UNIT 3 URBAN E-GOVERNANCE

Structure

3.1 INTRODUCTION

Generally speaking, e-governance or electronic governance in urban development is the use of information and communication technologies (ICT) in the operation and maintenance of urban services. ICT helps to introduce a wide range of ways in which government should use the Internet and computer networks for improving collaboration and cooperation between ministries; making government services more transparent, efficient and effective for the public by sharing accurate and up-to-date information and improving people's access to government services; boosting public sector accountability, transparency, efficiency and effectiveness. E-governance can also help streamline activities, cut costs and paperwork and help the city governments make more informed development decisions.

Many countries worldwide have been reforming their governments and public service delivery. They use ICTs as a key way to bring about urban development. To illustrate, introduction of e-government initiatives is being perceived as a major tool in meeting the challenge that Africa is facing in bringing about city development. In many countries, for a simple transaction such as obtaining a form, a large number of citizens spend most of a day at a local administration office. Too often, they do not know fully about the range of available public services, what they are entitled to, or how the services are delivered. For civil servants, processing the transactions manually is a time-consuming exercise, which introduces human errors and corruption. Information that they collect is kept within particular departments and not shared among ministries and agencies. Decision makers do not have accurate and up-to-date information, analysis and forecasts on their country's socio-economic development, which are critical in making informed decisions based on evidence.

The initiative of the use of information technology (IT) in urban management started in the late nineties, especially after the adoption of the 74th Constitutional Amendment Act (CAA) in 1994, when urban local bodies (ULBs) became constitutional entities of local governance. Prior to this, local governance was the mandate of the state governments where the ULBs were supposed to perform certain functions mandated to them by the state governments. The passage of the 74th CAA resulted in the increased role of the ULBs in local governance. Further,

the central government launched the programme of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005 where adoption of reform in e-governance became mandatory for all the 65 Mission cities (all State capitals, all million plus (population) cities and cities of historical interest). The use of ICT is expected to help the ULBs and state governments to curb corruption, reduce time for the provision of civic services and bring about transparency in urban management. The 65 ULBs are in different stages of adoption of reforms and are committed to adopt a complete computerized system of service delivery by the end of the mission period.

After studying this unit you should be able to:

- Discuss the meaning and concept of e-governance.
- Describe various initiatives of e-Governance in different development sub-sectors in urban areas with the help of examples/case studies.

3.2 NEED AND IMPORTANCE OF E-GOVERNANCE IN URBAN DEVELOPMENT

3.2.1 Need for E-Goverance

E-Governance which is a short form for electronic governance, also known as digital governance or online governance refers to the use of ICT to provide and improve government services, transactions and interactions with citizens, businesses, and other arms of government. While e-government is often thought of as *online government* or *Internet-based government*, many non-Internet *electronic government* technologies can be used in this context, like telephone, fax, wireless networks and services etc.

E-Governance has become an essential tool for urban development by involving the use of IT in:

- Improving transparency;
- Providing information to the citizen speedily;
- Improving administrative efficiency; and
- Improving public service such as transportation, power, health, water, security and municipal services.

One of the important components of e-Governance solution is the Geographical Information System (GIS). The GIS has helped in systematic mapping of four aspects:

- **Revenue mapping** – showing details of all municipal taxes and charges like property tax levied on various assets. This will help the officials by improving assessment and thereby increasing collection of revenues.
- **Municipal infrastructure mapping** – showing the details of municipal infrastructure like roads, solid waste management system, streetlight, housing, etc., thereby helping the city planners in town planning.
- **Resource and assets mapping** – showing specifically the assets for optimum utilization and hence providing better services to the citizens.

- **Poverty mapping**– showing socio-economic attributes of the poor households. This will help in targeting the correct citizens for the correct services.

3.2.2 Importance of e-governance

Urban areas are currently the largest contributors to global energy consumption and climate change. The world's 20 largest cities alone – each with a population exceeding 10 million – are responsible for 75 percent of the planet's energy use. Added to this is the rapid development of metropolitan areas around the globe as well as the need to renew outdated 20th century infrastructures in cities. The scopeof ICT in addressing these urban challenges is tremendous.

The further development of the information/knowledge/network society is now a common goal of many authorities round the world. Modern telecommunications can be seen not only as a new way of working but also as a new form of urban management. Delivery and management of urban services can be better done by e-governance. This may be true for property tax collection; vehicle tracking or efficient transport services. The quality and diversity of conventional transportation networks and services are important locational factors for many industries and activities. Therefore, analogously, one may suppose that ICT and its applications will, over the course of time, similarly come to affect spatial development and thus one may argue that with this in mind, ICT should already now be taken into account in all future spatial planning processes. In the policies and plans for sustainability and eco responsibility in cities, much attention has been directed to three sectors: the built environment, energy, and mobility. At the commencement of the 21st century, it is obvious that a fourth, equally important element must be addressed that is ICT.

This era is the start of a dialogue about how cities can create coherent, long term policies and plans to manage the environmental impacts of ICT and utilize ICT strategically to create sustainable 21st century cities. ICT products and systems are a significant and rapidly growing part of the environmental footprint of modern urban life. They are resource intensive in manufacturing and distribution, consuming ever greater amounts of energy while in use, and producing escalating volumes of solid and toxic waste.

ICT products, systems and networks are the essential drivers of productivity improvements and innovation for the 21st century. They will be the enablers of sustainability solutions in all networks of urban life: buildings, energy production and use, mobility, water and sewage, open spaces, education, and public health and safety. ICT innovation is also the catalyst for changes in personal, work and community life that will be a fundamental requirement for sustainable economic development.

Until now, little attention has been given to measuring the eco footprint of ICT in cities, or to clearly understand its role in enabling other sustainability initiatives. Because ICT systems and products are literally everywhere in modern life, it is difficult to see and understand that each device is part of a whole system globally linked by networks to create, manipulate, store, move and present information for humans and machines. To successfully manage the ICT environmental footprint and realize the benefits for enabling sustainability, a city must have a vision and strategy for ICT that encompasses all organizations and constituencies.

ICT helps develop an innovative combination of advanced technologies that meet the unique needs and vision for each urban area. Some of these technologies include:

- Vehicle tracking/identification systems;
- Dynamic congestion-charging programmes;
- Video communication solutions;
- Integrated transportation management systems;
- Global positioning system (GPS), radio frequency identification (RFID) and other sensor technologies;
- Broadband, wireless and intelligent infrastructures; and
- Collaboration technologies in the creation of innovative work environments.

A study about the relationship between the quality of local e-government services and the levels of Internet access in the 12 regions of the United Kingdom reveals that lower quality of local e-government services correlate with low levels of Internet access. In Taiwan, electronic tax-filing systems, the implications of technology acceptance and perceived credibility of the systems are positive factors that influence adoption of e-government services. Whether e-government in the future will be a method for including more citizens in a government or excluding less technologically educated citizens remains a concern. Many information policy issues are likely to present significant challenges to the development of e-government. These are:

- Ensuring ability to use required technologies;
- Educating citizens about the value of e-government;
- Ensuring access to useful information and services;
- Coordinating local, regional and national e-government initiatives;
- Developing methods and performance indicators to assess the services and standards of e-government;
- Providing consistent and reliable electricity, telecommunications, and Internet access;
- Addressing issues of language and communication;
- Preventing e-government from lessening responsiveness of government officials; and
- Including individuals with disabilities in e-government.

3.3 INITIATIVES OF E-GOVERNANCE: INTERNATIONAL EXPERIENCES

Examples of e-Governance practices followed in some of the developed countries are given below:

3.3.1 Automated Building Plan Approval: Case of Singapore

Singapore is a key hub in the development of the global information and knowledge economy. Part of the developing e-Business capability in Singapore

is the Construction and Real Estate Network project (CORENET). This world's leading initiative has changed the entire perception of building planning in Singapore. Key to the success of CORENET is Automated Code Checking, which allows automated approval of building plans over the Internet. Received data is stored and checked within EXPRESS Data Manager software.

CORENET is a major IT initiative undertaken by the Singapore Ministry of National Development to re-engineer the business processes of the construction industry and achieve a quantum leap in turnaround time, productivity and quality. CORENET centres on developing IT systems to integrate the four major processes of a building project life cycle, supported by key infrastructures, to provide a *One-Stop Submission Centre* (OSSC) to facilitate electronic submission, processing and approval of building project documents over the Internet.

The specific objectives of CORENET are:

- To speed up the business planning and project evaluation processes in the building industry by making all relevant information readily available to all players in the industry;
- To streamline the design-related processes by having all industry professionals work with one common set of electronic plans instead of separate paper and electronic plans presently used;
- To evaluate the compliance of building design to statutory requirements with minimal intervention and guidance from the regulatory authorities;
- To move towards common procurement procedures and document standards; and
- Integrated Building Plan and Building Services System (IBP/IBS).

One of the major projects in CORENET is the IBP/IBS which is an expert system that automatically performs checks on digital plans for compliance with building plan and building services regulatory requirements. The design checking and approval process using the manual approach is time-consuming and inefficient. Automating this process eliminates potential delays as well as avoids inconsistencies in code interpretation.

One-Stop Plan Submission of Building Plans

It is a virtual submission centre to facilitate round the clock electronic submission and approval of digital building plans. It will be an advanced e-government solution for industry professionals such as architects, structural, mechanical and electrical engineers. Automated compliance checks are performed on the relevant parameters of the proposed building against the building codes and compliance regulations. Payment of fees done with the help of electronic. The system saves the industry travelling time to the 13 regulatory agencies and brings about significant manpower and cost savings to both industry and agencies.

3.3.2 Smart Work Centers: Amsterdam

This network of Smart Work Centers (SWC) is part of collaboration between Cisco and the City of Amsterdam under the Connected Urban Development program (CUD), which serves to address modern urban challenges including mobility, climate, energy and sustainable ways of urban management. The Double

U Smartwork aims at a one stop shop for location providers, individual users, independent professionals and corporate users, where all SWCs can be booked directly by a central booking tool.

SWCs comprise a regional network of neighbourhood professional work and community centres supporting travel virtualization and enabling mobile working practices. SWCs offer a professional work environment near residential areas to lower energy use and carbon emissions. Estimates revealed that users have saved on an average of 66 minutes of commuting time per day.

An SWC is a physical facility where high quality workplace solutions are offered to professional workers in a neutral, centrally located and easily accessible environment. To minimize traffic, an SWC is located in the vicinity of roads, traffic junctions, stations and residential areas. Currently, there are several providers of SWC-like facilities in the Netherlands. The Double U Smartwork Foundation serves as a coordinating platform for SWC providers and aims to develop a national network. Users, regardless of where they live or reside, should have access to a good workplace within biking distance. Until recently, existing SWCs were too fragmented and locally focused, therefore, employers operating on national level were not interested in offering their employees an alternative working spot. Double U links a network of over 50 open and SWCs, with the plan to extend to 100 national centres.

Smart Work Centers are well equipped and go beyond providing a workplace. The services and facilities are not only meant to facilitate work itself, but also to provide work related services as day-care and catering facilities.

Anyone can use the facilities offered by one simple online booking system. Through the portal, users can quickly find the nearest location with the right facilities, whether they are on the road or at their workplace. The available providers are automatically displayed.

3.3.3 An Energy Efficient City: Madrid

Madrid is one of the first pilot projects carried out in Spain within the Connected Urban Development program (CUD), in which companies and cities partner to contribute to the development of sustainable, efficient and innovative cities through the use of connectivity and new technologies. Promoted by the Municipal Company for Housing and Lands of Madrid; Cisco and technology partner Telvent, have deployed network infrastructure, connectivity and control systems in a pilot, apartment building in the city. The development is intended as temporary housing on a rental basis to young people in Madrid.

The *Energy Efficiency Manager* installed in homes can, at any time and in real time, manage energy consumption, controlling emissions of carbon dioxide and make decisions about the way in which residents make use of energy both at the individual apartment level and throughout the building. In the future, this is intended to extend across the urban community. The solution, which allows consumers to set limits and comparisons of weekly, monthly or yearly consumption, provides to citizens and municipal managers, daily tips to improve efficiency and be more environmentally responsible.

Urban Eco-Map is part of the global Urban Services Platform approach toward which visionary cities and the ICT industry are moving. Urban Eco-Map provides real-time environmental intelligence to enable citizens, communities, cities, countries and businesses alike to make smart ecological decisions and to develop policies that improve the sustainability of cities. Through this comprehensive view of eco-data, we can now take a global *pulse* of the eco-health of our planet.

3.3.4 Urban Eco Map: San Francisco

Urban Eco-Map: A pilot co-developed with the City and County of San Francisco, Urban Eco-Map provides cities with relevant data regarding primary greenhouse gas contributors – transportation, waste and energy – to help city residents take action to reduce their emissions.

3.3.5 Personal Travel Assistant: Seoul

Personal Travel Assistant (PTA): PTA is a Web-based service that allows residents in Seoul and Amsterdam to make on-the-go travel decisions based on time, cost and carbon impact. It offers *virtual assistant* features that provide transit guidance based on user preferences via any Web-enabled device, from any location.

In this session you read about urban e-governance and e-governance practices in developed countries, now answer the questions given in the Check Your Progress 1

Check Your Progress 1

Note: a) Write your answer in about 50 words

b) Check your answer with possible answers given at the end of the unit

1) What do you mean by e-governance?

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2) Explain the importance of e-governance and how e- governance has helped urban management across countries with examples.

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3.4 INITIATIVES OF E-GOVERNANCE: NATIONAL EXPERIENCES

Examples of e-Governance practices in some of the Indian states are narrated below:

3.4.1 Computer-Aided Registration of Deeds and Stamp Duties: An Initiative of the Andhra Pradesh Government

E-governance has helped the state revenue departments to register properties in less time, store information scientifically and bring about transparency in the system. Such an initiative was taken in Andhra Pradesh in the late eighties, where the Computer-aided Administration of Registration Department (CARD) project has brought about computerized counters at land registration offices throughout Andhra Pradesh. The project aimed at altering the antiquated procedures that had governed the registration system of the state, which included the laborious copying and indexing of documents as well as their unscientific space-consuming preservation in ill-maintained backrooms. The state had a flourishing business of brokers and middlemen who exploited citizens selling or buying property. The CARD project is an attempt to reform this system through the use of IT[1] . With the introduction of CARD, citizens now complete registration formalities within a few hours. The CARD project illustrates some of the key implementation issues the state and national governments may face in their efforts to use IT to improve citizen-government interfaces and serves as a best practice to be replicated by them (J. Satyanarayana, 2002).

The idea of introducing computers was originated in 1988 in Andhra Pradesh when a project was initiated to computerize the process of issuing Encumbrance Certificates. 386 server operating with 14 terminals was set up at a cost of about $31,000 (Rs 1.33 million). Data entry of index registers of the twin cities of Hyderabad and Secunderabad was initiated. The National Informatics Centre (NIC) provided the technical assistance. The entry of 15 years of data went on until 1995 when a pilot scheme for issuing computerized Encumbrance Certificates was launched in one of the city offices. The feasibility of taking up a comprehensive Registration Department computerization project to address other registration formalities and problems was established in a study conducted by J. Satyanarayana[2] in August 1996. The study brought out methods by which various registration services could be delivered electronically across the counter in an integrated manner and showed a road map as to how the process of valuation could be consigned to the computer and also introduced the concept of electronic document management as an essential part of computerizing the registration process.

i) Objectives of the CARD Project

CARD is a major IT project designed to eliminate the maladies affecting the system of registration through electronic delivery of all the registration services. It was based on the primary objectives outlined below.

[1] The CARD project was funded entirely by the government of Andhra Pradesh. The original outlay was about US$3 million (Rs.130 million).

[2] Commissioner & Inspector General of Registration and Stamps C.T. & Excise Complex, M.J. Road, Nampally, Hyderabad

- Demystify the registration process.
- Introduce a transparent system of valuation of properties, easily accessible to citizens.
- Bring in speed, efficiency, consistency and reliability.
- Replace the manual system of copying and filing of documents with a sophisticated document management system that uses imaging technology.
- Replace the manual system of indexing, accounting and reporting.
- Introduce electronic document writing.
- Substantially improved the citizen interface.

ii) Benefits of CARD

The CARD project aims at providing improved quality of the services at the registration department by providing a computer interface between citizens and government. The tedious procedures that took weeks have been replaced by a system that can be accomplished in just a few minutes. The market value assistance and issuing of the Encumbrance Certificate (EC) takes five minutes each. The sale of stamp papers, document writing and registration of the documents takes ten minutes, thirty minutes and one hour respectively. The positive impact of the CARD project on the efficiency of registration operations can be gauged from the following table:

Quantitative Benefits of CARD

Description of registration services	Time taken in manual system	Time taken in CARD system
Encumbrance Certificate	1 to 5 days	10 minutes
Valuation of properties	1 Hour	10 Minutes
Sale of Stamp Paper	30 Minutes	10 Minutes
Document Writing	1 day	30 Minutes
Registration	1 to 7 days	1 hour
Certified copies of documents (registration under CARD)	1 to 3 days	10 minutes

Source: *Based on CARD (J. Satyanarayana, 2002)*

3.4.2 KAVERI in Karnataka

KAVERI is another e-governance initiative undertaken by the Government of Karnataka. For the last five decades, the process of registration of documents was done manually and involved the following steps:

- Stamping,
- Presentation,
- Admission of execution,
- Identification by witnesses and
- Registration, as prescribed in Karnataka Stamp Act, 1957 and Registration Act, 1908

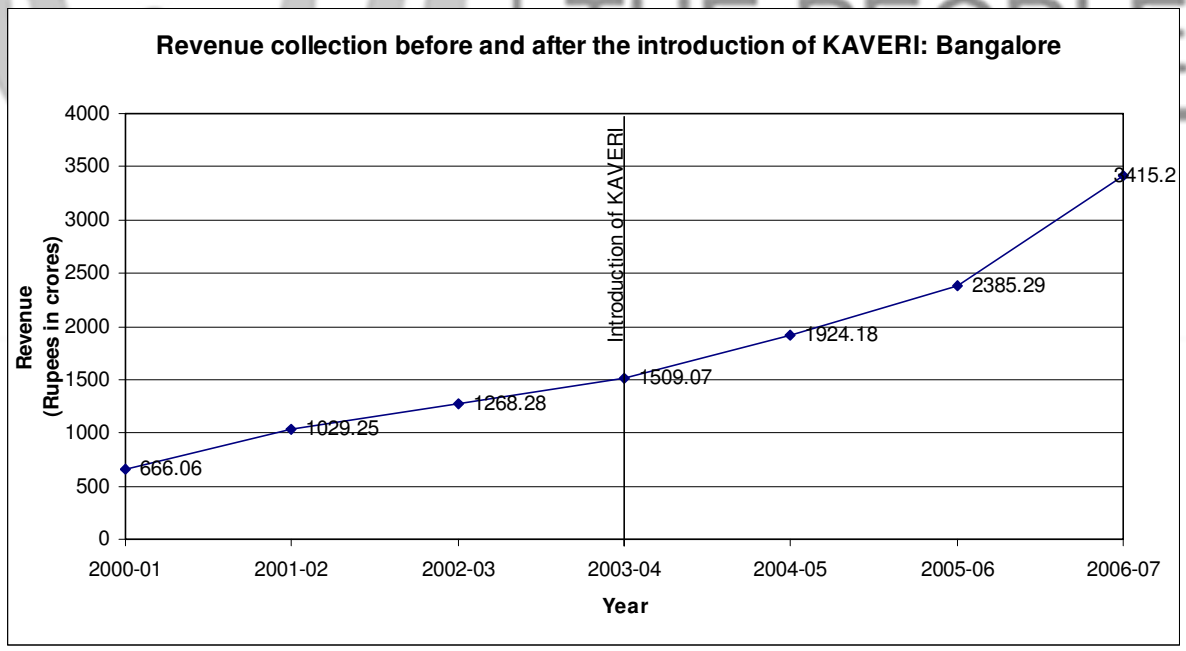
i) Features of KAVERI

Automated Kiosks with touch screen operation facility were installed in every Sub-Registrar's Office, through which public can have access to the following information in Kannada and English.

- Market value of land in all villages, owns and cities in the state.
- Model formats of commonly used deeds and forms required for Registration of Marriage.
- Model byelaws of Societies and Associations.
- Frequently asked questions and exhaustive answers.
- Fee for Registration of documents/Registration of Societies/Firms/Marriages.
- Acts and Rules bearing on registration of documents.

(Source: Department of Stamps & Registration, Government of Karnataka, 2008)

Under the manual registration process, the documents registered were copied manually in specified books. After that, they were verified with the original documents, and the hand written documents were authenticated by Registering Officers. The registered book would serve as a public document. Since the manual procedure involved writing each document that was to be registered, the time taken for the entire registration procedure was anywhere between two to three months. Moreover, it also meant 2–3 trips to the registration office to check if the document was ready. The solution lay in finding an alternative procedure that would meet the statutory requirements and also speed up the process while preserving the accuracy of the manual procedure. Computerization was the way forward. The Department of Stamps & Registration, Government of Karnataka set up automated registration process in the state in the year 2002. More than 200 Sub-Registrar Offices in Karnataka came under computerization under an outsourced model whereby the vendor could complete the registration process within 30 minutes. The software was aptly called KAVERI, after the river Cavery[3] .



[3] Centre for Development of Advanced Computing, Pune (C-DAC) provided the technical support in developing suitable software to cover the following aspects of registration: Registration of properties, Valuation of properties, Scanning and Archival of Documents, Reports, Vendor management system, Utilities, Website, Societies, Firms and Marriage Registration and Data Transmission.

After the introduction of KAVERI, the department has registered documents and returned the same to the parties concerned within 30 minutes of its presentation. The graph indicates that there was a significant growth in the revenue to the state exchequer after the introduction of KAVERI. In spite of reduction in stamp duty and registration fee there was significant growth in revenue[4] . This was possible due to the elimination of the human interface as the KAVERI system calculates the value of property through automated programme[5] .

3.4.3 E-Suvidha – E-Governance Initiatives of Pimpri Chinchwad Municipal Corporation

The Pimpri Chinchwad Municipal Corporation (PCMC) has introduced an integrated e-Governance Programme to ensure improved transparency to build citizen centric governance. The implementation of e-governance gave new set of responsibilities to PCMC's employees. This project has involved around 11 corporation departments, which are computerized. Citizen Facilitation Centre (CFC) is the most successful project, which provides services to citizens with more than 99% efficiency. Another Innovative project is PCMC@home, which provides services of corporation directly at home through PCMC personnel.

The initiative under E-Suvidha has considerably reduced the hassles faced by the citizens. Citizens take minimum time and cost for availing the civic services. Citizens avail the facility on a mouse click from home or office or any remote location-avoiding visit to Corporation office or division office. Payment of charges and taxes directly online through payment gateway facilities reduces the travelling cost and valuable time. Citizens save about 3–4 hours of time through availing E-Suvidha facilities and in some cases citizens save days by availing the online facilities of the PCMC.

Kiosks set up in different wards, zonal offices and other public places have helped the citizens who are not proficient with net banking and who are not able to avail web based facilities. Visit to Kiosks at the nearest point helps the citizens to avail the facilities, services and payment of different charges, taxes and bills. The web based application helps the citizens to locate their properties for assessment details and for payment of taxes online. The utility mapping has helped the PCMC to monitor the delivery of essential services such as water supply, drainage lines, roads, streetlights, garbage bins, etc. This has increased the overall service delivery improvement to provide services and identify the areas which do not avail these services and utilities.

The following section provides details of the services provided under E-Suvidha initiative:

- **Property and water revenue management:** The property assessment details and water charges are available online, with online payment facility. This has reduced number of visits by the citizens to the corporation office.
- **e-Tendering:** PCMC has initiated the online tendering system for all projects and procurements to be taken up for the development works under its limits. Submission of tenders and documents can be done online.

[4] The Government of Karnataka reduced the rate of stamp duty on conveyance from 10% to 8% and Registration fee from 2% to 1% with effects from 01-04-2003.

[5] This initiative of the department got two e-governance awards from GOI for introducing computerization as best practice.

- **Dashboard for works management:** Dashboard of work management is an integrated web based software for monitoring and tracking the progress of work. This module is also integrated with financial data like budget approved for works, cost incurred and other information, which helps in keeping a track of the projects undertaken by PCMC. Necessary decisions are taken from time to time depending upon the progress of projects and works.

- **Citizens Facilitation Centre (CFC):** PCMC's Citizens Facilitation Centre (CFC) provides 79 different citizen centric services for 12 departments of the Corporation. The CFCs work on single window basis to provide one stop service to the citizens for PCMC. CFCs also provide services of the District Collectorate like caste certificates, domicile certificate, ration card, and also provides value added services of Road Transport Office like issuance of learning licenses and collection of Maharashtra State Electricity Board bills, collection of BSNL bills, collection of insurance premiums and railway ticket booking.

- **SMS-based complaint monitoring system:** To reduce the difficulties of citizens and to send a complaint to PCMC, a SMS based complaint system has been initiated. A citizen can send a complaint by SMS and scrutiny of received complaints takes place through PCMC administration. An SMS as well as an email immediately goes to the related officer for addressing the complaint. This has reduced PCMC's response time considerably.

- **Solid waste management with vehicle tracking:** PCMC has also started GPS vehicle tracking system. This GPS system has been integrated with an interface, which will assign waste pick up job and duty management. The system also monitors and registers the auto job picks adherence via geo reference and stop at pick up bin location. Vehicles trip/job report gets generated for number of trips per vehicle per driver and as well as contractor. Pick up adherence report; exception report on missed bins also gets generated for the authority to monitor the collection of solid waste from bins. Tracking report, stoppage, over-speed reports, detention reports etc., are getting generated for continuous monitoring of collection and transportation of vehicles.

- **Geographical Information System:** PCMC has a GIS mapping of 182 sq. km area. This has been done through geo-referencing of the Quick Bird satellite map of 0.6 m resolution map. This mapping has been developed for GISDA by Science and Technology Park (STP) and on terms of integration with various databases and application services. GISDA runs from a centrally located system, which can be accessed through web. GISDA provides core web technology and a GIS platform that is used by all other applications to provide Web-GIS based Citizen Centric Services.

- **Property and water revenue management:** Through this service following fecelities are provided:
  - Citizens can view their bills online;
  - Taxes can be paid online from home;
  - High level of transparency is achieved;
  - Strong MIS and administration control;

- Citizens can pay or use any office of corporation;
- Easy Property Registration for tax assessment;
- Ability to create/copy rate profile for different tax years;
- Property Tax calculations;
- Self-Assessment of Property Tax;
- Provisional Tax and Notice generation.

- **e-Tendering:** This facility helps:
  - All the departments publish tenders online;
  - Bidders can view/download tenders online;
  - Bidders pay fees online;
  - Bidders bid online using digital signature;
  - Bidding is controlled through parameters like bidding capacity;
  - Tenders only opened by Tender committee using digital signatures online;
  - Lowest financial bids are published online to all bidders;
  - The Bidder registration is one time process;
  - Tender-Committee can be defined per tender;
  - Department wise Bidder Registration as well as common bidders;
  - Bidding Capacity and Tender limits are configurable with Rate Contracts;
  - Integration with Accounting;
  - Generation of comparative statement;
  - Facility to define multiple manufacturers for single item and bidders can bid for multiple manufacturers for single item;
  - The comparative statement is generated for all manufacturers;
  - The EMD and Tender Fees are auto-calculated based on Tendering Rules; and
  - Bidders can pay the EMD and Tender Fees online through online payment gateway.

- **Building permission management:** The broad uses of the building permission management system are:
  - Creation of new projects for the developed drawings and project attributes;
  - The Auto DCR system reads the drawing and extracts the geometrical information of layouts and building plans;
  - Single window to get all N.O.C. The application is integrated internally with all departments;
  - Integrated with digital signature key – the applicant signs the application digitally and then it is encrypted;

  Based on the project attributes the graphical object information is mapped to the relevant development control rules.

  - Final detailed rules verification report is produced, indicating passed/ failed status for each rule;

- Reduces the architect's/authority's effort for drawing and calculations;
- Permission status is available online to the applicant;
- Eliminates the human errors and manipulation and produces accurate reports;
- Tremendously reduced the time cycle of approval;
- Alerts on unnecessary delays;
- Standardizes the drawing process;
- Detailed user friendly dynamic reports.

- **Dashboard for Works Management:** This facility offers following services:
  - Every work has unique identification number generated by the system to be used for all purposes;
  - Budget is loaded in the system;
  - The workflow of various stages of the work is configured in the system;
  - At every stage the person who is in charge of that work needs to update its status;
  - It is linked to e-tendering application;
  - The work flows through various stages of approval. Once it is approved and work order is issued the work can be commenced;
  - Work in progress can be tracked for its completion, bills raised, payments made and funds allocated.
- **Solid waste management with vehicle tracking:** The system includes benefits like:
  - Bin wise service efficiency report;
  - Business specific alerts via SMS/email;
  - Vehicle being dispatched to trip;
  - Vehicle reaching assigned waste bins locations;
  - Unloading at land fill site;
  - Vehicle stoppage time in various locations and breakdown.

Activity 1

Visit a near by corporation / municipal office and find out whether e-governance has been introduced in your city/town. If yes, what are the civic services, which are delivered through e-governance?

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In this session you are acquinted with the case studies of e-governance in India, now answer the question given in Check Your Progress 2.

Check Your Progress 2

1) Taking Pimpri Chinchwad Municipal Corporation as a case study, name various initiatives of e-Governance taken in different development sub-sectors in the city.

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3.5 CHALLENGES IN E-GOVERNANCE

Though this unit has presented discussions of interesting and innovative e-government initiatives, e-government still faces many challenges as it continues to develop. In designing and implementing e-government sites, a government must consider elements of policy, including regulatory issues, economic issues, and the rights of users.

One US General Accounting Office report specifically listed the challenges to implementing e-government as; (1) sustaining committed executive leadership; (2) building effective E-Government business cases; (3) maintaining a citizen focus; (4) protecting personal privacy; (5) implementing appropriate security controls; (6) maintaining electronic records; (7) maintaining a robust technical infrastructure; (8) addressing IT human capital concerns; and (9) ensuring uniform service to the public. Other scholars have noted additional broad challenges, such as defining the parameters of e-government and making e-government function so that it does not conflict with other laws.

A recent U.S. government study found that the biggest concerns for e-government managers were not technical issues, but instead were policy issues, including coordination and collaboration between agency leaders, agency-centric thinking rather than focusing on the overall goals and functions of e-government, and communication to better understand and foster inter-relationships between e-government projects. Along with complex policy issues, some of the greatest challenges to maximizing the potential of e-government may involve social dimensions of information policy related to the Internet. The planning and implementation of e-government, as it continues to develop and grow around the world, will have to focus on finding methods to address varied issues. Some of the most important sources of information about meeting challenges to effective e-government are actual e-government initiatives that are currently operational. The lessons that can be learned from ongoing e-government projects, both in what works and what does not, will provide meaningful guidance in developing and refining e-government. Furthermore, the examination of e-government projects from different levels of government and different parts of the world offers a method to share knowledge about e-government. In many ways, the future directions of e-government will be confronting the important policy issues

that remain unaddressed. Studies such as those in this symposium issue are valuable to the conceptualization and application of current and future e-government projects, regardless of where the projects occur.

The Government of India has launched the National e-Governance Plan (NeGP) with the intent to support the growth of e-governance within the country. E-government helps simplify processes and makes access to government information easy for citizens as well as for public sector agencies.

3.6 LET US SUM UP

E- governance or electronic governance in urban development is the use of information and communication technologies (ICT) in the operation and maintenance of urban services. This initiative of the use of information technology (IT) in urban management started in the late nineties, especially after the adoption of the 74th Constitutional Amendment Act (CAA) in 1994, when urban local bodies (ULBs) became constitutional entities of local governance. Further, the central government launched the programme of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) in 2005 where adoption of reform in e-governance became mandatory for all the 65 Mission cities (all State capitals, all million plus cities and cities of historical interest). The Government of India has launched the National e-Governance Plan (NeGP) with the intent to support the growth of e-governance within the country. The introduction of e-governance has facilitated the state and local governments in the country in successfully delivering urban services to its citizens in a transparent and efficient manner. Although e-governance has been introduced in all the Mission Cities under JNNURM, concerted efforts need to be taken to increase the coverage across and within cities. Efforts should also be taken to include non-Mission cities under e-governance.

3.7 KEYWORDS

E-governance : E- governance or electronic governance in urban development is the use of information and communication technologies (ICT) in the operation and maintenance of urban services.

JNNURM : Launched in 2005, Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is a central government reform linked programme wherein adoption of reform in e-governance is mandatory for all the 65 Mission cities (all State capitals, all million plus cities and cities of historical interest).

CARD : The CARD is a project aimed at altering the antiquated procedures that had governed the registration system of the state of Andhra Pradesh, which included the laborious copying, and indexing of documents as well as their unscientific space-consuming preservation in ill-maintained backrooms. The state had a flourishing business of brokers and middlemen who exploited citizens selling or buying property. The CARD project is an attempt to reform this system through the use of IT.

KAVERI : The Department of Stamps & Registration, Government of Karnataka set up automated registration process in the state in the year 2002, wherein 202 Sub-Registrar Offices in Karnataka came under computerization whereby the vendor could complete the registration process within 30 minutes. The software was aptly called KAVERI, after the river Cavery.

E-Stamping : To prevent fraudulent practices in stamp paper based transactions and registrations, e-stamping has been introduced in some states where the entire exercise of stamp duty payment and generation of stamp duty certificate takes less than 3 minutes. It offers a secure and reliable stamp duty collection mechanism, and stores information in secured electronic form and builds up a central data repository to facilitate easy verification.

E-Suvidha : Development of an integrated e-Governance programme to ensure improved, transparent and efficient way of building citizen centric governance.

3.8 REFERENCES / SELECTED READINGS

JNNRUM programme, Ministry of UD, GOI, www. urbanindia.nic.in

Municipal e-Design Document, Ministry of UD, GOI, www. urbanindia.nic.in

NeGP, Department of IT, Ministry of Communication & IT, GOI, www.mit.gov.in

NISG Knowledge Center, www.nisg.org

http://www.egovonline.net/

3.9 CHECK YOUR PROGRESS – POSSIBLE ANSWERS

Check Your Progress 1

1) What do you mean by e-governance?

E- governance or electronic governance in urban development is the use of information and communication technologies (ICT) in the operation and maintenance of urban services.

2) Explain the importance of e-governance and how e-governance has halped urban management actions, give examples?

Two examples of the use of IT in the field of property registration are CARD in Andhra Pradesh and KAVERI in Karnataka. The CARD is a project aimed at altering the antiquated procedures that had governed the registration system of the state of Andhra Pradesh, which included the laborious copying, and indexing of documents as well as their unscientific space-consuming preservation in ill-maintained backrooms.

Check Your Progress 2

1) Taking Pimpri Chindwad Municipal Corporation as a case study, name various initiatives of e-governance taken in different development sectors in the city

Property and water revenue management; e-Tendering; Dashboard for works management; Citizens Facilitation Centre (CFC); SMS-based complaint monitoring system; Solid waste management with vehicle tracking; Geographical Information System; Property and water revenue management; e-Tendering; Building permission management.