiosks (Rajnidhi)** is a project through citizens, can obtain information relating to investment opportunities, tourism (tourist places, fairs and festivals, forts, sanctuaries), health (family planning and immunization of children), employment, transportation, distance education, and agriculture. Information regarding procedures (forms, rates, places and persons) for obtaining ration cards, licenses, birth/death, and caste certificates, and water and electricity connections. This website also contains electronic versions of State Government publications, statistical data, details of Government departments and PSUs and provides an opportunity for the citizen to send complaints to the Chief Minister ([www.ap-it.com/egovernancego23governance.pdf](http://www.ap-it.com/egovernancego23governance.pdf)).

**Lokmitra** project provides access to Government transactions through the internet and e-kiosks. It is equipped with five e-counters, connected to a central server. Any citizen can avail multiple services of different departments at these counters ([www.lokmitra.gov.in](http://www.lokmitra.gov.in)).

**Rajswift** is a system, which uses the internet to facilitate online data, text and email communication between the Office of the Chief Minister and the 32 District collectors. **Vikas Darpan** – GIS – based Planning & Decision Support System covers 40,000 tehsils on about 200 demographic and socio-economic indicators.

3.2.5.7 Gujarat

The prominent E-governance project in Gujarat is the **Computerized Inter-state Check Post (CICP)** system in which all the check posts of Gujarat have been computerized (Patel, A.R, 2001). This helps government officials to check all the heavy
vehicles passing through the State and control the transport of commodities to conform to specified standards to avoid loss to life and property. Besides, the project also protects drivers of transport vehicles from the alleged harassment of officials and checks unaccounted money transactions. The PPP model (Private Public Participation) has been applied to design and run the project (www.egov4dev.org). A team comprising an enlightened political executive and a technology-savvy administrator was able to implement an online system in which each truck is weighed on an electronic weighbridge.

3.2.5.8 West-Bengal

As part of the goal for adopting E-governance, West Bengal has introduced significant computerization in several Government Departments and Directorates. These include Finance, Labour, Transport, Panchayat & Rural Development, Land & Land Reforms, Tourism, Forest, Youth Services, Municipal Affairs, Higher Education, Environment, Housing etc.

Computerisation of land records, which started as a small pilot project in District of Bardhaman, has since been extended to all other districts in West Bengal. Out of 341 blocks in the State, 238 have already been computerized. Digitization of cadastral maps is now being initiated. Specifically, a pilot project has been started in Hooghly district for digitization of cadastral maps. Further, a Land Acquisition Information System has been recently developed to ensure speedy disposal of land acquisition cases. It generates various reports relating to notification, declaration, land schedule, estimate preparation etc. speedily and efficiently. The system has been on trial in land acquisition cases for the New Township Project at Rajarhat.

The noted E-governance programmes are Telemedicine in Midnapore, computerisation of Government Departments (Weber), GIS for municipalities, and West Bengal State Wide Areas Network (WBSWAN).
**Telemedicine** is a client friendly high tech system used for critical patients. Purulia district hospital is linked with the medical colleges like NRS, Medical College and Burdwan Medical College. Patient's history is sent to the higher centers through the internet facility and the prescriptions are sent to the sending hospital through. If required, patients and medical officers of the sending hospital may consult with the specialists of the medical colleges through video Conferencing facility and Internet.

**Computerisation of Government Departments (Webel)** is in the process of implementing the Government of West Bengal's computerization programme for three common applications viz. Directing the movement of files, setting up of departmental personnel information systems and the monitoring of funds deployment in several Government Departments and Directorates. Sixteen departments viz. Finance, Labour, Transport, Panchayat & Rural Development, Land and Land Reforms, I & CA, Tourism, Forest, Youth Services, Municipal Affairs, Higher Education, Environment, Housing etc. have been identified for introducing the above applications.

A Geographical Information System (GIS) has been implemented in 10 Municipalities in the State. The spatial data survey and implementation of GIS for Pujali, Kurseong, Budge Budge, Kalimpong and Bidhan Nagar Municipalities have already been complete. The job of implementing Geographical Information System (GIS) in 20 Municipalities in the State is now on. The spatial data survey and implementation of GIS for Pujali, Kurseong, Kalimpong and Bidhan Nagar Municipalities have already been completed.

**West Bengal State Wide Area Network (WBSWAN)** is the backbone network for data, voice and video communication throughout the state of West Bengal based on IP (internet protocol) Technology. Through this Government Intranet E-governance activities of the Government of West Bengal are being undertaken.
3.2.5.9 New Delhi

Municipal Corporation of Delhi has decided to leverage information and communication technologies to provide efficient, affordable, accountable and transparent municipal services to the people of Delhi (www.mc多年line.gov.in). The programme was formulated on the basis of PPP. The strategies adopted by MCD for ushering in municipal E-governance were based on the belief that objectives of MCD’s E-governance programme are as follow:

a) To bring MCD closer to the people through Citizen Service Points, PCs’ kiosks, telephones and others with 24*7 service.

b) Create a digital community – A digital community can foster personal involvement in municipal governance by providing people with easier access to information and other resources.

c) More transparent efficient, effective decision making in an integrated information network.

d) Strengthening of the management of municipalities by enabling them to become more efficient in resource management, tax collection and identifying local infrastructure needs especially for the poor in respect of health, education, shelter and basic services.

e) Preparation of work plan, maintenance of accounts, balance sheet, ward wise and neighborhood wise identification of deficiencies and preparation of bottom up annual plans.

The E-governance initiatives implemented at global and national level by the economically developed as well as developing countries are in the vortex of implementing these programmes increasingly influence the welfare of their citizens. These programmes especially citizen centric service delivery projects have made decisive impacts on the quality, accessibility and efficiency of various services enjoyed by the citizens. Among the developing countries, India is on the path of implementing E-governance programme on all aspects of governance connected to society. Compared to
traditional manual system, all dimensions of efficiency in service delivery have improved in the new system of governance. It is also noticeable that the, South Indian are in a leading position viz-a-viz other Indian states in adopting and implementing E-governance programmes.

REFERENCE


WEB SITE

45. www.eid.belgium.be, 2010