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**DEVELOPMENTAL ROLE OF ELECTRONIC GOVERNANCE  
INITIATIVES IN INDIA – A CASE STUDY**

**OWAIS CHARAG**

RESEARCH SCHOLAR

THE BUSINESS SCHOOL,

UNIVERSITY OF KASHMIR, INDIA.

**Dr. S. MUFEED AHMAD**

PROFESSOR

THE BUSINESS SCHOOL

DIRECTOR IT & DSS,

HEAD OF DEPARTMENT MERC,

UNIVERSITY OF KASHMIR, INDIA.

**ABSTRACT**

*The electronic governance is playing a vital role in delivering services to the stakeholders and brings in more efficiency and accountability within the system of delivering information and quick*

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*services to citizens, business enterprises and institutions. In India number of electronic governance initiatives has been launched by central government and state governments with a notion to improve functioning of the system of governance. The initiatives in tax administration, revenue department, land right transfer and other related departments have played a great role in bring in development. The current research will discuss e – Governance in general and its aspects in India and the various initiatives launched within the country.*

## **KEY WORDS**

e – Governance, Sustainable Development, Tax Administration, Government – Citizen Relationships.

## **INTRODUCTION**

Interest in e - Governance is growing with the increasing use of information and communication technology (ICT) by governments to improve the quality of governance and service delivery mechanism. Governments all over the world have been using ICT's such as internet, websites, computers and mobile phones to provide various government services in an efficient, equitable and transparent manner with less corruption. Notwithstanding these advantages, there are certain problems like poor coverage of the e - governance infrastructure, inadequate human resources, mismanagement, technical inexperience and inequitable access (digital divide), lack of public awareness and ineffective civil society participation. This research mainly reviews the experiences of e - governance reforms and the impact of e – governance in delivering good governance to the common citizens. Immanuel Kant says in his *Grundlegung Zur Metaphysik de Sitton*, "So act as to treat humanity, whether in their own person or in that of any other, in everycase as an end withal, never as means only". Kant's observation is even more valid today. The citizens are ends in themselves, rather than as means to other ends. The colonial view of the government used to be as a 'controller' and 'ruler'. It is now that of a coordinator and provider. Government is responsible for providing certain services to the citizens, just like an organisation is responsible for managing a value chain that leads to output. Business

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corporations have discovered over the last few decades that information technology can make the value chain more efficient and lead to quality improvements and cost savings. Similarly, Governments have discovered that information technology can make the provision of services to the citizen more efficient and transparent, can save costs and lead to a higher level of efficiency. The idea of e - governance has changed the way in which governments communicate with one another and with their citizens. In the past communication used to be via public meetings, printed media, radio and television. Today communication is also done via the modern information and communication technologies e.g. the internet and satellite (Kroukamp, 2005). e – Governance involves new styles of leadership, new ways of debating and deciding policy and investment, new ways of accessing education, new ways of listening to citizens and new ways of organising and delivering information and services (Tlagadi, 2007). Electronic governance is using information and communication technologies (ICT's) at various levels of the government and the public sector and beyond, for the purpose of enhancing governance (Bedi, Singh and Srivastava, 2001; Holmes, 2001; Okot- Uma, 2000). According to Keohane and Nye (2000), "Governance implies the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group. Government is the subset that acts with authority and creates formal obligations. Governance need not necessarily be conducted exclusively by governments. Private firms, associations of firms, non-governmental organizations (NGO's), and associations of NGO's all engage in it, often in association with governmental bodies, to create governance; sometimes without governmental authority." Clearly, this definition suggests that e - Governance need not be limited to the public sector. It implies managing and administering policies and procedures in the private sector as well. Citizen's access to the government has been a key issue in the field of public administration. A number of hurdles impede citizens' access to policy processes, such as red tape, high transaction costs, and insufficient knowledge and information (Cooper, 1979; Kellogg and Mathur, 2003). In this regard, recently emerging internet technologies have been expected to provide alternative ways for citizens to interact with public officials. A growing body of literature has focused on "e - Government initiatives," which refer to the use of the Internet or web technologies to foster public service delivery and citizen participation in policy processes (Coursey and Norris, 2008; Dunleavy, et al., 2006; Norris and Moon, 2005; Robbins, et al., 2008; Thomas and Streib, 2005; Tolbert, et al., 2008; United

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Nations, 2008; West, 2005). The rise of internet technologies, however, has sparked an intense debate on the democratic potential of information and communication technologies (ICTs) (Norris, 2001). Reinforcement theory argues that web technologies add to the political resources of the powerful elite or activists, strengthening their influence on policy processes (Davis, 1999; Weare, et al., 1999). By contrast, mobilization theory points out that new ICT's provide politically alienated citizens with alternative channels to represent their interests in policymaking processes (Scott, 2006; Stanley and Weare, 2004; Thomas and Streib, 2003). For instance, e-voting systems expand opportunities for citizens to make choices among policy options such that the systems empower them to be direct policy makers (Becker, 2001; Coleman and Gøtze, 2001). In addition, online forums hosted by the government help engage geographically dispersed citizens in policy debates and suggest their ideas to public officials for consideration in decision making (Shulman, et al., 2003; Stanley and Weare, 2004). However, despite their democratic potential, e-voting or online policy forums make citizens passively express their preferences regarding agendas predetermined by the government (OECD, 2003). One important issue in e - government studies is whether government Web technologies impact public sector performance. Although e - government initiatives have been credited as engines of governmental reform, empirical evidence is insufficient to determine their effects on public agency performance.

## CONCEPTUAL FRAMEWORK

e - Governance may be defined as delivery of government services and information to the public using electronic means. Such means of delivering information is often referred to as Information Technology or 'IT' in short forms. Use of IT in government facilities is an efficient, speedy and transparent process for disseminating information to the public and other agencies, and for performing government administration activities. The term governance may be described as the process by which society steers itself. In this process, the interactions among the State, Private Enterprise and Civil Society are being increasingly conditioned and modified through the influence of Information and Communication Technologies (ICTs), constituting the phenomenon of e - Governance. The design and development of such complex solutions poses significant

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challenges. One such challenge is that in current development environments, the application developers have to work at a low level of abstraction. This means taking care of low-level issues such as intercrosses messaging, tools integration, and data modeling while defining the application logic. Similarly, solution reconfiguration and management requires the solution administrator to have a detailed understanding of the application logic, making the task time-consuming and error-prone. Handling these challenges effectively requires highly skilled and experienced Information Technology professionals, increasing development costs for effective e-Governance solutions. Solution administrators typically lack these IT skills, rendering change management impossible. In solutions developed to date, each e-Governance solutions have customized existing products to address an individual government agency requirement. However this might not always be the most economical way to develop a solution. In most industries, around 85 percent of the processes are same across companies within that industry. A similar fraction of the processes can be expected to be similar across different government solutions. Clearly, it is desirable to develop these processes once and then reuse them for many solutions. This is also likely to be true for data models, user interfaces, etc. For example, the address verification process in the driving license renewal solution considered above can be reused while developing a passport renewal solution. Similarly, the traffic violation record verification process can be offered as a service to insurance businesses to be reused in a car insurance solution. Lackof information (metadata) on available processes and components and difficulty in customizing these for a specific need currently hinder their reuse for multiple solutions. One can really conclude from the preceding discussion that there is a need for a framework that can simplify the development, deployment, and management of e- Governance solutions.

- Enabling modeling of a hierarchy of building blocks that can be used to abstract government process to a higher semantic level.
- Enabling specification of workflow for government processes independent of standards; the platform takes care of generating the deployable solution that conforms to the appropriate standards.

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- Enabling reuse of effort across solutions by providing tools to develop generic, parameterized applications or processes that can be stored in a repository with appropriate metadata and effectively reused by various applications with appropriate customization.
- Extending programming models to specify the customization points in an application or solution during development, and intuitive interfaces to enable modification of solutions easily after deployment without the need for the business user to modify the application source code.

## **Evolution of e – Governance**

Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web (WWW). The technology as well as e-governance initiatives have come a long way since then. With the increase in Internet and mobile connections, the citizens are learning to exploit their new mode of access in wide ranging ways. They have started expecting more and more information and services online from governments and corporate organizations to further their civic, professional and personal lives, thus creating abundant evidences that the new 'e - citizenship' is taking hold. The concept of e - Governance has its origins in India during the seventies with a focus 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. 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 the rural areas and taking in greater inputs from NGO's and private sector as well. There has been 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. 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

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information and delivering services. At a micro level, this has ranged from IT automation in individual departments, electronic file handling and workflow systems, access to entitlements, public grievance systems, service delivery for high volume routine transactions such as payments of bills, tax dues to meeting poverty, alleviation goals through the promotion of entrepreneurial models and provisions 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 live hoods. Every state government has taken the initiatives to form an IT task force to outline IT policy document for the state and the citizen charters have started appearing on government websites. For governments, the more overt motivation to shift from manual processes to IT -enabled processes was to increase efficiency in administration and service delivery, but this shift can be conceived as a worthwhile investment with potential for returns.

## **Phases of e - Governance**

Gartner, an international consultancy firm, has formulated four -phase e-governancemodel. This can serve as a reference for governments to positionwhere a project fits in the overall evolution of an e -governance strategy. Aneffort as tremendous as complete realization of e-governance has to be addressed inthese phase. This approach would allow for retrospection after each phase, and theability to retrace steps if required, within a feasible frame of time and money. Thedesign and purpose of each step would have to serve the relevant needs of all G2C,G2B and G2G sectors.

### **Phase I – Presence**

This first phase calls for making the intentions and objectives of thegovernment known. Development of an inclusive government website, or a networkof sites dedicated to different ministries and departments would set the stage forfurther advancements. These sites would convey the government's initiatives,providing information such as official addresses, working hours, as well asforms and applications to the public, economic reviews, corporate regulationsfor business and budgetary allocations and pending as a reference for governmentagencies. With this first phase, the very critical task of building theinfrastructure,

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such as telecommunications would be undertaken. The presence phase is marked by web presence of public institutions and dissemination of information. This has been facilitated by the Right to Information Act, 2005 (RTI) and this has been developed as a basic feature of all public services where type of service and service provider details are made available in a proactive manner. This information is also being integrated for citizen access through the National and State Portals which provide basic information on Government programmes and services. Web presence can range from basic and static information to access to databases, documents, policies etc with the aid of help features and sitemap.

## **Phase II – Interaction**

This phase would allow for basic interaction with the government. Besides hosting search engines on the sites for easy navigation, information detailing social records and job application forms for the public, permit and license documentation for businesses and census details, submission of requests and approvals to the centre by local government officers would have to be provided. The task of building the underlying infrastructure would have to be sustained through these two stages, allowing for rapid implementation of advanced applications as endorsed by the consequent phases. The interaction stage is marked by an interactive interface with stakeholders with pro-active solutions to problem solving and electronic requests for services and financial transactions. The service starts on the internet but does not always end there. Applications related to property tax, land registration, property titles and programmes like 'bhoomi' are now being replicated at the national level. Efforts to widen the reach of these basic services to ordinary citizens through community access in several ways – through Online Sections at Government Offices, integrated service delivery through one-stop service centers – E kiosks, e-sevakendras etc, Post Offices, call centres, cooperative centres etc. – are now well tested in states like Andhra Pradesh, Karnataka, Maharashtra, Rajasthan, Gujarat, UP etc.

## **Phase III – Transaction**

This phase onwards would signify direct interaction of the government and relevant entities. With the infrastructure in place, complete online service suites can be put forth for the public, businesses and governmental agencies. Services for the public such as bill and fine. This phase



is marked by completion of transactions on the internet and access to internet. This interaction in turn results in vertical and horizontal integration which changes the way a service is delivered, the effort being for completion of the transaction for the service through the internet with putting in place of back-end integration. The architectural model for this stage requires interoperability and convergence. There is electronic communication between the platform and citizen and the transaction is completed online.

#### **Phase IV – Transformation**

The fourth stage is marked by a Government to Citizen (G2C) framework based on an integrated network of public agencies, process certification and participation in basic process design and political processes. Web comment forms, upcoming events, on line polling mechanism, discussion forums and online consultation facilities are part of this stage. Integrated Portals are central to this integration. Web based political participation and institutionalization of stakeholder participation with tools like citizen polling mark important benchmarks in this stage.

The promise of inclusion of all is an important hallmark of this stage.

- A single point of contact to constituent entities would provide an integrated platform for government services and organization totally transparent to citizens and businesses.
- Focus on 'virtual agencies' where government information is readily available to all allowing a seamless interface to respective agencies involved in the transactions.
- State-of-the-art Intranets linking government employees in different agencies extranets allowing seamless flow of information thereby facilitating collaborative decisions among government agencies, NGO's and the public.

In India's case the Second UN World Public Sector Report 2003 has evaluated the country's service delivery by stage. India's 'emerging presence' score is at 100; 'enhanced presence' at 63; 'interactive presence' at 64; 'transactional presence' at 2.4; and networked presence at 4.65 - with a total score of 45. This is higher than that in OECD countries like Spain and similar to

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Japan but substantially below the leaders. The following factors have to be taken into account when examining the risk of implementing e-governance.

- Political stability: Democracy or dictatorial regime
- Level of trust in government: perception of service levels
- The importance of government identity : fragmentation or integration
- Economic structure: education, agriculture, industry or service
- Government structure : centralized or decentralized
- Different levels of maturity: weakest part of the chain determines speed
- Constituent demand: push or pull

## **Best Practices of e- Governance In India**

India has been harnessing the benefits provided by the Information & Communication Technologies (ICT) to provide integrated governance, reach to the citizens faster, and provide efficient services and citizen empowerment through access to information. The aim is to redefine governance in the ICT age to provide SMART GOVERNANCE. Several significant initiatives have been taken at the Centre and the State level in this direction. The Central level, the government has extensively promoted the use of IT in managing its internal processes and has drawn up a 'Minimum Agenda of e- Governance'. Further Ministries / departments have provision of 2 to 3 percent of their annual budgets to be spent on IT related activities. The government has enacted IT Act 2000 which provides legal status to the information and transactions carried on the net. Several State Governments have also taken various innovative steps to promote e- Governance and have drawn up a roadmap for IT implementation and delivery of services to the citizens on-line. The applications that have been implemented are targeted towards providing G2B, G2C and B2C services with emphasis on use of local language. Recognizing that e – Governance is playing an increasingly important role in modern Governance, various agencies of the Government and civil society organizations have taken a

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large number of initiatives across the country. Indicated below are some of the key initiatives taken in the country across some of the important citizen/business related departments:

## **Customs and Excise (Government of India)**

- 98% of export and 90-95% of import documentation computerized
- Electronic filing through ICEGATE at 3 locations (Mumbai, Delhi, Chennai)
- 80% of Service Tax returns electronically processed

## **Indian Railways (Government of India)**

- Anywhere to Anywhere reservation from Anywhere
- Electronic Booking of tickets on select sectors
- Online Information on Railway reservation on Internet

## **Postal Department (Government of India)**

- Direct e-credit of Monthly Income Scheme returns into the investors accounts
- Dematerialization of Savings Certificate (NSC) and Vikas Patras (KVP), offering full portability

## **Passport / Visa (Government of India)**

- 100% passport information computerized
- All 33 Regional Passport Offices covered
- Machine readable passports at some locations

## **AP Online (State Government of Andhra Pradesh)**

An Integrated Citizen Services Portal providing citizen centric services such as: Birth/Death Certificates, Property Registration, Driver's License, Govt. Applications & Forms, Payment of taxes / utility bills etc.

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## **Bhoomi – Automation of Land Records (State Government of Karnataka)**

It provides computerized Record of Rights Tenancy & Crops (RTC) – needed by farmer to obtain bank loans, settle land disputes etc. It has also ensured increased transparency and reliability, significant reduction in corruption, exploitation and oppression of farmers. This project has benefited 20 million rural land records covering 6.7 million farmers.

## **CARD – Registration Project (State Government of Andhra Pradesh)**

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

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

This project offers e – Governance services including online registration of applications, rural e-mail facility, village auction site etc. It also provides services such as Information on Mandi (farm products market) rates, On-line public grievance redressal, caste & income certificates and Rural Market (Gaonka Bazaar).

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

- Offers e – Governance services:
  - Online registration of applications,
  - Rural e-mail facility, village auction site etc.
  
- Key services provided to citizens
  - Information on Mandi (farm products market) rates
  - On-line public grievance redressal

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- Sending and receiving information regarding land records, income certificates, caste certificates and other official documents.
- Market rates of vegetables, fruits and other items

## **e - Mitra - Integrated Citizen Services Center (State Government of Rajasthan)**

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

## **Project: e-Seva (electronic Seva)**

Launched on the 25th of August 2001, electronic seva (e-Seva) is the improved version of the TWINS project launched in 1999, in the twin cities of Hyderabad and Secunderabad in Andhra Pradesh. e Seva centers offer 118 different services like payment of utility bills/taxes, registration of births/deaths, registration of applications for passports, issue of births/deaths certificates, filing of Sales Tax returns, Trade licenses of MCH, B2C services like payments of Tata Teleservices, Reliance, sale of Airtel Magic cards. Kalia's (2005) research on e-Seva in Andhra Pradesh illustrates potential positive impacts. In case of e-Seva (earlier known as the TWINS project) after the successful implementation of the pilot, private sector partners were involved to give citizen-centric services. The government supported the system with physical infrastructure and acted as the regulator. This project has won the confidence of citizens and has

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made government more creditable, responsive, efficient and transparent. This model also shows the potential benefits of involving private partners (Indo-Asian News Service 2006).

## **Project: FRIENDS**

Fast, Reliable, Instant, Efficient Network for the Disbursement of Services is part of the Kerala State IT Mission. FRIENDS counters handle 1,000 types of payment bills originating out of various PSUs. The payments that citizens can make include utility payments for electricity and water, revenue taxes, license fees, motor vehicle taxes, university fees, etc. Firewalls safeguard data from manipulation.

## **Project: Gyandoot**

The Gyandoot project was initiated in January 2000 by a committed group of civil servants in consultation with various gram panchayats in the Dhar district of Madhya Pradesh. Gyandoot is a low cost, self-sustainable, and community-owned rural Intranet system (Soochnalaya) that caters to the specific needs of village communities in the district. Thirty-five such centres have been established since January 2000 and are managed by rural youth selected and trained from amongst the unemployed educated youth of the village. They run the Soochanalayas (organised as Kiosks) as entrepreneurs (Soochaks); user charges are levied for a wide range of services that include agricultural information, market information, health, education, women's issues, and applications for services delivered by the district administration related to land ownership, affirmative action, and poverty alleviation.

## **Project: VidyaVahini**

This portal provides the opportunity for schools, teachers and students all across the nation, to express and share their creative and academic potential via the internet. The portal aims at creating such an environment by providing facilities for Content Development, Content deployment and collaboration. Shiksha India is a non-profit organization launched in December 2001 to equip schools with the 5 Cs: Computers, Connectivity, Coaching (teacher Training), Content and models of Commercial sustainability. The Ministry of Information Technology in the

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project Vidya Vahini and Ministry of Human Resources under the CLASS scheme which aims to connect 60,000 schools (approximately 20 million students) across the country in next five years.

## **Project: STAMPS & REGISTRATION SOFTWARE**

The Stamps and Registration Department of a State is typically one of the top revenue earners for any Government. Stamp & Registration software provides efficient government citizen interface, and also enables enhanced revenue earnings for the Stamps and Registration operation. The heart of this application consists of the Registration and Valuation module. Other modules are the Networking and Scanning modules that enable exchange of information securely across departments, and "electronic copying" of the registered documents thereby enabling return of the original document within few minutes of presentation.

## **Project: SETU- A bridge for facilitation between Citizen & Government**

The Integrated Citizen Facilitation Centres (SETU) is an approach in this direction. At present there are multiple points of interaction between the citizen and individual departments spread over so many different Government offices. A one-stop service center for all such routine matters must be made available. To create foundation for citizen centric e-governance, at district headquarters & subsequently at taluka headquarters- Single window clearance of 83 important certificates (includes renewal of leases, permits and licenses)

- Quick redressal of public grievances
- Common registry of letters, petitions for all sections of the office.
- On line pendency monitoring of all above
- To provide services after office hours & on holidays also in order to save Time, Money & Energy of the public.

## **Project: JAN MITRA**

Jan Mitra is an integrated e-platform through which rural population of Rajasthan can get desired information and avail services related to various government departments at kiosks near their doorsteps. To achieve this end, a system has been integrated using IT tools. This project has

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been successfully implemented on pilot basis in Jhalawar, Rajasthan. Jhalawar is the first district among five project location districts in India, where the project has been implemented before schedule.

## **Services**

- e - Governance Services
- Public Grievance Redressal System, Online Submission of Application forms
- Land & Revenue Records.
- Public Information Services
- Ongoing Development Works, Public Distribution System, BPL List,

## **Electricity**

- Priority Connection List, Drinking Water Resources, Village Schemes,

## **Citizen**

- Charters and Immovable Property rates
- Public Awareness Services
- Health Information, Agriculture information, Education information and

## **Animal**

- Husbandry Information
- Agriculture Mandi Rates Daily Mandi rates and Weekly / Monthly Mandi rates
- Village to Village Services Gram Haat and Event Information
- Messaging Services e-mail Facility across Departments / Kiosks and

## **Broadcasting of Bulletin.**



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- - MIS for District Collectorate and District level officers for effective monitoring of information flow.

## **Project: DRISHTEE-Connecting India Village by Village**

Drishtee's software platform enables e – Governance and provides information about and access to education and health services, market-related information, and private information exchanges and transactions. Drishtee offers its network platform to any service provider who wishes to market its range of services to rural India by plugging their application in with Drishtee's s/w offered directly at the village level. Thus, the Drishtee offering is wide in scope and highly scalable. It aims to be the 'window to the world' for Indian villagers.

## **Project: Web CITI (Web based Citizen-IT Interface)**

WebCITI provides web based interface to citizens seeking services from district administration. These include issuance of certificates such as death/birth, caste, rural area etc; licenses such as arms license, permission for conferences/rallies etc and benefits from socio-economic schemes.

## **Project: AARAKSHI**

Aarakshi is an Intranet based system that has been developed and implemented for Jaipur City Police. This innovative system enables the city police officers to carry out on-line sharing of crime & criminal data bases, carry out communication and perform monitoring activities.

## **Project: FAST - Transport Department Automated**

The 'Fully Automated Services of Transport' is another e – Governance project implemented in the cities of Andhra Pradesh. The objective of FAST is to make the transport department citizen friendly in its functioning and provide SMART services to the public. It is intended to build comprehensive database and provide on-line services to the public covering all gamut of services of Transport Department like Issue of Driving Licenses, Registration of Motor Vehicles,

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Issue Permits, Collection of Motor Vehicle Taxes, etc. All the offices in the state would have interconnectivity through APSWAN.

**Project: VOICE** (Vijayawada Online Information Centre)

Launched in June 1998 and implementation was completed in December 1999 to deliver municipal services such as building approvals, and birth and death certificates, to the people of Vijayawada. It also handles the collection of property, water and sewerage taxes.

**Project: MUDRA** (Municipal Corporation towards Digital Revenue Administration) The system will be useful for the Holding owners, Tax collectors, officials at headquarter levels and Circle levels. They will have total picture of tax collection that will help the decision makers to take suitable decision for further improvement. It is designed to computerize the overall functions of tax collection system of Patna Municipal Corporation.

**Project: KHAJANE** (Online Treasury System)

The online treasury project, KHAJANE, computerises all the 216 treasury offices in Karnataka and is connected to a central server at the State Secretariat. through VSAT (Very Small Aperture Terminal). It provides regular updates regarding the State expenditure and receipts to the central server. KHAJANE aims to bring about a more transparent and accountable system of financial transactions and also discipline in operations and management, resulting in efficiency and cost

savings for the government. This system eliminates duplication of data entry and maintenance of individual treasuries and enables uniform replication of modified data at the central server.

**Project: e Cops** (e- Computerised Operations for Police Services)

Launched on the 17th of July 2002, as part of the VISION 2020, the state's focus on modernization of police administration takes the shape of e - COPS. It will help police stations reduce paperwork and automate the maintenance of registers, report generation, data analysis, planning and coordination, enable the speedy detection of crime and monitor prosecutions

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## **Project: OLTP (On Line Transaction Processing)**

Launched in the year 2002, the project connects 16 government departments in Andhra Pradesh on a single network. The services provided include access to information such as income verification and income certificates of citizens, land cultivation details, agriculture marketing, tele-veterinary services, registration of small farmers, birth and death records, house numbering, first information reports, occupation details of residents, drinking water details and irrigation sources, etc.

## **Project: TARAhaat - Achieving Connectivity for the Poor Case Study**

This project, named "TARAhaat" after the all-purpose haat (meaning a village bazaar), comprises a commercially viable model for bringing relevant information, products and services via the Internet to the unserved rural market of India from which an estimated 50% of the national income is derived. TARAhaat combines a mother portal, TARAhaat.com, supported by franchised networks of village cybercafes and delivery systems to provide a full range of services to its clients.

## **Project: LokMitra**

The LokMitra project was formally dedicated to the people of Hamirpur in Himachal Pradesh as a pilot phase on the 8th of May 2001. The services offered include information about vacancies, tenders, market rates, matrimonial services, village e-mail. An interesting feature is that citizens can use the IT enabled system as a grievance redress system.

## **Project: Mahiti Shakti**

Launched in 2001, the portal <http://www.mahitishakti.net/> operates like a single window through which the citizens can access information related to all aspects of the government's functioning, various benefit schemes and services ranging from obtaining ration cards to getting sanction for old age pension. Anyone who wishes to avail the benefit has to go to his/her nearest designated STD/ISDKiosk, submit the necessary documents to the Info Kiosk owner and fill in the required form online

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## **Project: Warana Wired Villages**

The key objective of this project has been to utilize IT to increase the efficiency and productivity of the existing sugar cane cooperative enterprises by setting up of a state-of-the-art computer communications network. This provides agricultural, medical, and educational information in the local language to villages around Warana Nagar in the Kolhapur and Sangli Districts of Maharashtra.

## **Project: Community Information Center**

On 22 August 2002, the Prime Minister dedicated to the people of the eight North-Eastern states a new structure of localised governance called Community Information Centres. Each is well-equipped with modern infrastructure, including one server, five client systems, a VSAT, laser printer, a dot matrix printer, modem, LAN hub, TV, webcam and two UPS'. Each center has two CIC operators as managers and for providing services to the public. Basic services to be provided by CICs include Internet access and e-mail, printing, data entry and word processing and training for the local populace. Most CICs charge nominal amounts from users for services, which helps them to meet day-to-day running expenses. To ensure future financial sustainability of this enterprise, it is proposed to use the Community Information Centers for e-entertainment. CIC program was initiated by the Department of Information Technology, Govt. of India and set up at 487 Blocks of the eight North-Eastern states viz. Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

## **Project: Community Learning Center Project**

Set up between March and July 2001, the Community Learning centre (CLC) is a joint initiative between the Azim Premji Foundation (APF) and the State government of Karnataka. The government contributes towards hardware and other related expenses per CLC and the Foundation take care of management and the training of Young India fellows (YIFs) who manage the CLCs. The CLCs are used to enhance classroom learning during school hours.

## **Project: Dairy Information Services Kiosk**

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The DISK application targeted at the booming dairy sector has been tested for two milk collection societies by the Indian Institute of Management Ahmedabad's e - governance center. DISK has helped in the automation of the milk buying process at 2,500 rural milk collection societies and has been pilot tested in two co-operative villages of Amul dairy in Kheda district. Software called AkashGanga has been developed with special features to enable speedier collection of milk and faster disbursement of payments to dairy farmers.

## **Project: Gram Sampark**

'Gram Sampark' is a flagship ICT product of the state of Madhya Pradesh. A complete database of available resources, basic amenities, beneficiaries of government programmes and public grievances in all the 51,000 villages of Madhya Pradesh can be obtained by accessing the website. Gram sampark has three sections-Gram Paridrashya (village scenario), Samasya Nivaran (grievance redress) and Gram Prahari (village sentinel).

## **Project: Akshaya**

As part of Kerala's ambitious e-literacy campaign, Akshaya e-Centers are being set up throughout Kerala. These centers will initially provide e-literacy to one member from every household and act as ICT dissemination nodes and ITeS delivery points in every village.

## **Project: Headstart**

Headstart provides computer-enabled education and basic computer skills for all students in 6000 Jan Shiksha Kendras of Madhya Pradesh. Madhya Pradesh has 6500 Jan Shiksha Kendras (cluster resource centres) located in Middle School premises in 48 districts.

## **Project: Saukaryam**

Launched in the year 2002, Saukaryam, the pilot project of the Municipal Corporation of Visakhapatnam is now being implemented in other parts of the state of Andhra Pradesh as a model e - Governance initiative for local governments. Online payment of Municipal dues has been taken up as its first sub-project and other services include, Online Tracking of Building plan

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Status, Online Filing and Settlement Of Complaints & Grievances, Online Registration of Births and Deaths, Instant Issuance of Birth and Death Certificates, Online Tracking of Garbage Lifting.

## **Project: e - Chaupal**

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

## **Lokvani Project in Uttar Pradesh:**

Lokvani is a public-private partnership project at Sitapur District in Uttar Pradesh which was initiated in November, 2004. Its objective is to provide a single window, self-sustainable e – Governance solution with regard to handling of grievances, land record maintenance and providing a mixture of essential services.

## **Revenue Administration through Computerized Energy (RACE) Billing**

### **Project, Bihar**

The Patna Electric Supply Undertaking (PESU), which is one of the seven area boards of the Bihar State Electricity Board (BSEB), caters to the energy requirements of the Patna Urban Area. Different modules were implemented incrementally and by July 2007, payment of bills of any division at any one of the 31 collection counters as per convenience was facilitated. Bills are now being generated with a barcode and consumers can download the bills using the internet and also see the details of payments made by them.

## **Admission to Professional Colleges – Common Entrance Test (CET)**

One of the pioneering efforts was made by Karnataka. The State Government decided to conduct a common entrance test based on which admission to different colleges and disciplines was made. The allocation of seats in different colleges/disciplines is done through a process of 'computerized counseling' where the student can choose the discipline he/she wants – based, of course, on merit.

#### **e -Procurement Project in Andhra Pradesh**

Prior to the introduction of an e-Procurement system in Andhra Pradesh the process consisted of a long chain of internal authorizations and scrutiny which necessitated several visits by the suppliers to government departments. The manual tender system suffered from various deficiencies, including discrimination, cartel formation, delays, lack of transparency etc. In order to achieve these objectives, the entire e-Procurement process was designed to avoid human interface i.e., supplier and buyer interaction during the pre-bidding and post-bidding stages. The system now ensures total anonymity of the participating suppliers, even to the buyers, until the bids are opened on the platform. The e-Procurement application provides automatic bid evaluation based on the evaluation parameters given to the system. These improved processes have eliminated subjectivity in receipt and evaluation of bids and has reduced corruption to a significant extent.

#### **e - Procurement in Gujarat**

The system of e-procurement was introduced in the State of Gujarat from October 2004 onwards. Roll out of the system was carried out in a phased manner starting from few works/items for limited departments and was made compulsory for all government departments in 2007. The project was funded by the State Government with the objective of deriving the benefits of increased efficiency from e-enablement of business processes. It aims to establish transparency in procurement process, shortening of procurement cycle, availing of competitive price, enhancing confidence of suppliers and establishing flexible and economical bidding process for suppliers.

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The Ministry of Corporate Affairs has implemented the MCA 21 Mission Mode Project under the NeGP in September 2006 and presently the project is in the post-implementation phase. The project aims at providing easy and secure online access to all registry related services provided by the Union Ministry of Corporate Affairs to corporates and other stakeholders at any time and in a manner that best suits them.

## **CHALLENGES TO e - GOVERNANCE**

Like any government infrastructure project, e- governance can be done in phases and the costs of implementation will depend on current infrastructure availability, supplier and user capabilities, and mode of service delivery (whether through the internet or through telephone hotlines and one-stop shops). The more complicated and sophisticated the kind of services the government wants to offer, the more expensive it is. Governments should focus on small, self-financing or outsourced projects. Because e-government projects must be financially sustainable, there must be a revenue/ cost-reduction model in place from the beginning. Smaller projects with a clear revenue-generation strategy and minimal initial investment are the most likely to be sustainable over the long term. For instance, Web sites are one of the easiest and cheapest ways to achieve high impact e-government with a minimum of investment. e-Government projects are, more often than not, long-term endeavors, requiring large capital infusion in software, hardware, infrastructure and training. A viable financing plan should not only pay for the immediate needs to jumpstart e-government; it must also consider its long-term financing options for the sustainability of the project. There are various business models for funding e-government projects, and the private sector plays a critical role in these. Under partnership arrangements, the private sector builds, finances and operates public infrastructure such as roads and airports, recovering costs through user charges. Various financing schemes exist— from soft and development assistance loans from donor/multilateral aid agencies to partnerships and outsourcing deals with private third party vendors under special financing schemes (e.g., the Build-Operate-Transfer or BOT scheme) that can minimize the initial cost to government. BOT and its variants are usually the favored financing models / arrangements for government projects that require large and immediate financing from the private sector. Under BOT, the private sector designs, finances, builds, and operates the facility over the life of the contract. At the end of this



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period, ownership reverts to the government. A variation of this is the Build-Transfer-Operate (BTO) model, under which title transfers to the government when construction is completed. Finally, with Build-Own-Operate (BOO) arrangements, the private sector retains permanent ownership and operates the facility on contract. Cooperation, rather than competition, with the private sector can facilitate effective e-government. Government can encourage private sector investment by complementing and supporting private sector efforts rather than duplicating them. The key to e-government is to improve citizen access to service delivery, not further expand the role of government. Government should not attempt to create products and services where public-private partnerships or private service providers can adequately provide these products and services more efficiently and effectively. In Indian case the governments both – the Union and the States must make earnest efforts to complete the daunting, but formidable task of quicker and effective e-government programs by:

- making a policy choice in favour of computerization to overcome radically the even if it requires huge investments for the purchase of hardware and software;
- serious efforts would be required to mobilize resources for this arduous job. One way to deal with the situation could be that governments enter into arrangements for leasing of computers. This would reduce initial heavy capital investments. There are a large number of agencies which would like to fund the leasing to the departments. Ministry of Finance can be asked to provide concessions to these agencies;
- establishing complete connectivity between various ministries and departments so that transfer of files and papers could be done through internet thereby choosing efficacious speed as an alternative to manual labour. To make this really effective, there is a need to make databases of various departments compatible with one another. Thus, interoperability of e-governance projects is of vital importance if the citizens are to feel the benefit of IT in day to day life;
- supplying information to the public in a language that they understand and are comfortable with, and generally, it is the local language. As, technology is available by which transliteration from English into other languages can be made. Therefore, the problem is manageable provided there is enough motivation to do this onerous task;

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- changing the mindset of the government employees who are used to working only in the manual mode. This is a big task and needs patience and careful planning. Workshops, seminars, and training programmes are required to be organized to spread awareness among the employees at all levels;

## CONCLUSION

The movement to e-government, at its heart, is changing the way people and businesses interact with government. e- Government offers a huge potential in seeking innovative way to reach the ideal of government of people, by people and for people. E-government was taken to international and national development agendas since the mid-1990s due to the benefits it was expected to bring to communities and society as a whole. One overall starting point was that as the society develops towards information society or knowledge-based society, similar kind of development should take place in the governmental sector too. So, e-government is a government that utilizes the emerging opportunities of the information society. The other general aspect is that e-government refers to a transformation in which ICTs are seen as means for restructuring and re-organizing government. As to the trends in the public sector, there is a continuous tendency towards streamlining administrative machinery. Public organizations are becoming nodal points and coordinators in the multi-sectoral governance field. ICTs can be used in making the transition towards more competitive and contractual models of public governance and service delivery. Yet at the same time there is constant pressure to increase transparency, inclusiveness and responsiveness in government, which, together with civic movements and community-oriented governance strategies, constitute a counterforce to neo-liberal or NPM-oriented e-government trend. Therefore from the assessment and analyzing the various electronic governance initiatives launched in India it is quite clear that e – Governance has played an tremendous role in development and bridging information gap between the government and citizens and thereby creating a common platform for information sharing and working as a tool for development of the India.

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