Index

1. Introduction
2. e-Governance: Conceptual Framework
3. e-Governance: International Scenario
4. e-Governance: Initiatives in India
5. Core Principles of e-Governance
6. Implementing e-Governance Reforms
7. National e-Governance Plan
8. Legal Framework for e-Governance
9. Knowledge Management
10. Conclusion
The primary purpose of governance is the welfare of citizens. While one aspect of governance relates to safeguarding the legal rights of all citizens, an equally important aspect is concerned with ensuring equitable access to public services and the benefits of economic growth to all.

The “e” in e-Governance stands for ‘electronic’. Thus, e-Governance is basically associated with carrying out the functions and achieving the results of governance through the utilization of what has today come to be known as Information and Communications Technology (ICT).

Why should we go for e-Governance?

The reasons why countries around the world are increasingly opting for ‘e-Governance’ are

• Governance has become more complex and varied in the last few decades and more importantly, citizens’ expectations from government have increased manifold.

• ICT facilitates efficient storing and retrieval of data, instantaneous transmission of information, processing information and data faster than the earlier manual systems, speeding up governmental processes, taking decisions expeditiously and judiciously, increasing transparency and enforcing accountability.

• It also helps in increasing the reach of government – both geographically and demographically.

It is expected that e-Governance would enable the government to discharge its functions more effectively. However, this would require the government to change itself – its processes, its outlook, laws, rules and regulations and also its way of interacting with the citizens. It would also require capacity building within the government and creation of general awareness about e-Governance among the citizens.

The need for introducing e-Governance tools for reforming governmental processes and bringing elements of accountability and transparency along with citizen-centricity has been advocated in the various ARC reports.

In this report the following aspects related to promoting e-Governance are dealt with:

1. To reduce red-tape, delay and inconveniences through technology interventions including the use of modern tools, techniques and instruments of e-Governance.

2. Promote knowledge sharing to realize continuous improvement in the quality of governance.

Enabling Good Governance through Use of ICT

The emergence of ICT has provided means for faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users, be they individuals, groups, businesses, organizations or governments.

As far as governments are concerned, ICT will help in the coming together of computerization and internet connectivity/web-enablement in association with process re-engineering, promises faster and better processing of information leading to speedier and qualitatively better decision making, greater reach and accountability, better utilization of resources and overall good governance.
In the case of citizens, ICT holds the promise of enhanced access to information and government agencies, efficient service delivery and transparency in dealings and interactions with government.

With the increasing awareness among citizens about their rights and the resultant increase in expectations from the government to perform and deliver, the whole paradigm of governance has changed. Government, today, is expected to be transparent in its dealings, accountable for its activities and faster in its responses. This has made the use of ICT imperative in any agenda drawn towards achieving good governance.

What is e-Governance?

E-Governance or ‘electronic governance’ is basically the application of ICT to the processes of Government functioning in order to bring about ‘Simple, Moral, Accountable, Responsive and Transparent’ (SMART) governance. This would generally involve the use of ICTs by government agencies for any or all of the following reasons:

(a) Exchange of information with citizens, businesses or other government departments
(b) Speedier and more efficient delivery of public services
(c) Improving internal efficiency
(d) Reducing costs / increasing revenue
(e) Re-structuring of administrative processes
(f) Improving quality of services.

Defining e-Governance in Indian Context

Different governments and organizations define this term to suit their own aims and objectives. Dr. APJ Abdul Kalam, former President of India, has visualized e-Governance in the Indian context to mean:

“A transparent, smart e-Governance with seamless access, secure and authentic flow of information crossing the interdepartmental barrier and providing a fair and unbiased service to the citizen.”

Stages of e-Governance

The Indian experience demonstrates that the onset of e-Governance proceeded through the following phases:

(a) Computerisation: In the first phase, with the availability of personal computers, a large number of Government offices got equipped with computers. The use of computers began with word processing, quickly followed by data processing.

(b) Networking: In this phase, some units of a few government organizations got connected through a hub leading to sharing of information and flow of data between different government entities.

(c) On-line presence: With increasing internet connectivity, a need was felt for maintaining a presence on the web. This resulted in maintenance of websites by government departments and other entities. Generally, these web-pages/web-sites contained information about the organizational structure, contact details, reports and publications, objectives and vision statements of the respective government entities.

(d) On-line interactivity: A natural consequence of on-line presence was opening up of communication channels between government entities and the citizens, civil society organizations etc. The main aim at this stage was to minimize the scope of personal interface with government entities by providing downloadable Forms, Instructions, Acts, and Rules etc. In some cases, this has already led to on-line submission of Forms. Most citizen-government transactions have the potential of being put on e-Governance mode.
Types of Interactions in e-Governance

E-Governance facilitates interaction between different stakeholders in governance. These interactions may be described as follows:

1. **G2G (Government to Government):** In this case, ICT is used not only to restructure the governmental processes involved in the functioning of government entities but also to increase the flow of information and services within and between different entities.

2. **G2C (Government to Citizens):** In this case, an interface is created between the government and citizens which enables the citizens to benefit from efficient delivery of a large range of public services.

3. **G2B (Government to Business):** Here, e-Governance tools are used to aid the business community – providers of goods and services – to seamlessly interact with the government. The objective is to cut red tape, save time, reduce operational costs and to create a more transparent business environment when dealing with the government.

4. **G2E (Government to Employees):** Government is by far the biggest employer and like any organization, it has to interact with its employees on a regular basis. Use of ICT tools helps in increasing the satisfaction levels of employees.

Benefits of e-Governance

- Better access to information and quality services for citizens
- Simplicity, efficiency and accountability in the government
- Expanded reach of governance

**E-GOVERNANCE: INTERNATIONAL SCENARIO**

Many countries have initiated e-Governance programmes in order to make government and its agencies efficient, more responsive and transparent.

Based on the e-Governance preparedness levels internationally, the United Nations brings out an annual survey report - The United Nations E-Government Survey. The UN Survey (2008) has used a comprehensive ‘e-government readiness index’ to assess the preparedness of various countries for e-Governance.

**What are the components of e-government readiness index?**

The components of this composite e-government readiness index include -

1. **Web measure index:** It is based on a five-stage model, which builds upon the levels of sophistication of a country’s online presence.

2. **Telecommunication infrastructure index:** This is a composite index of five primary indices relating to a country’s infrastructure capacity as they relate to the delivery of e-government services.

3. **Human capital index:** This is a composite of the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio, with two thirds weight given to the adult literacy rate and one third to the gross enrolment ratio.

It is evident that improving e-Governance readiness would require addressing issues related to not only infrastructure development but also human capital.
What are the front-end and back-end services in e-governance?

The Survey has laid stress on the march from ‘e-government to connected government’. It states that many governments are moving towards ‘e-government-as-a-whole concept’ which focuses on the provision of services at the front-end, supported by integration, consolidation and innovation in back-end processes and systems to achieve maximum cost savings and improved service delivery.

The term ‘back-end’ refers to the internal operations of an organization that support core processes and are not accessible or visible to the general public. These are government functions that normally do not interact with outside entities.

The term ‘front-end’ refers to government as its constituents see it, meaning the information and services provided and the interaction between government and both the citizens and business. In this context, the UN document mentions that ‘connected or networked governance’ involves the ‘governmental promotion of collective action to advance the public good, by engaging the creative efforts of all of society’.

It concludes that “An effective connected government is about a ‘bigger and better’ front-end with a ‘smaller and smarter’ back-end.”

The benefits of such governance are indicated in the figure -

---

**E-GOVERNANCE: INITIATIVES IN INDIA**

**Evolution of e-Governance in India –**

- **1970**, Government of India established the Department of Electronics.
- **1977**, National Informatics Centre (NIC) was the first major step towards e-Governance in India as it brought ‘information’ and its communication in focus.
- **1980s**, use of computers was confined to very few organizations but the advent of personal computers brought the storage, retrieval and processing capacities of computers to Government offices. A large number of government officers had computers but they were mostly used for ‘word processing’.

---
1987, the launching of NICNET– the national satellite-based computer network provided the main thrust to India’s e-Governance program. This was followed by the launch of the District Information System of the National Informatics Centre (DISNIC) programme to computerize all district offices in the country for which free hardware and software was offered to the State Governments.

1990, NICNET was extended via the State capitals to all district headquarters.

1999, the Union Ministry of Information Technology was created.

2000, a 12-point minimum agenda for e-Governance was identified by Government.

It would be useful to highlight some of the important e-Governance initiatives implemented by the Union and State Governments in the last 10 to 15 years, assess their strengths and weaknesses and identify the lessons learnt from them.

These initiatives are discussed under the following categories:

1. Government to Citizen (G2C) initiatives
2. Government to Business (G2B) initiatives
3. Government to Government (G2G) initiatives

**Government to Citizen (G2C) Initiatives**

The e-Governance scenario in India has come a long way since computers were first introduced. The focus now is on extending the reach of governance to have a major impact on the people at large. A large number of initiatives have been taken in this category by the Union and the State Governments. Some of these are -

1. **Computerisation of Land Records** (Department of Land Resources, Government of India)
2. **Bhoomi** Project in Karnataka : Online Delivery of Land Records
3. **Gyandoot** (Madhya Pradesh)
4. **Lokvani** Project in Uttar Pradesh
5. **Project FRIENDS** in Kerala
6. **e-Mitra** Project in Rajasthan
7. **eSeva** (Andhra Pradesh)
8. **Revenue Administration through Computerized Energy (RACE) Billing Project**, Bihar
9. **Admission to Professional Colleges – Common Entrance Test (CET)**

**Government to Business (G2B) Initiatives**

G2B initiatives encompass all activities of government which impinge upon business organizations. These include registrations under different statutes, licenses under different laws and exchange of information between government and business. The objective of bringing these activities under e-Governance is to provide a congenial legal environment to business, expedite various processes and provide relevant information to business.

1. **e-Procurement Project** in Andhra Pradesh
2. **MCA 21** - The Ministry of Corporate Affairs has implemented the MCA 21 Mission Mode Project under the NeGP in September 2006 and presently the second phase of the project is being implemented by
Within the government system there is large scale processing of information and decision making. G2G initiatives help in making the internal government processes more efficient. Many a time G2C and G2B processes necessitate the improvements in G2G processes.

1. **Khajane Project in Karnataka**: It is a comprehensive online treasury computerization project of the Government of Karnataka. The project has resulted in the computerization of the entire treasury related activities of the State Government.

2. **SmartGov** (Andhra Pradesh)

---

**CORE PRINCIPLES OF E-GOVERNANCE**

Based on the experience regarding e-Governance initiatives in India prior to the formal launch of NeGP, as well as the experience in other countries, some of the core principles essential for the success of e-Governance initiatives have been formulated. These principles would be particularly relevant and appropriate at a time when government has undertaken the mammoth NeGP programme throughout the country.

1. **Clarity of Purpose**: There needs to be a clear understanding and appreciation of the purpose and objectives to be achieved through e-Governance. In the past, a large number of projects appear to be based on what technology can achieve rather than what the citizens need.

2. **Environment Building**: There is need to change the mind-set of all the stakeholders involved, i.e. politicians, government officials and civil society at large. This would require a strong will to change among various stakeholders in the governance system.

3. **E-Governance as an Integral Part of Reform in Governance**: e-Governance cannot be separate from governance as a whole. Further, it cannot be taken as an adjunct of governance. It has to be an integral
part of the governance structure and processes. Thus, every government organization or entity, every government programme or policy and every law and regulation would have to integrate e-Governance modules within itself rather than brought-in as an afterthought or introduced as an adjunct.

4. **E-preparedness and Step-wise Approach:** e-Governance cannot be introduced in the whole country across government organizations at one go. As mentioned above, e-Governance is an integral part of reforms in governance and each organization needs to embed e-Governance systems within the organization in a seamless way. However, different organizations are not, presently, at the same level of e-preparedness. There has to be a step-wise approach to e-Governance so that outcomes are maximized and citizens reap early benefits from e-Governance.

5. **Disciplined Way of working:** e-Governance requires a disciplined and systematic way of working in organizations. Most technologies pre-suppose a set of rational behaviour on the part of users. This element needs to be emphasized during the capacity building as well as in the life cycle of the project.

6. **Monitoring and Evaluation:** Close monitoring of e-Governance projects is necessary in both the pilot phase as well as during the actual working of the up-scaled project. This helps in early detection of problems and hence facilitates prompt corrective action. However, apart from periodic monitoring of e-Governance initiatives in the post-implementation stage, there would also be need for evaluation of the impact of such initiatives through independent agencies against parameters which would determine whether the objectives have been achieved or not.

7. **Developing Secure, Fail-safe Systems and Disaster Recovery Systems:** Given the scale of potential e-Governance applications in the country and the prospective mammoth flow of data involved, the technological architecture on which such applications are mounted would need to be made not only secure but also fail-safe. Mechanisms would have to be incorporated which would put the systems in the ‘safe mode’ in times of crisis.

8. **Sustainability:** In the end, e-Governance initiatives need to be sustainable. Once it has been established that any particular initiative is the better way of providing services or information to the people or conducting the business of government, it should not be allowed to relapse on grounds of expediency. Reforms are always harder to implement and sustain, but once they take root, they deliver the best results.

9. **Allowing for Horizontal Applicability:** A coordinating mechanism is needed to prevent cases of re-inventing the wheel. Different States across India face similar types of challenges. Past experience has shown that a number of States have undertaken e-Governance projects to address similar concerns. To make e-Governance more cost effective and successful, successes need to be adopted across States and organizations thereby minimizing costly repetitions and in many cases, failures.

10. **Development of Local Language Interfaces:** As India is a multilingual society, e-Governance initiatives need to provide citizen interfaces in the respective local language. Thus, displays and keys should be based on localized interfaces and multi-media instructions should be commonly used to make the interface accessible in rural areas, where low literacy rates can be an obstacle.

11. **E-Governance:** a Continuing Process - e-Governance represents a paradigm shift in the field of governance reforms. Bringing it about would have to be a continuing process which would require many adjustments. It has been well said that e-Governance is a journey and not a destination.

**IMPLEMENTING E-GOVERNANCE REFORMS**

E-Governance has to be implemented across different departments and organizations with a wide spectrum of activities and with varying levels of readiness for e-Governance. Achieving the desired results would, therefore, requires
1. The fullest political backing

2. Determined and resolute approach by all organizations as well as active and constructive participation by the public.

3. Providing institutional and physical infrastructure for taking e-Governance initiatives across our cultural and regional diversities

4. Creation of an environment that would encourage the adoption of ICT.

5. Capacity building and creating awareness within government and outside it.

Dr. APJ Abdul Kalam, former President of India and a visionary in the field of e-Governance has aptly summarized the basic challenge lying before the country in this regard:

“e-Governance, has to be citizen-friendly. Delivery of services to citizens is considered a primary function of the government. In a democratic nation of over one billion people like India, e-Governance should enable seamless access to information and seamless flow of information across the state and central government in the federal set up. No country has so far implemented an e-Governance system for one billion people. It is a big challenge before us.”

Based on the core principles enumerated earlier, the implementation of e-Governance would require the administrative measures mentioned below -

1. Building a Congenial Environment –

As government organizations function at varying degrees of IT-preparedness, there is first of all a need for building an environment within government organizations at various levels which is conducive to e-Governance

**Recommendations**

Building a congenial environment is a sine qua non for successful implementation of e-Governance initiatives. This should be achieved by:

- Creating and displaying a will to change within the government
- Providing political support at the highest level
- Incentivising e-Governance and overcoming the resistance to change within government
- Creating awareness in the public with a view to generating a demand for change.

2. Identification of e-Governance Projects and Prioritisation

The Organisation for Economic Co-operation and Development (OECD) has defined four stages of e-government Projects, each one more demanding than the next. These are:

- **Information:** Putting information on web-sites
- **Interaction:** Allowing citizens to enquire about services, procedures etc. and filling up forms and submitting them online
- **Transaction:** Allowing payments online
- **Transformation:** A mix of all the above and allowing the citizen to participate in governance through ICT.
Government organizations/departments at Union and State Government levels need to identify e-Governance initiatives which could be undertaken within their functional domain, keeping the needs of the citizens in mind. Such initiatives may be categorized as follows:

- Initiatives which would provide timely and useful information to the citizens.
- Initiatives which would not require the creation of a database for providing useful services to the citizens.
- Initiatives which allow for making elementary online transactions including payment for services.
- Initiatives which require verification of information/data submitted online.
- Initiatives which require creation and integration of complex databases.

Instead of implementing all such initiatives at one go, these should be implemented after prioritizing them on the basis of ease of implementation, which would generally follow the categories mentioned above in that order.

3. Business Process Re-engineering (BPR)

In India, the way government institutions conduct their business has evolved over time and is codified in different Statutes, Rules, Regulations and procedural manuals enacted or formulated over a wide span of time (with many processes even continuing from the colonial period).

On the other hand, the scope and complexities of governance along with the government machinery have expanded over time. The advent of ICT has led to the recognition that these technologies provide a unique opportunity to redesign government processes not only to provide better services and reliable information to citizens but also to improve efficiency and effectiveness within government institutions.

The basic idea behind such re-engineering is to avail of the opportunity provided by ICT in transforming governmental processes and not just in modifying them.
“Re-engineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed

Recommendations

- For every function a government organisation performs and every service or information it is required to provide, there should be a step-by-step analysis of each process to ensure its rationality and simplicity.
- Such analysis should incorporate the viewpoints of all stakeholders, while maintaining the citizen-centricity of the exercise.
- After identifying steps which are redundant or which require simplification, and which are adaptable to e-Governance, the provisions of the law, rules, regulations, instructions, codes, manuals etc. which form their basis should also be identified.
- Following this exercise, governmental forms, processes and structures should be re-designed to make them adaptable to e-Governance, backed by procedural, institutional and legal changes.

4. Capacity Building and Creating Awareness

The success of an e-Governance project would depend on building human capacities in terms of necessary knowledge and skills to conceptualize, initiate, implement and sustain e-Governance initiatives across government as also on the ultimate use by citizens of the facilities created.

The ‘India: e-Readiness Assessment Report 2006’ has prepared an e-readiness status report for the States using the three major components of ‘environment, readiness and usage’.

The capabilities can be classified into four broad categories i.e. Conceptual, Subject matter related, Technological, Project management. Each one of these categories has a hierarchy of skills/competencies/capabilities – ranging from operational capabilities to managerial capabilities. The capabilities required can be presented in the form of a matrix, as shown in Figure

<table>
<thead>
<tr>
<th>Conceptual</th>
<th>Subject Matter</th>
<th>Technological</th>
<th>Project Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision of the organization</td>
<td>Knowledge of laws</td>
<td>Broad appreciation of technology</td>
<td>Project formulation</td>
</tr>
<tr>
<td>Understanding of external environment</td>
<td>Knowledge of rules and regulations</td>
<td>Strengths and weaknesses of a technology</td>
<td>Project management</td>
</tr>
<tr>
<td>Constraints</td>
<td>Appreciation of processes</td>
<td>Capability to modify technology</td>
<td>Change management</td>
</tr>
<tr>
<td>Appreciation of citizens’ need</td>
<td>Understanding of forms</td>
<td>Operational details of technology</td>
<td>Resource management</td>
</tr>
<tr>
<td>Assessment of internal strength</td>
<td></td>
<td></td>
<td>Control management</td>
</tr>
</tbody>
</table>

The Capabilities Required for e-Governance
Taking above parameters as the background, each government organization must carry out a capacity assessment and on that basis the personnel of the organization should be trained. Each organization should prepare a roadmap for enhancing the capabilities of its individuals as well as to develop organizational capabilities.

It needs to be clarified that there is a popular but erroneous misconception that ‘Capacity Building’ relates only to training and imparting new skills to employees and improving their existing skills. In fact, ‘Capacity Building’ is much more than training, and has two major components, namely: Individual development & Organizational development.

**Recommendations**

- Capacity building efforts must attend to both the organizational capacity building as also the professional and skills upgradation of individuals associated with the implementation of e-Governance projects.
- Each government organization must conduct a capacity assessment which should form the basis for training their personnel.
- A network of training institutions needs to be created in the States with the Administrative Training Institutes at the apex.
- State Governments should operationalise the Capacity Building Roadmap (CBRMs), under the overall guidance and support of the DIT, Government of India.
- Lessons learnt from previous successful e-Governance initiatives should be incorporated in training programmes.
- The recommendations made by the Commission in its Second Report entitled ‘Unlocking Human Capital’ should be adopted for creating awareness among people with regard to e-Governance initiatives.

5. Developing Technological Solutions

Ideally the technological solution should ensure the following:

- Accessibility (at the citizens’ doorsteps)
- User-friendly interface
- Cost-effectiveness (e.g. making use of open source software)
- Efficiency
- Flexibility
- Scalability
- Sustainability
- Reliability and security

**Recommendations**

There is a need to:

- Develop a national e-Governance ‘enterprise architecture’ framework as has been done in some countries.
- Promote the use of ‘enterprise architecture’ in the successful implementation of e-Governance initiatives; this would require building capacity of top level managers in all government organizations.
6. Implementation

E-Governance projects could be of a wide variety based on their objectives, technological requirements, dependence on databases, requirement of institutional support etc. They may range from simple projects aimed at providing access to information to complex ones which require extensive business process re-engineering and integration of databases across organizations.

Recommendations

• All organizations should carry out a periodic independent evaluation of the information available on their websites from the citizens’ perspective and then re-design their websites.

• Each organization should prepare a time-bound plan for providing of transactional information through their websites.

• Complex e-Governance projects should be planned and implemented like any major project having several parts / components for which Project Management capability should be developed in-house.

• Implementation of e-Governance projects would involve a detailed ‘project management’ exercise which would consist of the following activities:
  – Breaking up entire e-Governance projects into components/activities
  – Planning each activity in detail
  – Allocating resources, both human and financial
  – Commencement of activities as per the plan and continuous tracking
  – Need-based mid-course correction

• While implementing transformational programmes like the NeGP, it is essential to recognise of the importance of a structured approach to Change Management – the people side of transformation.

7. Monitoring and Evaluation

Even though e-Governance projects are generally rolled out after testing them at the pilot stage, such projects need continuous monitoring. Such monitoring could be based on a variety of parameters – financial viability, ease of use, assessment of in-house capacity, volume of transactions, appropriateness of technological solutions, adequacy of business process re-engineering, ability to handle difficult situations etc.

Recommendations

• Monitoring of e-Governance projects should be done by the implementing organization during implementation in the manner in which project monitoring is done for large infrastructure projects. Even after the project has been implemented, constant monitoring would be required to ensure that each component is functioning as per the design.

• Evaluation of success or failure of e-Governance projects may be done by independent agencies on the basis of parameters fixed beforehand.

8. Institutional Framework for Coordination and Sharing of Resources/Information

The responsibility for effective and efficient development, procurement and use of information technology and resources as well as the management and planning of information technology and e-Governance programmes should vest with individual government agencies at the Union and State levels.
Recommendations

• The Departments of Information Technology at the Union and State Government levels should provide institutional support to other departments and organizations in implementation of e-Governance projects identified and conceptualized by them. The DIT should focus on the following:
  – Conducting an e-preparedness audit for each organization
  – Enforcing standardization
  – Assisting in co-ordination when e-Governance projects transcend an organisation’s functional domain
  – Carrying out evaluation of e-Governance projects
  – Acting as a repository of best practices and encouraging horizontal replication of successful projects
  – Helping in selection of technological solutions.

• The Second Schedule to the Government of India Allocation of Business Rules, 1961 may be suitably amended to incorporate these elements with regard to the subject matter of ‘e-Governance’.

9. Public-Private Partnership (PPP)

Financial and managerial resources are critically required for successful implementation and more so, the sustainability of e-Governance initiatives. While the normal preference for any reform initiative is through exclusive use of inhouse resources, the merits of inducting the private sector resources into the e-Governance sector have now been appreciated and accepted by policy-makers in Government.

Public-Private Partnership has thus become one of the cornerstones of NeGP. PPP, as applied to the e-Governance sector is still in a stage of evolution. While early PPP projects like eSeva had attempted a simple version of PPP, more complex projects like MCA 21 required considerable innovation and experimentation in designing and adoption of an appropriate PPP model.

Recommendations

• Several components of e-Governance projects lend themselves to the Public-Private Partnership (PPP) mode. In all such cases (PPP) should be the preferred mode.

• The private partner should be selected through a transparent process. The roles and responsibilities of government as well as the private partner should be clearly laid down in the initial stage itself, leaving no room for any ambiguity.

10. Protecting Critical Information Infrastructure Assets

Recommendations

• There is need to develop a critical information infrastructure assets protection strategy. This should be supplemented with improved analysis and warning capabilities as well as improved information sharing on threats and vulnerabilities.

NATIONAL E-GOVERNANCE PLAN

Background

During the 1980s and early 1990s, initial attempts towards e-Governance were made with a focus on networking government departments and developing in-house government applications in the areas of defence, economic monitoring, planning and the deployment of IT to manage data-intensive functions related to elections, census, tax administration etc. These applications focused on automation of internal government functions rather than on improving service delivery to citizens.
Over the past decade or so, there have been islands of e-Governance initiatives in the country at the national, state, district and even block-level. Some of them have been highly successful and are suitable for replication. It was increasingly perceived that if e-Governance was to be speeded up across the various arms and levels of Government a programme approach would need to be adopted, which must be guided by a common vision, strategy and approach. It was with this background, that the National e-Governance Plan (NeGP) was formulated for implementation across the country.

The NeGP has been formulated by the Department of Information Technology (DIT) and Department of Administrative Reforms & Public Grievances (DAR&PG). The Union Government approved the NeGP, comprising of 27 Mission Mode Projects (MMPs) and 10 components on May 18, 2006. The NeGP aims at improving delivery of Government services to citizens and businesses with the following vision:

“Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realise the basic needs of the common man.”

Implementation Strategy, Approach & Methodology of NeGP

Implementation of e-Governance is a highly complex process requiring provisioning of hardware & software, networking, process re-engineering and change management. Based on lessons learnt from the past and the experience from successful e-Governance applications, the approach and methodology adopted for NeGP contains the following elements:

- Common Support Infrastructure
- Governance:
- Centralized Initiative, Decentralized Implementation
- Public-Private Partnerships (PPP) model is to be adopted
- Integrative Elements in planning
- Programme Approach at the National and State levels
- Facilitatory role of DIT
- Ownership of Ministries

To sustain the projects under NeGP, there is also need to create the right governance and institutional mechanisms, set up core infrastructure, formulate key policies, standards and the legal framework for adoption and to channelize private sector technical and financial resources into the National e-Governance efforts. For this purpose, certain key components have also been identified for implementation which cut across and support various projects -

- Core Policies
- Core Infrastructure (SWAN, NICNET, SDCs, etc.)
- Support Infrastructure (CSCs, etc.)
- R&D
- Human Resource Development & Training
- Awareness & Assessment
- Organization structures
Analysis of NeGP

The following components of NeGP has been examined -

1. The Institutional Structure
2. The Common Support Infrastructure
3. The Mission Mode Projects

1. Institutional Structure

Macro (National and State) Level: Since the formulation of the NeGP, it has become essential to ensure that the numerous projects being implemented by the Union and State Government departments are consistent with a broad policy and adhere to common standards. This requires empowered institutional arrangements to oversee, drive and manage implementation.

2. Common Support Infrastructure

The issues related to the implementation of Common Support Infrastructure – SDC, SWAN and CSCs – are discussed in the following paragraphs.

State Data Centre (SDC)

These would consolidate services, applications and infrastructure to provide efficient electronic delivery of G2G, G2C and G2B services through common delivery platform seamlessly supported by the State Wide Area Network (SWAN) connecting up to the villages through the Common Service Centres (CSCs).

Although the State Data Centres form one of the core elements of NeGP, the absence of any fixed time frame for its implementation has resulted in delays.

Apart from implementation delays, institutional hurdles have also been cropping up. For example, there has been a tendency in some State departments to set up their own data centre which would give them control over the data and its disaster management and recovery.
Owing to the nature of data and security concerns, the implementation of SDCs should lie in the domain of government agencies such as NIC.

**State Wide Area Network (SWAN)**

This is aimed at establishing Wide Area Networks in all States and UTs across the country, from the Headquarter of each State/UT to the Blocks. It would serve in providing G2G and G2C services, especially for the various Mission Mode Projects contemplated under the National e-Governance Plan.

These were expected to be implemented by June 2009 but were continuously delayed in all States/UTs. Therefore, at the implementation level also the States/UTs are facing problems of availability of basic telecom infrastructure at the block level.

So the highest priority needs to be given to the simultaneous roll out of SWAN across the country so that the Mission Mode Projects and other e-Governance initiatives, which would ride on this network, can also be expeditiously implemented.

**Common Service Centres (CSCs)**

These centres are intended to serve as front-end delivery points for government, private and social sector services in an integrated manner to rural citizens of India. This scheme aims at establishing about 100,000 Common Services Centres across the country, one each for every six census villages. The objective is to develop a platform that can enable government, private and social sector organizations to align their social and commercial goals for the benefit of the rural population in the remotest corners of the country through a combination of IT-based as well as non-IT-based services.

The CSCs would offer a multitude of services ranging in the areas of e-Governance, education, health, agriculture, commercial, retail, etc.

Analysis revealed that there is no role for the local governments in the implementation of the CSCs. In fact, the Standing Committee on Information Technology was of the view that "monitoring bodies of elected representatives should be set up at each level i.e. Central, State, district and local levels to monitor and review the implementation progress as well as operationalisation of CSCs and other components of NeGP."

**3. Mission Mode Projects**

The present status of implementation of the MMPs at the Union and State Government levels and the integrated MMPs is described below.

**Union Government MMPs**

- MCA 21
- Pension Portal
- Income Tax Portal
- Passport, Visa and Immigration Portal
- Banking Services
- UID initiative
- Insurance Portals
Integrated MMPs
• India Portal
• National Service Delivery Gateway
• e-Procurement Portal
• e-Biz Portal

State MMPs
• Land Records services
• Road Transport services
• Agriculture services
• Police services
• Treasuries
• Municipalities portal
• e-District portal
• Gram Panchayat portal
• Employment Exchange portal

Analysis of UID Mission Mode Project-

The need for a unique identity card for citizens has been considered necessary not only for security reasons but also for delivery of services to citizens and taking the development programmes to the target population. In fact, many of the developmental programmes and schemes (for example, NREGA) include provisions for identifying the target population.

As per the Eleventh Five Year Plan document, ‘the long-term objective of the UID Project is to create a Core Database (CDB) for all residents, each having a unique identification number, which is regularly updated and is easily accessible to, and is used by all departments for identification of residents in the country.

Aim of the ‘unique identity’ is to reduce significantly identity related fraud and allow for better targeting of government schemes. It also envisaged that the UID Project will eventually become the underpinning of the Citizens Smart Card Project. The Smart Card would have a memory partitioned into distinct modules representing different entitlement groups for which free services or implicit/explicit subsidies are given. These would include food and nutrition, energy (kerosene, LPG, electricity), education and health services, civic amenities and services (drinking water, latrines/sanitation), employment etc.

Concerns have been raised that such cards would lead to invasion of privacy of an individual as the controller of the database would have, through linkages across different networks, a “global” view of a person’s activities. Concerns have also been raised regarding the need for a separate card when other pan-Indian cards are available.

Recommendations

The creation of a separate unique identity card system would only be useful if it is exhaustive, accurate and tamper proof.
• This would require creation of a database that links an individual to unique identifier which remains constant over his life time. Such identifiers may include parameters such as an individual parentage, date of birth, place of birth etc.

• In addition, the unique ID may capture other parameters such as place of residence, occupation, educational qualification etc. which are likely to change over the lifetime of an individual.

• Ideally, the unique ID should be based on a parameter that remains constant and which gets activated at the time of birth itself.

• At the age of 18, this card can automatically be activated as a voter identity card which would need to be extinguished after the death of the individual. This would mean that the panchayats and urban local bodies would need to play a proactive role in every hamlet, village and urban centre of the country in order to account for every live birth and every death taking place within their jurisdiction.

• The newly created Unique ID Authority should take these aspects into account in order to develop an accurate and fool-proof unique identity card system for all Indian citizens. To start the process immediately, it may be desirable to give unique IDs prospectively for all future births that take place in the country. As the system stabilises, this could then be extended to all citizens in a phase manner.

### LEGAL FRAMEWORK FOR e-GOVERNANCE

The **Information Technology Act, 2000** was enacted to “provide legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication, commonly referred to as “electronic commerce”, which involve the use of alternatives to paper-based methods of communication and storage of information, to facilitate electronic filing of documents with the Government agencies and further to amend the Indian Penal Code, the Indian Evidence Act, 1872, the Bankers' Books Evidence Act, 1891 and the Reserve Bank of India Act, 1934 and for matters connected therewith or incidental thereto.”

#### Need for Statutory Backing for E-Governance

E-Governance in India does not yet have a separate enabling legal framework. The scope of NeGP is very wide covering almost all aspects of governance - right from delivery of services and provision of information to business process re-engineering within the different levels of government and its institutions. Thus, its task is of mammoth proportion. It would therefore be advisable if such a gigantic task is implemented, monitored and regulated through a legal framework so that its vision becomes a reality.

Also, while implementing the NeGP, various structural and institutional issues have already arisen which clearly call for a statutory mandate for their resolution.

Some of the issues were related to -

• Lack of clarity on composition, role, responsibility and financial powers of the Empowered Committee.

• Laying down policy changes for fast-track approval of MMPs and Special Scheme for State MMPs.

• Issues regarding the role and responsibility of the States and the Union Line Ministries in project implementation. (Project specific interfaces between the State and Line Ministries also need to be provided urgently).

• Setting up an organization structure to deal with issues arising during post implementation period.

#### Recommendations

• A clear road map with a set of milestones should be outlined by Government of India with the ultimate objective of transforming the citizen-government interaction at all levels to the e-Governance mode by
2020. This may be enshrined in a legal framework keeping in consideration the mammoth dimension of the task, the levels of required coordination between the Union and State Governments and the diverse field situations in which it would be implemented.

- The legal framework should, inter alia, include provisions regarding:
  - Definition of e-Governance, its objectives and role in the Indian context
  - Parliamentary oversight mechanism;
  - Mechanism for co-ordination between government organizations at Union and State levels;
  - Role, functions and responsibilities of government organizations with regard to e-Governance initiatives, especially business process re-engineering; Financial arrangements;
  - Specifying the requirements of a strategic control framework for e-Government projects dealing with the statutory and sovereign functions of government;
  - Framework for digital security and data protection; and
  - Responsibility for selection and adoption of standards and inter-operability framework.

- This legislation should have an overarching framework and be able to provide flexibility to organizations.

**KNOWLEDGE MANAGEMENT**

**Importance of Knowledge Management in Government**

Earlier e-Governance was considered as mere application of ICT tools to the governance processes. But, as has been emphasized in this Report, a successful e-Governance intervention requires a holistic approach as it encompasses domain knowledge, process reform management, resources management, project management and change management. In each one of these, Knowledge Management (KM) is an important component. Knowledge Management (KM) is defined as “a discipline that promotes an integrated approach to identifying, evaluating, retrieving and sharing enterprise information assets.”

Knowledge Management is a process that, continuously and systematically, transfers knowledge from individuals and teams, who generate them, to the brain of the organisation for the benefit of the entire organisation. It is the systematic, explicit, and deliberate building, renewal, and application of knowledge to maximize an enterprise’s knowledge-related effectiveness and returns from its knowledge assets.

Knowledge Management in an organization involves the following steps:

(a) Identification of the knowledge assets within the organization - explicit and tacit

(b) Development of these knowledge assets

(c) Capturing and preservation of the knowledge

(d) Using and sharing of the knowledge.

In India, governments, both at the Union and State levels, have witnessed the intervention of KM initiatives albeit in a sporadic manner. These efforts have been initiated either because of the interest of some Government officials or due to a push from technology/consulting companies to sell their products/services. There have been no instances of KM initiatives undertaken as a matter of policy.

**Recommendations**

Union and State Governments should take proactive measures for establishing Knowledge Management systems as a pivotal step for administrative reforms in general and e-Governance in particular.
CONCLUSION

After examining the various aspects of e-Governance reforms in India, it can be concluded that in any e-Governance initiative, the focus has to be on governance reforms with the technological tools provided by ICT being utilized to bring about fundamental changes in the governmental processes.

In the light of wide range of e-Governance initiatives that have been carried out in India with varying degrees of success as well as the diversity of conditions in the country, the report recognizes that e-Governance projects have to be designed for specific contexts and environments.

Further, several e-Governance initiatives including some components of the NeGP have been analyzed. It has been tried to glean out from such experiences, certain general principles, cross-cutting issues and key constraints that are likely to be relevant for e-Governance projects in the country.

Some of these core principles include a clear understanding and appreciation of the objectives to be achieved through e-Governance, making governance reforms rather than ICT the key focus for these projects, a step-by-step approach to maximum outcomes and benefits, complete re-engineering of government systems and procedures, constant monitoring and evaluation, and use of local languages for ensuring citizen-friendly interface.

India’s e-Governance experience shows a plethora of pilot projects with varying rates of success but with the common characteristic that the majority of them are not up-scaled or widely replicated. It is essential to learn from such experiences and each pilot project should be taken to its logical end. For this to happen, emphasis has to be on the reforms in government procedures, structures and systems and must take precedence over mere technological solutions.

Ultimately, the success of an e-Governance initiative lies in how efficiently it has enhanced people’s participation in government functioning through wide ICT access, bringing government and the services it offers closer to its citizens, promoting accountability, transparency and responsiveness in government functioning and ensuring that government works better at lesser costs. These are the sine qua non for good governance and a vibrant democracy.