Report of the
Expert Committee
on the
HR Policy
for e-Governance

राष्ट्रीय इ-गवर्नेंस योजना
National e-Governance Plan

एक कदम आपकी ओर
एक कदम आपके लिए

Public services closer home

January, 2013

To,

Shri Kapil Sibal
Honourable Minister for Communications & Information Technology,
Government of India

Sir,

We submit herewith the Report of the Expert Committee on the "HR Policy for e-Governance"

Shri Nandan Nilekani,
Chairperson, Expert Committee

Shri R S Gujral
Secretary, Expenditure
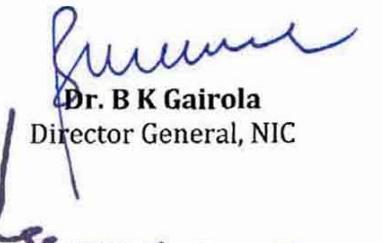
Shri J Satyanarayana
Secretary, DeitY
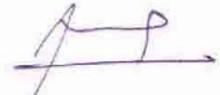
Dr. C Muralikrishna Kumar
Sr. Advisor, Planning Commission

Shri P K Misra
Secretary, DoPT

MAMTA KUNDLA
JOINT SECRETARY
DoPT

Shri Rajiv Gauba
Additional Secretary, DeitY

**Dr. B K Gairola**
Director General, NIC

Shri Som Mittal
President, NASSCOM

Shri Ravi Saxena
Addl. Chief Secretary, S&T, Gujarat

Shri Sanjiv Mital
CEO, NISG

Shri P Raghu Raman
CEO, NATGRID

Shri Kiran Karnik

Shri Ajay Sawhney

Foreword

e-Governance is the transformation of governance with the help of Information and Communication Technologies. Recognizing its importance, e-Governance has been included as a priority action area of the Government.

Wherever successfully implemented, e-Governance initiatives have resulted in enormous benefits to the common citizen in terms of transparency and easy accessibility of services. Government has also benefited through better management of service delivery, improvement in its internal processes and decision support systems.

In pursuance of the policy of introducing e-Governance on a massive scale, the Government of India approved the National e-Governance Plan with the vision to "Make all Government Services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man".

e-Governance, however, is a technology intensive activity requiring a high degree of specialized skills, including both domain knowledge and technical skills. Currently, Governments, both at the Centre and in the States, are woefully short of skilled resources. There has been recognition that such specialized skills have to be drawn from within the Government system and from outside it and for being able to do this effectively, the current HR policies of the Government would need to be revisited.

The Committee was tasked to address some of the changes believed to be necessary to meet the critical gap of resources in the Government for taking NeGP forward. The task also included strengthening the presence of IT personnel in the Ministries/Departments and State Governments and harnessing the IT talent that exists outside the Government. Another important task mandated to the Committee was to suggest a policy for strengthening the NIC.

The Committee has actively sought the opinion of a cross section of Stakeholders, as was possible within the time-frame of the study. The group has attempted to reconcile a number of different viewpoints in making its recommendations. The Committee has also been conscious of constraints of the current Government systems and personnel policies. We believe that we have been able to identify the issues that need to be addressed and have made recommendations which can be implemented without any major changes in the current system.

The Committee is aware that significant work would be necessary before the recommendations can be embodied in the relevant rules, regulations and guidelines. We hope that this task is taken up immediately after the Government accepts the recommendations made by the Committee.

We hope that this work would aid the setting up of appropriate HR structures and mechanisms for e-Governance and fast track the successful implementation of the NeGP, contributing to the realization of good governance in the country.

New Delhi
January 2013

Acknowledgements

On behalf of the Expert Committee, I would like to thank the Hon'ble Minister for Communication and Information Technology for giving us an opportunity to deliberate on and recommend the framework and HR Policy for e-Governance. Given the mammoth and complex task of delivering all services electronically and the high expectations of the citizens for transparent and easy access to public services, the need for a robust and efficient e-Governance delivery mechanism cannot be overstated. Such a mechanism can be put in place with an appropriate HR policy which this Committee has recommended.

We would like to thank all those who responded to our request for suggestions and sent valuable contributions. The Committee benefited immensely from the views that it received from a wide cross-section of Stakeholders. In particular, we would like to thank the Line Ministries of the Government of India and the State Governments which responded to the questionnaire and also actively participated in the Stakeholder Consultation Workshop. We would also like to thank the representatives of the Industry who gave their valuable inputs in a Consultation Workshop with them. Our thanks are also due to Ms. Joan Mccalla and Shri Prakash Kumar of CISCO, who shared their experiences and provided guidance in formulating different suggestions.

The Group appreciates the contribution of the officers of e-Governance Division of the Department of Electronics and Information Technology (DeitY) and National e-Governance Division (NeGD) in framing the recommendations. The Committee also thanks the Project Consultants of National Institute for Smart Governance (NISG) for their valuable suggestions based on their experience in the implementation of e-Governance projects. The Committee would like to place on record the valuable assistance provided by Shri M.S. Srikar, Dr. Viral B. Shah and the officers of the UIDAI to the Committee.

We would like to thank the members of the Core Group for assisting the Committee. In particular, we would like to place on record the immense contribution of Ms. Deepa Sengar, Director, NeGD for bringing on board the views of the Stakeholders, assisting the committee in the meetings and in drafting the chapters. We would also like to thank Ms. Barkha Deva and Ms. Avantika Oli for their inputs and also the officials of NeGD, for facilitating the meetings of the Committee.

Finally, I would like to thank the members of the Committee for all the time they have spared in making the deliberations so meaningful and enlightening.

Nandan Nilekani

List of Abbreviations

AICTE	-	All India Council for Technical Application
APAR	-	Annual Performance Appraisal Report
ARC	-	Administrative Reforms Commission
BCA	-	Bachelor of Computer Applications
C&IS Directorate	-	Directorate of Computerization & Information Systems
CB Scheme	-	Capacity Building Scheme
CBEC	-	Central Board of Excise & Customs
CBMC	-	Capacity Building Management Cell
CCA	-	Controller Of Certifying Authorities
CCS	-	Central Civil Service
CCTNS	-	Crime and Criminal Tracking Network & Systems
CDAC	-	Centre for Development of Advanced Computing
Cert-in	-	Computer Emergency Response Team India
CGDA	-	Controller General of Defence Accounts
CIO	-	Chief Information Officer
CM	-	Chief Minister
CoP	-	Community of Practice
COS	-	Committee of Secretaries
CRIS	-	Centre for Railway Information System
CS	-	Chief Secretary
CSC	-	Common Service Centre
CSS	-	Central Secretariat Service
CSS	-	Central Staffing Scheme.
CTO	-	Chief Technology Officer
CVC	-	Central Vigilance Commission
DARPG	-	Department of Administrative Reforms and Public Grievances
DeitY	-	Department of Electronics and Information Technology
DG	-	Director General
DIO	-	District Information Officer
DIT	-	Department of Information Technology
DoPT	-	Department of Personnel & Training
DPR	-	Detailed Project Report
DPT	-	Dedicated Project Team
DSS	-	Decision Support System
EDI	-	Electronic Data Interchange
EDS	-	Electronic Delivery of Services
ERP	-	Enterprise Resource Planning
FRIENDS	-	Fast Reliable Instant Efficient Network for Disbursement of Services
GFRs	-	General Financial Rules
GoI	-	Government of India
GST	-	Goods and Services Tax
HPC	-	High Powered Committee
HR	-	Human Resources

IAS	-	Indian Administrative Service
IBD	-	Independent Business Division
ICEGATE	-	Indian Customs and Central Excise Electronic Commerce / Electronic Data interchange (EC/EDI) Gateway
ICT	-	Information and Communication Technology
IFA	-	Integrated Financial Adviser
IFS	-	Indian Forest Service
ILFS	-	Infrastructure Leasing and Financial Services Ltd.
IPS	-	Indian Police Service
IRCTC	-	Indian Railway Catering and Tourism Corporation Limited.
IRS	-	Indian Revenue Service
IT	-	Information Technology
ITIL	-	Information Technology Infrastructure Library
JS	-	Joint Secretary
KM	-	Knowledge Management
LDC	-	Lower Division Clerk
MCA	-	Master of Computer Applications
MLAsia	-	Media Lab Asia
MMP	-	Mission Mode Project
MSP	-	Managed Service Programme
NASSCOM	-	The National Association of Software and Services
NDC	-	National Development Council
NeGD	-	National e-Governance Division
NeGP	-	National e-Governance Plan
NIC	-	National Informatics Centre
NICNET	-	National Informatics Centre Network
NIELIT	-	National Institute of Electronics and Information Technology
NISG	-	National Institute for Smart Government
NIU	-	National Information Utility
NLRMP	-	National Land Record Modernization Programme
NPR	-	National Population Register
NSDG	-	National e-Governance Service Delivery Gateway
NSDL	-	National Securities Depository Limited
O&M	-	Operation & Maintenance
PAN	-	Permanent Account Number
PDS	-	Public Distribution System
PeMT	-	Project e-Mission Team
PKI	-	Public-key Infrastructure
PMI	-	Project Management Institute
PMS	-	Performance Management System
PMU	-	Project Monitoring Unit
PPP	-	Public Private Partnership
PRIS	-	Performance Related Incentive Scheme
PSU	-	Public Sector Undertaking
R&D	-	Research & Development
RFP	-	Request for Proposals

SDA	-	State Designated Agency
SDC	-	State Data Centre
SeMT	-	State e-Mission Teams
SERMON	-	System for Excise Revenue and Monitoring
SIO	-	State Information Officer
SLAs	-	Service Level Agreements
SPV	-	Special Purpose Vehicle
SSDG	-	State e-Governance Services Delivery Gateway
STQC Directorate	-	Standardisation Testing and Quality Certification (STQC) Directorate
SWAN	-	State Wide Area Network
TAN	-	Tax Deduction Account Number
TNA	-	Training Needs Analysis
TQS	-	Training Quality Standards
UGC	-	University Grants Commission
UIDAI	-	Unique Identification Authority of India
UK	-	United Kingdom
USA	-	United States of America
UTs	-	Union Territories
UTS	-	Unreserved Ticketing System

Executive Summary

Over the years, a number of initiatives have been taken by the Central Line Ministries & Departments of the Government of India & State Governments, to deliver services to citizens & businesses using information technologies. However, these were largely guided by individual effort rather than by organization design. The success of a number of such initiatives and their transformational potential both in terms of the value to the customers & the administrative efficiency & decision support systems, brought to the fore, the need for Governments to adopt ICT for Governance. Likewise, the failure of many e-Governance initiatives to take off, or stabilize, highlighted the need for systematic change to be put in place. It was recognized that for e-Governance to be truly successful, it was necessary for Government to take ownership of projects, have consistent strategies for project design, standards, process reengineering, capacity building, project & programme management & put in place appropriate organizational structures.

2.   The National e-Governance Plan (NeGP) approved by the Government of India in 2006 was the first attempt at a country wide strategy for e-Governance. It proposed to achieve its objectives through deployment of 27 Mission Mode Projects (recently 4 more MMPs have been added), creation of a national IT backbone, internet portal & setting up of Common Service Centers (CSCs) as the common access points for citizens.

3.   It was recognized that for the success of this mammoth and complex task, significant capacities would need to be built, particularly in the States and UTs which were required to play a crucial role in managing these initiatives. The Capacity Building Scheme approved by the Government in 2008, provided the platform and funds to set up State e-Governance Mission Teams (SeMTs), consisting of professional resources to assist the States in Programme Management of e-Governance initiatives & to take up Training initiatives. The scheme, which was approved for a period of three years, had been extended by a further period of three years.

4.   The difficulties in the execution of e-Governance projects have brought into sharp focus, the human resource gaps that exist today. The first meeting of the PM's Committee on NeGP observed that lack of qualified human resources in sufficient numbers is the biggest constraint in the adoption of e-Governance and accordingly, it approved the preparation of an HR Policy for e-Governance. In pursuance of these directives, this Expert Committee was entrusted with making appropriate recommendations for an HR Framework and Policy for e-Governance.

5.   The Committee, in the process of its deliberations interacted with various groups of stakeholders and referred to the international HR practices in e-Governance. Chapter 1 brings out the strategic imperative & context in detail and also the approach and methodology followed by the Committee. Chapter 3 traces the historical usage of IT in Government followed by an outline of the National e-Governance Plan, Central and State Mission Mode Projects and the Capacity Building Scheme for e-Governance. It also discusses the role of different institutions and structures for e-Governance and summarizes the key learnings from a study of some of the international practices.

6.   The summary of recommendations of the Committee is in Chapter 2. The Committee, in making its recommendations, has taken cognizance of the increased thrust to e-Governance both for making services available to citizens in an easier, efficient, transparent & reliable manner and increasing internal efficiencies. It recognizes that the Government of India and the State Governments are putting in place an enabling environment for e-Governance through legislative provisions such as the IT Act, Electronic Delivery of Services (EDS) Bill, The Right of Citizens For Time Bound Delivery of Goods and Services and Redressal of their Grievances Bill, 2011, frameworks such as Mobile Governance & Standards framework, Aadhar and a plethora of other policies. The current HR challenges and gaps in being able to accomplish the task that the Government has set out for itself are brought out in Chapter 4. The HR issues and suggestions emanating from stakeholder consultation are also discussed in the Chapter.

7.   While consultations with stakeholders highlighted the need for augmentation of the HR pool, it is perhaps even more important to create organizational structures with clear roles and responsibilities to effectively synergize the efforts. Chapter 5 discusses the organizational structures that are required to be put in place both at the Centre & States for programme and project management of e-Governance. Among its various recommendations, the Committee has proposed putting in place Electronic Services Division headed by Chief Information Officer (CIO) in Central Line Ministries, EDS Directorate in States/UTs and Dedicated Project Teams for managing projects. The enhancement of NIC's role as a Technology Advisor to the Government and its strategic role in DeitY, Line Ministries & States has also been emphasized. Other entities that require strengthening & continuity are the National e-Governance Division at the Centre and SeMTs in the States.

8.   Chapter 6, which deals with HR policies for e-Governance, brings out the need for growing the resource pool in the Government and various policy interventions that are required to build internal competencies. Recommendations in this Chapter include putting in place a competency framework, tenure for project teams and various monetary and non-monetary incentives including performance linked incentives.

9.   There is a realization that competencies outside the Government ought to be leveraged and an enabling framework for attracting, retaining & optimally utilizing such skilled persons needs to be put in place. Recommendations for appointment of open market personnel on stable contracts, delegation of powers, accountability & competitive 'near-market' salaries and enabling provisions in the Recruitment Rules for inducting external talent are made in Chapter 7.

10.   The Committee is firmly of the view that the existing training initiatives need to be strengthened and a comprehensive training framework needs to be put in place so that Government employees are able to conceptualize and implement all projects using technology enabled platform. Chapter 8 discusses the need for training & implementation plans for all levels in the Government, from the highest political and administrative leadership and officers requiring specialized skills to those providing mediated access. The recommendations of the Committee include, among others, mandating ICT skills and

embedding e-Governance training at all levels, CIO training and other specialized training programmes, linking training with monetary and non-monetary incentives & disincentives & setting up of an e-Governance Academy as a Centre of Excellence and think tank in this area.

11.   To meet the increased demand of e-Governance, there is a need for a large pool of academically qualified resources. To meet this requirement, the Committee, in Chapter 9, has made recommendations regarding changes in the college curriculum for building a pipeline of knowledgeable pool of candidates for the Government as well as the private sector. Other recommendations in the Chapter relate to a Knowledge Portal with a Centralized Document Repository, Collaboration Portal & Knowledge Management System.

12.   The implementation of various recommendations made by the Committee will require funding to a limited extent. Provision of funds will have to be made for setting up the CIO structures in the Central Line Ministries, setting up an e-Governance Academy for Training initiatives recommended in the report as well as for continuation of the SeMTs' support to the State Governments under the Capacity Building Scheme. This has been discussed in Chapter 10. The funds required to implement the recommendations of the Committee are insignificant compared to the benefits that would accrue by way of successful implementation of e-Governance projects, shortening of the life cycle of projects and economic and social linkages that would accrue on account of efficiencies resulting from the implementation of e-Governance projects, which may run into thousands of crores.

The Committee's report is placed for consideration & acceptance of the Government.

Table of Contents

List of Annexures

1. Introduction and Background

1.1. Strategic Imperative and Context

The first meeting of the Prime Minister's Committee on National e-Governance Plan, while observing that lack of qualified human resources, in sufficient numbers, is the biggest constraint in the adoption of e-Governance, had approved the preparation of an HR Policy for taking NeGP forward, which could become a part of NeGP itself. It suggested that the HR Policy could include plans for:

i. Strengthening presence of IT personnel in the Ministries/Departments and in the State Governments that are responsible for delivering the 31 identified Mission Mode Projects (MMPs).

ii. Strengthening NIC. This could include-
   a. Raising staff strength, enhanced training and exposure to best practices;
   b. Incentivizing NIC professionals to patent and commercialise their work. Entrepreneurship among NIC professionals can be encouraged by commercialization grants and seed funding/incubation;

iii. Harnessing the tremendous existing IT talent outside the Government but within the country. There could be a process to institute a seamless movement and exchange of IT professionals between public and private sectors. Private industry may be encouraged to participate in the NeGP effort through the PPP mode. There is need to treat the entire knowledge domain in IT in the country as connected.

Copy of the communication from Prime Minister's Office is at *Annexure I*.

1.1.1. Constitution of the Expert Committee

Pursuant to the decision of the PM's Committee, an Expert Committee was constituted under the Chairmanship of Shri Nandan Nilekani, Chairperson, UIDAI to recommend the HR framework and policy for e-Governance, which would address the need for harnessing talent from the Government as well as from the open market *(Annexure II)*.

The Composition of the Expert Committee is as follows:

   i. Shri Nandan Nilekani, Chairperson, UIDAI – **Chairperson**
   ii. Shri R Chandrashekhar, Secretary, DIT* & DOT** – Member
   iii. Secretary, DoPT – Member
   iv. Secretary, Expenditure – Member
   v. Secretary, DAR&PG - Member
   vi. Shri J. Satyanarayana, CCLA and Special CS, GoAP*** – Member
   vii. Shri Ravi Saxena, Addl. Chief Secretary, Science & Technology, Gujarat – Member
   viii. Dr. B.K. Gairola, DG, NIC – Member
   ix. CEO NATGRID, Member
   x. Shri Som Mittal, President, NASSCOM – Member
   xi. Shri Sanjeev Mital, CEO, NISG - Member
   xii. Shri Kiran Karnik – Member
   xiii. Dr. C. Muralikrishna Kumar, Sr. Advisor, Planning Commission – Member
   xiv. Additional Secretary/ Joint Secretary, DIT* – Member
   xv. Shri Ajay Sawhney, President & CEO, NeGD – Member Convener

   * NowDeitY   ***Presently Secretary, DoT*   ****Presently Secretary, DeitY*

The Expert Committee was assisted by a Core Group consisting of the following members:
i. Ms. Deepa Sengar, Director, Capacity Building, NeGD
ii. Shri D. Krishnan, Commissioner, CBEC
iii. Shri K.S. Saha, Retd. Director, DoPT
iv. Ms. Rama Vedashree, Vice President, NASSCOM

1.1.2. Terms of Reference

The terms of reference of the Expert Committee were as follows:
i. Study the existing HR Policy of Government/Public/Private Sector and identify gaps in the existing HR framework and policies with respect to fulfilling requirements of IT and e-Governance, both for the implementation and maintenance phase.
ii. Arrive at an inclusive HR Policy framework to:
   a. Enable identification, incentivisation and positioning of existing talent within the Government;
   b. Attract, retain and effectively leverage human resources from the market for short and medium term requirements and induct high caliber professionals into the Government.
   c. Provide opportunities for growth and career advancement both for Government officials and open market professionals in the e-Governance and IT space so as to retain talent.
   d. Establish linkages, of experience in e-Governance and IT, with promotion and career growth path of Government officials;
   e. Allow deputation of officers from the Government to public and private sector organizations on short-term contracts;
   f. Strengthen NIC by raising the staff strength, lateral entry, enhancing training and incentivising staff to help them contribute effectively to e-Governance and IT;
   g. Enable other technical organizations and emerging e-Governance SPVs within the Government to attract and retain skilled resources for e-Governance and IT;
   h. Build scalability and flexibility in the policy framework to cope with the dynamic nature and quantum of work over the years;
   i. Design HR profile for various roles at different stages of e-Governance and the appropriate positioning of Government and open market resources for each role.
iii. Suggest a suitable organizational structure to help implement the HR Policy framework.
iv. Suggest necessary changes in the existing HR Policies and the HR and financial rules within the Govt. to implement the suggested HR Policy for e-Governance.
v. Recommend mechanisms by which the entire knowledge domain in IT and e-Governance in the country could be connected enabling seamless movement of talent across e-Governance programmes and projects.
vi. Any other issue which is relevant to achieving HR Policy outcomes spelt out in the Note vide PMO ID No.460/31/C/11/2011-ES.I(Vol.2) dated 12.12.2011.

The Committee was tasked to submit its report within a period of three months.

1.1.3. Approach and Methodology

The first Meeting of Expert Committee was held on 28th March, 2012 to study the 'as-is' scenario, cull out the major issues and define the broad framework for the HR Policy. A presentation was made to the Committee bringing out the HR needs for e-Governance, current HR challenges, the existing institutional structures and the proposed approach & methodology and timelines. A chapterization scheme was also proposed.

In the 2nd Meeting of the Expert Committee held on 19th April, 2012, the Committee deliberated on the approach document. Presentations made before the Committee included an analysis of national and international best practices, response received from the States/UTs on the approach paper and identification of key decision areas. The Committee also examined the salient points of the Report of the ARC, the Hota and Surendranath Committees, the Sixth Central Pay Commission and relevant provisions in the GFRs.

The second meeting of the Expert Committee was followed by a Stakeholder Consultation Workshop on 3rd May, 2012 and Industry Consultation Workshop on 24th May, 2012. Questionnaires were also sent to Central Line Ministries and States/UTs to elicit their response on the current institutional mechanism and HR policies and to obtain their suggestions for meeting the HR challenges. A number of formal and informal consultations were also held by the Core Group with e-Governance practitioners, both within the country and outside (through video conferencing/e-mails).

Based on the directions received from the members of the Expert Committee during its meetings and the inputs received from stakeholders, the draft proposals were presented to the Expert Group. The 3rd Meeting of the Expert Committee was held on 12th June, 2012 to discuss the draft proposals to be incorporated in the report. The Committee deliberated over the proposals related to organizational structures with defined roles and responsibilities, growing the resource pool in the Government, competency based positions, grant of incentives for specialized skills, intake of professionals from the market on market linked compensation and training and knowledge management. The Committee took note of the changes suggested by the members and the recommendations made during stakeholder consultations. These changes were incorporated in the revised draft report which was deliberated upon in the 4th Meeting of the Expert Committee held on the 30th July, 2012. Some additional observations and suggestions were made and the final report of the Committee has been prepared incorporating the modifications and suggestions.

The final report was discussed in the 5th Meeting of the Expert Committee held on 19th September, 2012 in which some additional inputs were received from the Department of Personnel & Training and the Department of Expenditure. NIC also provided some further suggestions. These have been appropriately incorporated in the Report.

2. Recommendations

Institutional Structures for e-Governance

1.   Programme Management at the National Level

(1)   Department of Electronics and Information Technology (DeitY): As e-Governance becomes the preferred means for delivery of services, the role of DeitY is expected to increase further both in terms of policy formulation and programme management for providing handholding support and synergising the various e-Governance initiatives of Ministries and States/UTs.

The Committee, therefore, recommends that an e-Governance Strategic Group may be constituted by DeitY with experts selected from NIC, CDAC, NeGD, NISG and CERT-In to assist it in framing policies and implementation strategy in the following areas:
-   i.   Reference architecture
-   ii.   Standards and Interoperability
-   iii.   National Information Infrastructure
-   iv.   Shared Services
-   v.   Cyber Security
-   vi.   Process Reengineering
-   vii.   Joined up service delivery

To tap expertise available outside the Government, the e-Governance strategic group should also include eminent experts in the field of technology, from Industry, Academia, Research Institutions etc.   (Para 5.1.1)

(2)   National e-Governance Division (NeGD): NeGD provides programme management support and technical assistance to DeitY for implementation of the National e-Governance Plan at the National Level. Its unique structure enables it to take professionals with the required competencies both on deputation and from the market. While the implementation of a specific project may have a start and a completion date, NeGP as a whole is expected to continue and grow over time. The Committee therefore, recommends that NeGD will need to continue on a long term basis and be suitably strengthened and re-structured to play its role as the central agency for programme management of NeGP and providing professional support to DeitY on a sustained basis to the Centre and States/UTs.   (Para 5.1.2)

(3)   National Informatics Centre (NIC): The Committee, having deliberated on the strategic role of NIC in the context of a capable private sector which is increasingly being leveraged by Central Ministries and State Governments, is of the considered view that NIC should actively involve itself in strategic planning and support for e-Governance and consciously strengthen its role beyond application development.

The Committee, therefore, recommends that:
-   i.   NIC will be designated as the Technology Advisor to the Government in its e-Governance initiatives at the Centre and in the States/UTs. NIC will conduct a study to assess its resource requirements to play such an enhanced role.
-   ii.   NIC shall be restructured and strengthened such as to create verticals within NIC capable of providing consulting support to the Ministries/Departments/State

Governments in the areas of Technology, Architecture, Security and Business Process Reengineering for NeGP and other Government initiatives in a sustained manner. For this purpose NIC may be augmented with in-sourced as well as outsourced resources.

iii.   NIC shall depute resources to the e-Governance Strategic Group in the DeitY, to assist in developing policies and implementation strategy in respect of Architecture, Standards, Security and Technology.

iv.   NIC should be suitably involved in all e-Governance projects, including outsourced / PPP projects to assist the Ministries/Departments. For this purpose, NIC resources would be part of the Electronic Services Division under the CIO, proposed for Central Line Ministries.

v.   In all e-Governance projects, including those implemented through NIC, appropriate Service Level Agreements (SLAs) shall be developed and documentation levels enhanced in keeping with the industry benchmarks. DeitY will facilitate monitoring of SLAs and appropriate and timely corrective action by developing a suitable mechanism.   (Para 5.1.3)

2.   Role of National Institute for Smart Government (NISG):

(1)   NISG was set up under a mandate of the National Taskforce on Information Technology and Software Development and a High Powered Committee (HPC) headed by the Cabinet Secretary. One of the decisions of the HPC was that the Government would issue instructions to enable Government departments to utilize the services of NISG.The NISG has developed competencies in the areas of conceptualisation, design and development of projects, HR management and Capacity Building initiatives. The Committee, therefore, recommends that Deity may empanel NISG, consistent with applicable procedure, as an expert organisation in the areas of conceptualisation, design and development and core scoping of e-Governance projects, HR management and capacity building initiatives to enable Line Ministries / Departments of the Central Government and the State Governments to use its services.

(2)   Indicative compensation packages for engagement of resources should also be drawn up in consultation with DoPT and Department of Expenditure, for similar positions, for reference by the Ministries/ Departments.

(3)   There should be close coordination between NIC, NISG and SeMTs to provide synergy between them.   (Para 5.1.4)

3.   Central Line Ministries – Programme and Project Management
Programme Management of e-Governance and CIO role in Central Line Ministries:

(1)   The delivery of Government services through Mission mode projects and other e-Governance/IT projects requires convergence in policy, applications, infrastructure, architecture and design within the Ministry, across Ministries and between the Centre and States/UTs. As more services are delivered electronically, synergies will have to be created between different applications and issues of standards, interoperability, infrastructure, architecture and design will need to be addressed. The CIO role is designed to address these issues. The Committee, therefore, recommends creation of a CIO function and an Electronic Services Division in all Central Line Ministries.

(2) While each of the large ministries will have a dedicated CIO, for smaller Ministries, the Committee is suggesting a CIO for clusters of Ministries on the lines of the IFA system.

(3) The CIO shall be responsible to the Secretary of the Ministry for alignment of ICT with the Ministry's priorities and directions and to the Secretary DeitY with respect to compliance with Government strategy, policies and standards for Information Management and Information Technology. APAR of the CIOs will be jointly written by the Secretary of the Administrative Ministry concerned and the Secretary DeitY.

(4) In carrying out this ongoing function, the CIO will be supported by a CTO/ Head Technology, an Expert Team, the NIC Team already present in the Ministries and a small core Secretariat to be created, which will form part of the Electronic Services Division. The CTO will also have a dotted line relationship with the DeitY for alignment of the technology related policy issues with the overall policies.

(5) The CIO shall be positioned at the rank of Additional Secretary/Joint Secretary. The CTO/Head Technology shall be positioned at the rank of Director.

<div align="right">(Para 5.2.1.1)</div>

Project Management of Mission Mode Projects and other e-Governance Projects

4. Mission Leader and Dedicated Project Teams:

(1) The first and foremost task for implementation of any project should be to constitute a Dedicated Project Team (DPT) with full time expert resources to plan, manage and oversee the implementation of the project. Otherwise, the chances of success of such complex projects are extremely limited. The Committee, therefore, recommends that Dedicated Project Teams shall be put in place for all Mission Mode Projects and that no significant investment should be made in any major e-Governance project without positioning of a Dedicated Project Team. The Committee further recommends that adequate financial provision for the DPT shall be part of project approvals. A Training component shall also be built into the project cost which could be upto 5% of the project cost.

(2) The dedicated team shall be led by the Mission Leader / Project Leader and shall comprise technical, managerial and domain expertise sourced from Government and external agencies.

(3) The Committee recommends that Large MMPs/projects with an outlay of more than Rs. 500 Cr. and strategically important projects shall have a dedicated Mission Leader/Project Leader at the level of Additional Secretary/Joint Secretary.
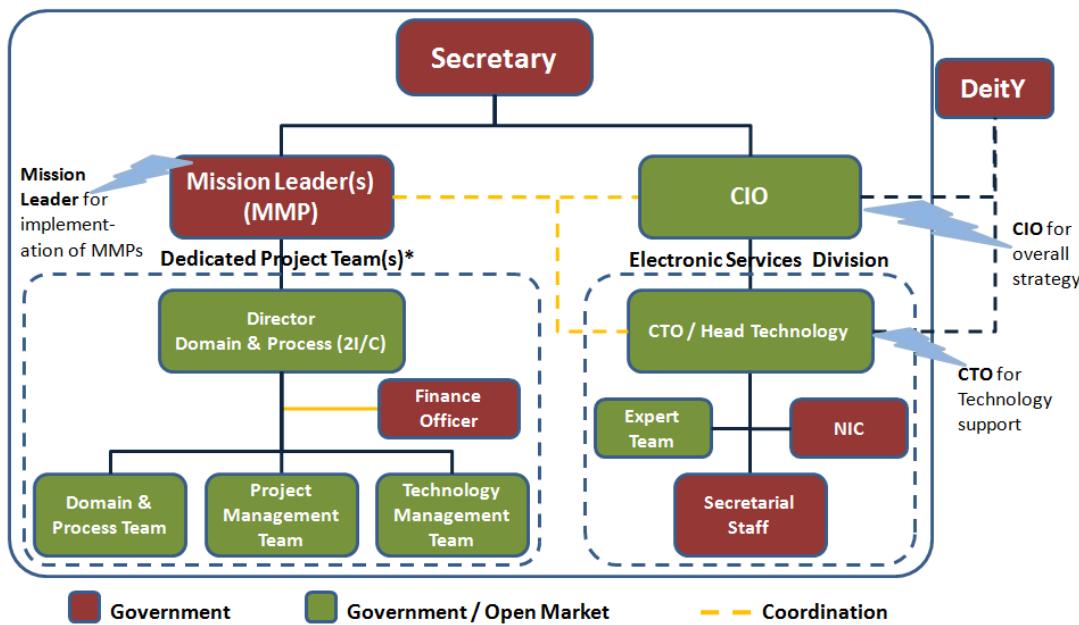
(4) In order to ensure that the projects are not delayed for approvals required in the course of implementation of the projects, the Committee recommends that Mission Leaders/ Project Heads (in the Directorate of Systems) shall be vested with financial and administrative powers, including need based engagement of resources at different stages of the lifecycle of the project.

(5) A dedicated finance officer shall be posted in the project in order to support the proposed administrative and financial delegation. (Para 5.2.2.1)

5. Structure of the CIO and Dedicated Project Teams

(1)   The recommended CIO and Dedicated Team structure at the Central Line Ministry/ Department level is pictographically represented below:

Proposed CIO and Dedicated Team structure at the Central Line Ministry/ Department level

(Para 5.2.2.2)

6. Different Implementation Models

(1)   The implementation models of projects may be different depending on the nature and complexity of projects. The Committee recommends that whatever be the implementation model, a dedicated set up such as a Directorate of Systems/Dedicated team is required in the Ministry to manage/oversee the projects. Further, in the case of projects driven by NIC also, the sanction for manpower should form part of project approvals.   (Para 5.2.3)

7. Council of Mission Leaders/Chief Information Officers (CIOs) and Council of Chief Technology Officers (CTOs):

The Committee recommends that the Council of Mission Leaders, which has been created to act as a peer group to discuss and resolve common issues and challenges, should be expanded to cover the CIOs as well and it should continue to meet regularly. The Council may be vested with commensurate powers to make decisions that are commonly applicable across projects. A Council of CTOs should also be formed which will be a platform for CTOs across the country to meet regularly, exchange ideas, discuss common issues and challenges, best practices and innovations in regard to technology.

8. States and UTs- Programme and Project Management

Programme Management of e-Governance in the States and UTs

(1)   State DIT: Considering the need to synergize the e-Governance projects at the State level and also, to manage the additional responsibilities that would arise with the enactment of EDS bill, the Committee suggests that the States should create a full-time post of Principal

Secretary (IT/e-Gov)/Secretary IT (IT/e-Gov), which should be a cadre post. Selection to this post should be made based on defined competencies and aptitude. (Para 5.3.1.1)

(2)   EDS Directorate/Commissionerate: With the enactment of the EDS Bill and its notification, all services will have to be delivered electronically by all departments in the States/UTs. This will necessitate a committed Head of Department set-up for monitoring and providing necessary support to State Departments, facilitating use of shared delivery channels, regulating the authorized service providers and a host of other functions. The Committee, therefore, recommends creation of a separate Directorate /Commissionerate of EDS headed by a Director/Commissioner of EDS. Selection to this post should be made based on defined competencies and aptitude. (Para 5.3.1.2)

(3)   State NIC:
(i)   There is a need to harmonize the work of various entities at the State level, viz, the State IT Dept, the Line Departments and NIC, which are currently functioning as disparate entities, sometimes leading to duplication of efforts. The Committee recommends that the SIO NIC shall be part of the State DIT Team in developing policies related to Architecture, Standards, Security, Technology and optimal utilization of core infrastructure and common services; and will also support the Line Departments in their e-Governance projects including outsourced / PPP projects. For this functional requirement, the SIO will have a dotted line reporting to the Secretary IT/e-Governance who will also initiate his/her ACR/APAR and send it to DG NIC. The SIO will continue to report to the DG, NIC so as to ensure consistency at the State level in respect of the National policies for standards, security, etc. (Para 5.3.1.3)

(ii)   At the District level, human resources with expertise in IT and e-Governance are currently limited. Districts in which only 1 or 2 resources are in place need to be augmented with 2 to 3 resources and placed with the District e-Governance Societies. The State Governments should also assign a suitable role to the DIO in the District e-Governance Societies for better alignment of all the central, state and district level e-Governance initiatives. The DIO shall have a dotted line relationship with the District Collector/Magistrate.
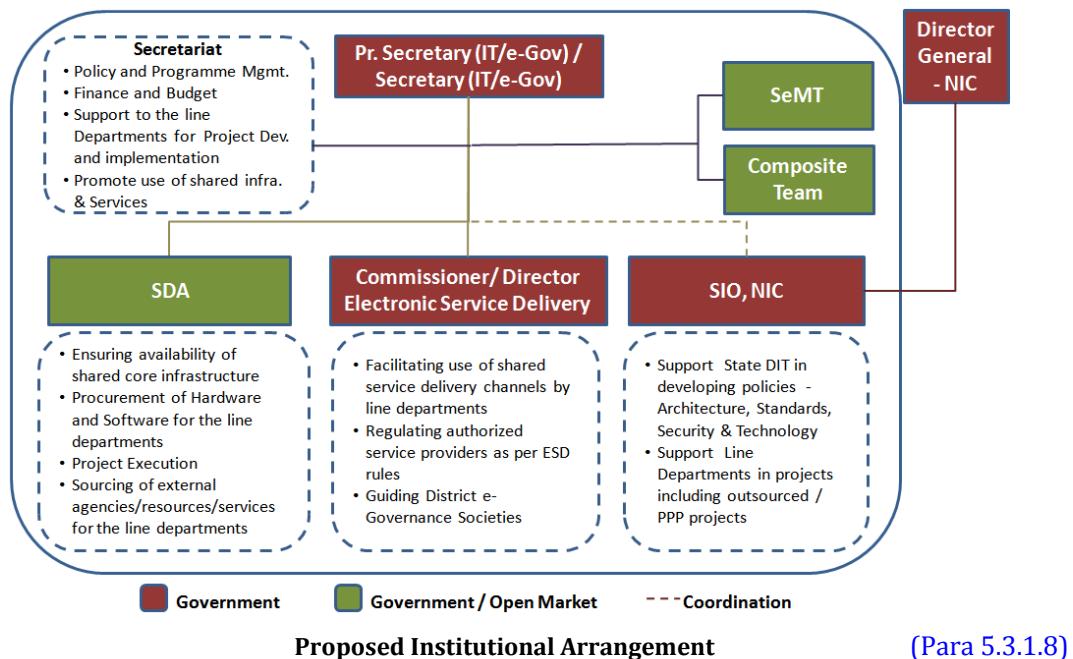
(4)   State Designated Agency/State Nodal Agency: The Committee suggests that the State Nodal Agencies may be suitably strengthened with the right kind of resources and manpower to enable them to play a role similar to that of the proposed National Information Utilities (NIUs) at the Centre. Wide disparity between compensation of the SDA resources and market salaries is an issue in some SDAs that may require correction. (Para 5.3.1.4)

(5)   SeMTs: The Committee, having considered the constraints of the State Governments and the continued need for technical and professional support to the States/UTs, and the enormous benefit that the States/UTs are deriving from the scheme, recommends that the scheme for placing SeMTs with the States/UTs may be continued for a further period of 5 years. (Para 5.3.1.5)

(6)   State IT Cadre: The Committee is not in favour of recommending the creation of a cadre unless it could be created as a virtual cadre with resources taken on deputation and through market hiring based on defined competencies. (Para 5.3.1.7)

9.   Institutional arrangement for programme management in the States

(1)   The recommended Institutional arrangement is shown in the diagram below:

Proposed Institutional Arrangement   (Para 5.3.1.8)

(2)   Project management by State Line Department(s): The Committee, recommends that on the lines of the Dedicated Project Teams suggested for the Central Line Ministries, Line Departments of the States should also constitute dedicated teams, funded through the project funds, for their Mission Mode Projects/large and strategic e-Governance projects. These teams should be delegated with appropriate administrative and financial powers.

(Para 5.3.2)

Developing Human Resources within the Government for e- Governance

The Human Resource factors for the success of e- governance are:
   i.   A political and administrative leadership sensitized to the transformational potential of e-Governance
   ii. Specialized skills within the Government to conceptualize and manage e-Governance projects and empowerment of those entrusted with e-Governance responsibilities
   iii. Engagement of the rank and file of employees and their willing support in the transformational process
   iv. Ability to draw in the best talent from the private sector and academia

HR interventions and policies are required to address the challenges in each of the above categories, with a focus on developing a specialized pool of talent in the Government, for managing e-Governance projects in the country.

While external talent needs to be inducted to complement the human resource pool in the Government, in-house expertise for e-Governance should be organically grown in the Government by identifying officers with the right attitude, aptitude and capability, and building their skills through training and other capacity building interventions.

10.   Competency Benchmarking

(1)   Competencies required for performing work in each post should be laid down and each job should be performed by a person who has the required competencies for the job.

(2)   Competencies for all positions in e-Governance shall be defined in consultation with DeitY and posting of officers to these positions, whether through the Central Staffing Scheme route or through open competition or by following any other process shall be made based on the competencies defined for each position.

(3)   The Committee recognizes that initially there may not be many Government officers possessing all the competencies identified for the respective jobs. Selection of officers may, therefore, need to be made based on their aptitude, past experience and willingness to learn. Capacity gaps of such individuals shall be made good through an institutionalized training plan.   (Para 6.2.2)

11.   Creating Leadership Pools– CIOs, Project Leaders & Dedicated Project Teams

(1)   Since the success of e-Governance projects hinges on the quality of the top leadership, with authority, empowerment and accountability for the implementation, the Committee, recommends that officers for leadership positions should be chosen based on competencies defined for each role.

Dedicated Mission Teams and CIOs

(2)   The Committee makes the following recommendations for the selection of officers to these key positions:

i.   **Mission Leaders:** The Mission Leader will be appointed from amongst serving Government officials of different services through a selection process based on defined competencies, aptitude and track record of implementation of e-Governance projects for a fixed tenure of 5 years.

ii.   **CIOs:** The positions of CIO shall be filled through a process of open competition and selection by a high level selection committee with members from the Government, industry and academia. Competencies for these positions shall include both domain and technology and officers from the Government, PSUs and Autonomous bodies as well as those from the open market shall be eligible.

iii.   **CTOs/Head Technology:** The CTOs/Head Technology should possess expertise in Technology and an understanding/ familiarity with the domain. These positions shall also be filled through a process of open competition and would be open to officers from NIC and other technical organizations and to external resources.

iv.   **Dedicated Project Teams:** Dedicated Project teams with expert resources in the areas of Technology, Project Management, Contract Management, Domain & Process expertise, Change Management, Cyber Security and legal expertise shall also be placed through a process of open competition and selection. The selection committee shall consist of members from the government, industry and academia.

v.   DeitY/NeGD (State DIT at the State level) will assist the Ministries/Departments in defining competencies, constituting panels and in the selection process. (Para 6.2.3)

12. Tenure of Project Leaders and Project Teams

(1)   To ensure stability of tenure, the Committee, recommends that the tenure of the Mission Leader/Project Heads and the Dedicated Project Teams shall be for a minimum period of 3 years/coterminous with the project. In any case, they should stay in the post until an appropriate break point in the e-Governance project to reduce the risk of failure. Tenures should be extended based on the criticality of the project. However, the consent of the concerned officer shall be obtained. The extension in tenure shall be enabled by relaxing the appropriate deputation rules and guidelines, with respect to total tenure of deputation, wherever necessary.

(2)   In cases where an officer is promoted in his/her parent cadre while on deputation to the e-Governance project, to enable retention of critical talent during the implementation of projects and also ensure at the same time that the officer does not lose out on the career advancement opportunities and the benefits and perks attached with it, the Ministry / Department may consider temporary upgradation of the post with necessary approvals.

13. Relaxation in the Deputation Rules for e-Governance

(1)   Considering that the pool in Government for managing e-Governance positions is extremely limited and continuity of officers is critical for success of e-Governance projects, the Committee recommends that the deputation rules laid down under IAS (Cadre) Rules, 1954 in respect of IAS officers and corresponding rules in respect of officers from Central Services and those applicable to any other group of officers, should be relaxed suitably for holding positions in e-Governance. This would require relaxation of stipulations regarding lateral transfer during central deputation, the maximum deputation tenure at a stretch and the maximum period on deputation during the entire service.   (Para 6.2.4)

14. Attracting and retaining Government Officers – Monetary & Non-monetary Incentives

(1)   The following monetary and non monetary incentives are recommended with a view to attracting and retaining Government officers for identified e-Governance roles:

i.   In-service officers selected for identified e-Governance functions based on competencies, may be considered for grant of separate set of incentives to attract and retain officers with e-Governance specialization on the lines of Training Allowance to officers deputed to Training Institutions based on the recommendations of the Sixth Central Pay Commission. Such incentives shall be applicable to specialized and identified positions and not across the board.

ii.   A scheme for performance related incentive comprising of organizational, group and individual incentives similar to PRIS Scheme introduced by the Department of Atomic Energy based on the recommendations of the Sixth Central Pay Commission, should be instituted by DoPT in consultation with DeitY, for employees working in e-Governance projects.

iii.   Officers opting to serve in SPVs, PSUs, Companies and similar entities managing e-Governance projects shall be entitled to all facilities available to regular Government employees, such as government housing, medical facilities, transport etc. Necessary approval for such a dispensation should be obtained.

iv. A mechanism for public acknowledgment of the contribution of Government officers who opt to work in the area of e-Governance, certificates of outstanding performance, letters of recommendation etc. should be instituted for recognizing superior performance and driving higher retention levels.

(Para 6.2.5)

15. Mandatory ICT Skills and e-Governance Training for Government Employees

(1) Possessing basic ICT skills should be a mandatory requirement at the entry level for all positions in Government. Wherever currently such provisions do not exist in the Recruitment Rules, appropriate changes in the recruitment rules should be made.

(2) In view of the need for ICT skills for all Government employees and the requirement for enhancement of ICT skills as they are promoted to higher levels, the Committee recommends as follows:
  i. Basic ICT competence should be mandated for promotion in all cadres of Government employees from 2014 onwards, for which revision of recruitment and promotion rules needs to be taken up on priority.

  ii. Competencies for different levels should be defined and promotions should be made subject to employees successfully completing the prescribed training course for which a comprehensive training framework shall be put in place.

(3) Schemes to reward employees for possessing higher order skills and certifications and exemplary contribution to e-Governance should be developed.

(Para 6.3.2)

16. HR interventions for NIC

(1) Having considered the recommendations made by the Committee on Institutional Assessment and Capacity Enhancement (2008) in regard to the augmentation of the strength of NIC in the present context, this Committee is of the view that the following recommendations for strengthening NIC are still relevant:
  i. The number of permanent posts within NIC should be incrementally increased over time so as to maintain an organizational balance between permanent employees and those sourced through other means to meet specific requirements of projects.

  ii. Direct recruitment at higher levels and deputation from the private sector to encourage cross-fertilization of ideas and experience will help NIC bridge the capacity gap and discharge its new role as technology manager.

  iii. A continuous capacity building programme for NIC staff is required to ensure that their skill sets match the evolving requirements and to retain quality manpower within the organization. This should include technology upgradation programmes and global exposure for officers of the level of Technical Director and above. An incentive scheme for skill upgradation should also be devised for NIC personnel.

The Committee recommends that the above recommendations should be implemented within a time frame of one year with a modification that the words "be incrementally increased over time" in (i) above, may be substituted by "be adequately increased over

time…".NIC will conduct a professional study of the requirement of additional resources and skills for the permanent positions. (Para 6.4)

Inducting External Talent into Government

17. Leveraging the national talent pool

(1)   To meet the requirement for individuals with a range of technology and domain skills for managing e-Governance projects it is necessary to leverage the much larger national talent pool to augment resources within the government.

(2)   In order to get persons from the private sector who can contribute to e-Governance in the country, a framework or HR Policy needs to be designed for recruiting, developing, deploying and retaining such personnel.

(3)   **Enabling provisions:** The following key enabling provisions will be required to bring in talent from the private sector:

   i.   Identification of positions where lateral entry of external resources may be undertaken.

   ii. Fast tracking the process of framing/amending Recruitment Rules for the purpose.

   iii. Competitive 'near-market' salaries- Positions should be mapped against Industry Benchmarking Reports to determine the remuneration for each role/grade in order to design a salary structure which is capable of attracting the "best-fit" talent from the private sector. The basic framework of the compensation structure may be worked out in consultation with DoPT and the Department of Expenditure.

   iv. Homogenous organization: An environment needs to be created where incumbents sourced from the Government & Private Sector work as a single, synchronous unit and employees are treated and respected as equals regardless of their lineage.

   v.   All new entrants should be enabled to undergo Orientation Training programmes on the lines of the programmes already being conducted for SeMTs to enable new entrants to contribute effectively.

   vi. Stable contract tenure of upto 5 years.

   vii. Serving Government Officials would also be eligible to be appointed on similar terms provided they resign from Government service. (Para 7.2)

18. Recruitment and Appointment Process

(1)   For the purpose of recruitment, a robust and transparent multi-stage recruitment process with technical/behavioural interview by suitable committees needs to be designed by DeitY in consultation with DoPT to recruit employees from the private sector.

(2)   Employment contracts / Consultancy contracts should be designed keeping in view the needs of the organization. An employee on Employment Contract should be considered a Government employee for accountability and other aspects of official functioning for the duration of the contract period. (Para 7.3)

19. Performance Review

(1)   An outcome oriented Performance Management System (PMS) needs to be designed on the lines of the Government's APAR process to ensure the effective functioning of all personnel recruited from the private sector.

(2)   A detailed process needs to be designed for deciding increments and promotions so that they can be used as effective tools to reward key employees. An individual's performance assessment should form the basis for such recommendations.   (Para 7.4)

20. Delegation of Powers

The Mission Leader, CIO and CTO/Head Technology, would be delegated appropriate functional, administrative and financial powers as decided by the Ministry, within the provisions of Delegation of Financial Power Rules. Suitable delegation of power and responsibility, guided by a risk-based model, would lead to increased efficiency and minimal response time for service delivery.

21. Accountability and Other Policies

(1)   To ensure strategic control, all key positions should be held by employees – either sourced from the Government or on Employment Contracts.

(2)   HR Policies will also have to be created to detail out the Conduct, Leave and Disciplinary Rules etc. which would be applicable to personnel hired from the private sector.

(Para 7.6)

22. HR Management of the Resource Pool

(1)   A dedicated and appropriately strengthened HR division within NeGD may be set up to manage the HR process for recruitment and capacity building of the resource pool. NISG as the implementation partner will also need to suitably strengthen its HR apparatus.

(Para 7.8)

Training and Capacity Building

Training in e-Governance should be repositioned as an in-service mandate linked to career progression at all levels in the Government in line with the National Training Policy of the Government of India (2012).   (Para 8.2)

The following priority areas have been identified to strengthen the capacity building initiatives:
  i.   Continuing and expanding the current capacity building program
 ii.   Developing and implementing a Comprehensive Training Framework
iii.   Setting up an e-Governance Academy as a premier institution for training, research and knowledge management
iv.   Developing Communities of Practice (CoP) to provide subject matter expertise and support the training initiatives
 v.   Developing a mechanism for recognizing and rewarding skilled personnel

(Para 8.3)

23. Continuing and expanding the current Capacity Building program

(1)   **Leadership Sensitization:** A robust Leadership Sensitization Programme for the political and administrative leadership is recommended. Efforts should be made to continue and expand the current leadership orientation programmes.

(2)   The political and administrative leadership should be exposed to the best practices and successful e-Governance projects at the national and international level in the form of workshops, conferences and study visits.

(3)   **Programme for Mission Leaders, CIOs and e-Champions:** CIO Training Programme for creating a talent pool of resources for e-Governance should be scaled up so that officers across States/UTs and Ministries are trained in sufficient numbers every year and exposed to the best national and international practices in e-Governance. The international tour component of the programme should focus on the best implementation models in the relevant sector.

(4)   **Specialized Training:** Specialized Training programmes should be upscaled and, to derive maximum value, they should be conducted as part of a training plan for officials in the States/UTs and Central Line Ministries.

(5)   **Orientation Training:** Personnel inducted from the open market into the project team and the proposed CIO teams should undergo orientation training programmes. They should also be afforded the opportunity and actively encouraged to undergo other training programmes on offer to Government officers.   (Para 8.3.1)

(6)   **Embedding e-Governance Training in National and State level Training Academies:** e-Governance modules should be made mandatory in the foundation and in-service training programmes as well as all sector specific training programmes for officers at all levels. It may, therefore, be mandated that every institution, both Central and State, providing training to Government employees at any level, shall revisit its training modules to embed the basic principles of e-Governance into their training programmes. The role of DoPT in ensuring this process would be critical.

(7)   **Training of all Government employees and those providing mediated access:** It should be made mandatory for every Government employee to complete and obtain a certificate in basic e-Governance training. This training would cover basic IT skills and an understanding of e-Governance. A mechanism should be put in place which would enable online courses and contact programmes leading to certifications. Training content should be developed and made available for wide dissemination in an easy to use format- in an online repository, e-learning mode and for face to face training.

(8)   **Training to be an integral part of project proposals:** A capacity building component shall be an integral part of every project proposal which could be upto 5% of the project cost for training and capacity building.

(9)   **Project management Training:** All personnel managing e-Governance projects should undergo project management training to equip them with necessary skill sets.

(10)   **Exposing Officers to National and International Best Practices:** Officers should be familiarized with the best practices and emerging trends in e-Governance both at the national and international level. Hence participation in international conferences, seminars and training programmes should be encouraged and facilitated.

(11)   **Participation in International Conferences/Seminars:** Officers whose papers are accepted at the international level should be allowed to participate in international conferences/seminars/meets once in 2 years with Government funding. This will enrich, engage and develop the knowledge and skills of officers managing e-Governance and incentivize research and development.

(12)   **Train-the-Trainer programmes** need to be taken up on a priority basis to meet the inadequacy of a knowledgeable faculty pool. These trainers may be certified and empanelled centrally for different e-Governance courses. The list of trainers should be made available centrally on the DeitY/DoPT/DARPG/NeGP website for use by training academies across the country.   (Para 8.3.1)

24.   Formulating a Comprehensive and Continuous Learning framework

(1)   DeitY in consultation with DoPT & DARPG shall formulate a comprehensive training framework which will address the training needs during different phases of the e-Governance projects life cycle. It shall comprise a structured learning curriculum and a lifelong continuous learning framework for the following different groups of stakeholders.
   i.   Civil Service Leadership
   ii.   Mission Leaders and project teams implementing e-Governance projects
   iii.   IT professionals
   iv.   Employees using e-Governance applications for service delivery

The training framework shall be formulated by January 2013, and thereafter revised from time to time.   (Para 8.3.2)

25.   Setting up of an e-Governance Academy

(1)   An e-Governance Academy shall be set up at the National level as also recommended by the Working Group on Information Technology Sector for the Twelfth Five Year Plan. This Academy shall be the dedicated institution to continuously assess and reassess training needs, develop training plans and facilitate implementation and monitoring of e-Governance training for different groups of stakeholders. The charter of the Academy would be as under:
  i.   The Academy shall design/ create standardized content and certify the available content in the market for use by all stakeholders.
  ii.   The Academy shall empanel institutions within and outside the country for different trainings and collaborate with various institutions in the Govt., public and private sector including institutions of excellence, national universities and international organizations. It shall offer training in house as well as through other Government and non Government institutions.
  iii. It shall serve as a Think Tank for e-Governance, undertaking research & development in e-Governance, developing a repository of e-Governance projects, best practices, case studies, experts, master trainers, etc.

(2)   The e-Governance Academy can be set up as an independent society/ company under the DeitY with DOPT and DARPG on the Governing council/ Executive Committee/ Academic Council of the academy, with defined aims and objectives. The Academyshould be able to work out a self-sustaining business & financial model (e.g., levy user charges/ charge for services or a combination). However there would be a need for an initial corpus and minimum annual core funding.   (Para 8.3.3)

26.   A "**Community of Practice** (CoP) in the area of e-Governance" should be established. The CoP will be a connected e-Governance community within the Government, which could be an Expert pool for e-Governance, mentor employees, become part of the faculty pool and contribute by way of project case writing and knowledge sharing.

(Para 8.3.5)

27.   Certification for Key Positions

Certification for some of the key positions such as CIOs and expert teams, on the core competency areas, should be a desirable requirement, if not a pre-requisite. The Training and Certification for each level shall be prescribed by DeitY as part of the Competency Framework.   (Para 8.3.6)

28.   Mechanism for recognizing and rewarding skilled personnel

(1)   Recognizing and rewarding personnel through Monetary and non monetary incentives for acquiring high level skills / certification needs to be formulated by DeitY in consultation with DARPG and DoPT and incorporated as policy changes that can be implemented across the board at Central and State/UT levels.   (Para 8.3.7)

(2)   Such personnel who have acquired high level skills / certification should be considered for deployment in mission critical projects. A list of such officers should be maintained by NeGD centrally and also be available on the website of DeitY in order that the organizations/projects can readily draw upon these resources.   (Para 8.3.7)

29.   Support of Government of India to State and Central Line Ministries for Training Initiatives

DeitY has been supporting training and development initiatives in e-Governance for the officials of the State Government/UTs under the Capacity Building Scheme. This support needs to be continued and upscaled and the training initiatives need to be extended to all Central Government Ministries and Departments.   (Para 8.4)

Other Recommendations

30.   Changes in School and College Curriculum

(1)   The Committee recommends that e-Governance should be a part of the regular University/College professional programmes and disciplines. It should be introduced as an elective in the Engineering courses at the graduate and post graduate level and also in programmes like the BCA and MCA. This will ensure a pipeline of knowledgeable pool of candidates for the Government as well as the private sector.

(2)   The design and content for the professional programmes for Universities/Colleges will need to be decided in consultation with AICTE and UGC. The assistance of NIELIT which is already conducting University affiliated professional programmes in Electronics and IT will be taken for the purpose. Training modules developed for training of Government employees may also be shared with National Universities to enable them to develop college and university level courses and curriculum.

(3)   With a view to making e-Governance an attractive subject at the University/ Management Institutes, opportunities should be created for internship within Government and Industry.

(4)   DeitY is conducting University level workshops throughout the country to sensitize the faculty and students on the national plan for e-Governance, progress achieved and challenges that are to be overcome. Such initiatives should be institutionalized and funded.

<div align="right">(Para 9.1)</div>

31.   Knowledge Management

(1)   The Committee also recommends developing a Knowledge Management framework to capture and harness knowledge on e-Governance both within the country and outside.

A Knowledge Portal may be set up with the following features:
  i.   Centralized Documents Repository
  ii.   Enterprise wide Collaboration Tool
  iii. Expert Network
  iv.   A Learning Management System   (Para 9.2)

Funding

Some of the recommendations made in different chapters would require funding. The different components are indicated below:

  i.   NeGD: Funding for long term arrangement for NeGD
  ii.   Dedicated Project Teams: Funding of Dedicated Project Teams from within the project outlays to be made at the time of sanctioning of the projects.
  iii. Professional Allowance: A separate set of incentives for officers joining e-Governance projects through a selection process based on competencies from the budgets of the Ministries/Departments
  iv.   CIO Team: Creation of a CIO Team in the Central Line Ministries from the budgets of the Line Ministries
  v.   NIUs and SDAs: Institutions such as NIUs or SDAs which are perpetual in nature to have independent and self-sustaining funding model.
  vi.   e-Governance Academy: Initial corpus and a minimum annual core funding to be made.
  vii. Training initiatives under the Capacity Building Scheme: Appropriate funds to be provided.
  viii. SeMTs: Support to be continued for an additional period of 5 years.
  ix.   University Level Workshops: This initiative to be institutionalized and funded.

3. Present Context

3.1. Historical usage of IT in Government

In the early 1970s, computers were used in Government institutions such as the Indian Meteorological Department, Department of Space and in Universities largely for research and academic purposes. In organizations such as the Railways and public sector banks, computers were used for data processing and accounting. However, their use was largely confined to backend jobs. The advent of personal computers brought storage, retrieval and processing capacities of computers to Government offices. By the late 1980s, a large number of Government offices had computers but they were mostly used for 'word processing'. Gradually, with the introduction of better software, the use of computers for managing information and databases and transaction processing began. In the past decade, the advent of online transaction processing and the internet has taken the use of information technologies to the next level and has made it possible to bring about a transformation in the Government's service delivery mechanism.

3.1.1. Central Ministries, State Governments and the role of NIC

Realizing the increasing potential of electronics, Government of India established the Department of Electronics in 1970s. It was followed by the establishment of the National Informatics Centre (NIC) in 1977 primarily to provide IT support to various Government departments. NIC also established the first national satellite based computer network (NICNET) in 1987. The NICNET was extended to all district headquarters by the 1990s.

A majority of the early e-Governance initiatives in the Central Ministries and States were undertaken by NIC. NIC established a National Data Centre at Delhi in the 1980s, which resulted in the development of applications involving data storage, retrieval and information processing at the Central and State level. Regional Computer Centre(s) at Chandigarh and Kolkata were also established for supporting the usage of IT in the Central Ministries and States. IT led transformation triggered off the process of change at both the Centre and the State Government level. For instance computerization of land records, has enabled significant transformation in the process of obtaining land records, while a single-window for delivery of Government services such as the e-Seva (Andhra Pradesh), FRIENDS (Kerala), and e-Mitra (Rajasthan), to name a few, aims at providing citizens, a host of services from a single location. Most of these projects involve multiple stakeholders and aim to be self sustaining through the use of various business models. The current wave of IT enabled transformation in Government, viz., e-Governance, has a larger objective than computerization of existing systems. e-Governance implementation, through 31 Mission Mode projects and other e-Governance projects aims to transform existing governance processes and provide online services to citizens and businesses in a fast, reliable, and transparent manner though multiple access points.

3.1.2. Railways

Indian Railways was one of the pioneers in using computers for data processing. In the late 1960s, the Railways started computerization in its Zonal headquarters. The initiative was led by the finance department of Indian Railways, which resulted in usage of IT applications for various functions such as Passenger revenue and Goods accounting, operating statistics

financial and payroll management, inventory control, etc. The period between mid 1970s to early 1980s saw Indian Railways developing a blue print for further computerization. It included upgrading the existing systems with the State-of-the-art computer systems at Zonal headquarters, new production units, workshops, sheds, depots and training institutes.

In the 1980s, the Passenger Reservation System was developed, and was rolled out at Delhi as a pilot project; subsequently it was replicated at Kolkata, Mumbai, Chennai and Hyderabad to cover the length and breadth of the country. The Freight Operations Information System (FOIS) was initiated in the late 1980s, with the first pilot rollout at Northern Railways in early 1990s. After initial setbacks, FOIS was rolled out in phased manner from 1999 onwards. The transition of the Passenger Reservation System from PRS counters to e-Tickets and now to sms tickets is an example of how services can be simplified and made more citizens friendly. The UTS developed in-house to cover a large number of citizens belonging to the lower income groups who travel on unreserved tickets is another example of citizen services, with the organization as a whole benefiting from the electronic system.

In 1986, the Ministry of Railways established Centre for Railway Information System (CRIS) for managing all automation activities of the Indian Railways. CRIS is a registered autonomous society and is headed by a Managing Director. CRIS has acquired knowledge and expertise on the basis of experience gained through conceptualization and implementation of IT projects for the Railways. It has a dedicated team of professionals and has developed its own R&D capabilities. The Indian Railway Catering and Tourism Corporation Limited (IRCTC), a public sector company owned by the Indian Railways manages the outsourced activities relating to passenger ticketing. The C&IS Directorate is the nodal Directorate in Railway Board and is responsible for policy formulation and administration of projects.

3.1.3. India Post[1]

The Department of Post started computerization around early 1990s, with initiatives for automation of mail registration sorting, postal saving banks, speed posts, universal counters etc. The next major technology induction was done during the period 2008-09 to 2011-12 for the computerization and networking of Departmental post offices. By the year 2011-12, most of the Departmental Post Offices (approx. 24969 Post Offices) were computerised.

The IT modernization project of the Department of Posts for computerization of all post offices, mail offices, administrative and other offices along with establishment of IT infrastructure and development of software applications was approved in the 11th Plan. The project will enable Department to enhance its customer service, while providing a platform to launch new initiatives and provide new rural services. By setting up an IT Infrastructure spanning across all the post offices & branch offices in rural areas, the Department will be able to harness the benefits of consolidated information and the capabilities across various functional silos as well as its geographic reach. The transformation from physical to digital network will provide a national asset for all users apart from the Post Offices including

---

[1] India Post Annual Report 2011-12, http://india.gov.in/sectors/communication/index.php?id=3

various government departments, business houses and the citizens to use the network effectively for their communication, banking, insurance and service delivery needs.

The key objectives of the India Post 2012 project are:

(i)   Modernization and computerization of all Post offices in the country including Branch Post offices in rural areas, mail offices and administrative and other offices;

(ii) Development of scalable, integrated and modular software covering all operations of the Department of Posts such as Mail Operations, Postal Banking, Insurance, ERP - Finance and HR;

(iii) Establishment of required IT Infrastructure including Data centre, Wide Area Network (WAN) based networking of the departmental post offices; and

(iv) Deployment of Rural Information Communication Technology (Rural ICT) infrastructure in all ~1,30,000 Rural Post Offices.

The Department had undertaken the BPR exercise in 5 functional areas (Banking, Postal Life Insurance, Mail business, Human Resources, Finance & Accounts) prior to the preparation of DPR for the implementation of the India Post 2012 IT Modernisation project. At present the project is in the phase of vendor selection. The Department has a setup a dedicated Project Management Unit (PMU) headed by Deputy Director General to manage its Mission Mode Project.

3.1.4. Income Tax[2]

Computerization in the Income Tax Department began with the setting up of Directorate of Income Tax (Systems) in 1981. Initially 3 computer centres were set up in 1984-85 in metropolitan cities for computerized processing of challans. By 1989, this was further extended to cover 33 major cities. The IT initiatives of the Department were subsequently extended in the mid 1990s to allotment of PAN, allotment of TAN, backend support for income tax assessment and pay roll accounting. Later in the decade, the Income Tax Department moved to a centralized IT system.

Going through various phases, the Perspective Plan of Comprehensive Computerization was approved by the Cabinet in 2005. From 2006 to 2009, the Department has successfully completed its consolidation of Databases (System Integration) project from erstwhile 36 Regional Computer Centers (RCCs) into a Single National Database at a centralized location at Primary Data Centre (PDC) in Delhi.

In the last few years, a number of initiatives have been undertaken by harnessing latest technology to enable a System driven business environment in the Department. These measures have ensured qualitative improvement in Tax Payers services, enhanced internal efficiencies and also introduced transparency. Allotment of PAN as a unique identifier has been very successful with a data base of 15.45 Crore PANs today.   The   process   of electronic filing of Income tax Returns through the Internet or e-filing of returns was notified on 24.7.2006 and made mandatory for certain categories of tax-payers subsequently. The growth in e-returns has been dramatic, from 50.75 Lacs in F.Y.2009-10 to 164.33 Lacs in F.Y.2011-12.

---

2 Information furnished by DGIT(Systems)

Other successful citizen centric initiatives of the Department are the 'Refund Banker' scheme; call centres with an all India toll free number for providing various informational services to citizens; the scheme of payment of direct taxes through ATM launched in 2010; and Aaykar Seva Kendras under the Sevottam, which is a single window computerized service mechanism for centralized receipt, registration and distribution of dak, which also provides online tracking & monitoring & comprehensive Taxpayer profiling.

3.1.5. Customs, Central Excise and Service Tax[3]

The IT initiatives of the Central Board of Excise and Customs began in 1986, with the use of computers for data capture and statistics. CBEC progressed to a work flow based Customs EDI System in 1995, which combined e-filing of import and export declarations with decision making by officers on their computer screens. In 2002, CBEC developed a web portal called ICEGATE to facilitate anytime / anywhere e-filing for importers, exporters and their agents, and to implement electronic messaging with Stakeholders in international trade like Carriers, Custodians, Banks and Regulatory Agencies. A system called SERMON (Systems for Excise and Revenue Monitoring) was also established in the 1990s to facilitate processing of central excise and service tax documents.

At present, through its third generation systems, CBEC annually supports on-line processing of 8.5 million import and export transactions. A parameter-driven automated Risk Management System for customs clearances helps strike a balance between trade facilitation and enforcement. Electronic enablement of excise and service tax registration applications, returns and payments is now backed by workflow based systems for back-end processing of documents. Export incentives like drawback and service tax refund are directly deposited into exporters' accounts.

The CBEC application stack is implemented on a consolidated IT infrastructure linking 108 Customs Stations and 104 Excise and Service Tax Commissionerates to a centralized server. The systems are ISO 27001 compliant from the perspective of security, confidentiality, data integrity and availability. CBEC has established a dedicated organization - the Directorate General of Systems, to manage its IT operations. In addition to managing CBEC IT initiatives, the organization is currently supporting the establishment of a National Information Utility (NIU) for managing future GST IT operations and coordinating a GST Pilot Project involving the State and the Central Tax authorities.

3.1.6. Moving from IT to e-Governance

The initial usage of computers/IT in Government was to primarily support the internal functions and streamline processes. Ministries/Departments such as Railways, Defence, India Posts and Income Tax etc. were the early users of computers/IT. Some of these Ministries/Departments established dedicated organizations, such as Centre for Railway Information Systems (CRIS) and Directorate of Income Tax (Systems), to conceptualize and manage IT projects. However, in most departments IT largely remained a backend function. With the advent of web based technologies and rise in end user expectations, there is pressure both from within the Government and from citizens to make Government services

---

[3] Information furnished by DG(Systems), CBEC

more accessible. This is also reflected in newly formulated legislations and policies that are mandating quality access to citizen services.

Today, Governments worldwide are using ICT to deliver end to end services right at the citizen's doorstep, anytime, anywhere and at a minimal cost. ICT is increasingly being seen as one of the most important enablers for improving governance. With the increase in accessibility to Internet and mobile technology, citizens themselves are expecting more and more online information and services from Governments.

The Government has recognized that it needs to move towards building IT systems for service delivery and has undertaken sustained efforts to achieve it. However, several challenges stand in the way of successful implementation of e-Governance projects, availability of skilled human resources being the most critical challenge. The management and implementation of e-Governance projects requires human resources with competencies both in domain and technology. Therefore, Governments across the globe have set up new structures and formulated HR policies to enable them to attract, build, leverage and retain a pool of human resources with such competencies.

3.2.   National e-Governance Plan (NeGP)

The National e-Governance Plan was approved by the Government of India in May, 2006 in order to lay the foundation for the long term growth of e-Governance in the country. Until the formulation of this plan, e-Governance was a subject purely driven by individual effort rather than as a national vision. NeGP marks a shift in the approach and methodology followed by departments / organizations to implement ICT initiatives prior to its formulation. Lessons and experiences from successful and failed ICT initiatives, both national and international, have been blended in NeGP approach and methodology.

> The vision of the National e-Governance Plan is to *"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 realize the basic needs of the common man".*

NeGP proposes to achieve its objectives through:

i.   Deployment of select "Mission mode Projects" (MMPs - projects with significant citizen interface)
ii.   Creation of a national IT backbone for fast, reliable and efficient connectivity, data storage and access
iii.   Setting up of Common Service Centres in rural areas for delivery of citizen services
iv.   Creation of Internet portals for 24x7 access to Government information and services.

3.2.1. Central and State Mission Mode Projects

NeGP comprises core and support infrastructure components along with 31 Mission Mode Projects (MMPs). These Mission Mode Projects (MMPs) encompass 11 Central, 13 State and 7 Integrated MMPs, spanning multiple Ministries/Departments. Within NeGP, "mission mode" implies that projects have clearly defined objectives, scope, and implementation timelines and milestones, as well as measurable outcomes and service levels.

The MMPs are owned and spearheaded by various Ministries/State Governments. The concerned Central Line Ministries/ Departments are entirely responsible for all decisions related to their MMPs. However, decisions impacting NeGP as a whole are taken in consultation with DeitY. State Governments are responsible for implementing State MMPs, under the overall guidance of respective line Ministries in cases where central assistance is also required.

The 31 MMPs are shown in the table below:

Mission Mode Projects (MMPs)

CENTRAL - 11	STATE – 13	INTEGRATED - 7
■ Banking*	■ Land Rec./NLRMP	■ India Portal
■ Insurance*	■ Transport	■ NSDG
■ Income Tax	■ e-District	■ CSC
■ Central Excise	■ Commercial Taxes	■ e-Courts
■ MCA 21	■ Treasuries	■ EDI
■ Pensions	■ Municipalities	■ e-Biz
■ Passport	■ Police – CCTNS	■ e-Procurement
■ e-office (Pilot)	■ Agriculture	
■ National ID / UID	■ Gram Panchayats	
■ Immigration /Visa	■ Employment Exch.	
■ Posts	■ Health	
	■ Education	
	■ PDS	

■ Gone Live - 18   ■ Under Implementation - 9   ■ Design & Development - 1   ■ Scoping - 3

Table 1: List of MMPs

3.2.2. Capacity Building Scheme

Capacity building is one of the key components of NeGP. Capacity building is an ongoing process through which individuals, groups, organizations and societies enhance their ability to identify and meet development challenges. The developmental agenda of NeGP coupled with the core essence of service orientation, needs capacities to be built in terms of personnel and skill-sets at all levels of the Centre and States.

The Capacity Building Scheme was approved by the Government of India on 10th January 2008 with a total outlay of Rs. 313 Crores for a period of 3 years, to provide capacity building support to the States and UTs through specialized training initiatives and placing professional resources for programme management support. The Scheme inter alia envisions:

i.   Establishment of an institutional framework for State level strategic decision-making including setting-up of State e-Governance Mission Teams (SeMTs) having relevant expertise and experience to provide technical & professional support.
ii. Sensitization of the political and policy leadership, imparting specialized training and orientation programs, knowledge sharing and bringing in international best practices.

iii.   Strengthening of Training Institutions in the States

iv.   Setting up of a Capacity Building Management Cell (CBMC) for coordination and implementation of Capacity Building Scheme.

As part of the scheme, State e-Mission Teams (SeMTs) have been set up in all States and UTs and more than 250 professionals, largely from the open market, have joined the SeMTs. The SeMTs are assisting the State IT Departments with technology, programme management and capacity building support. Sensitization and training programmes, primarily aimed at political and policy leadership and specialized programmes for officers involved in e-Governance projects are also being conducted to impart knowledge and skills for e-Governance.

3.3.   Role of Institutions and Structures for e-Governance

3.3.1. Policy making Institutions and Leadership

The management and implementation of NeGP at the highest level is spearheaded by a Cabinet Committee on e-Governance under the chairmanship of the Prime Minister which formulates programme level policy decisions and monitors the implementation of NeGP periodically. The National e-Governance Advisory Board, headed by the Minister, Ministry of Communications & IT, GoI and the Apex Committee headed by the Cabinet Secretary also review and guide the implementation of the Programme. The National e-Governance Advisory Board advises the Cabinet on policy issues and strategy for speedy implementation of NeGP; the Apex Committee oversees implementation of NeGP, provides strategic direction and resolves inter-ministerial issues.

A diagrammatic representation of the Institutional mechanism at the Centre is given in Fig 1.
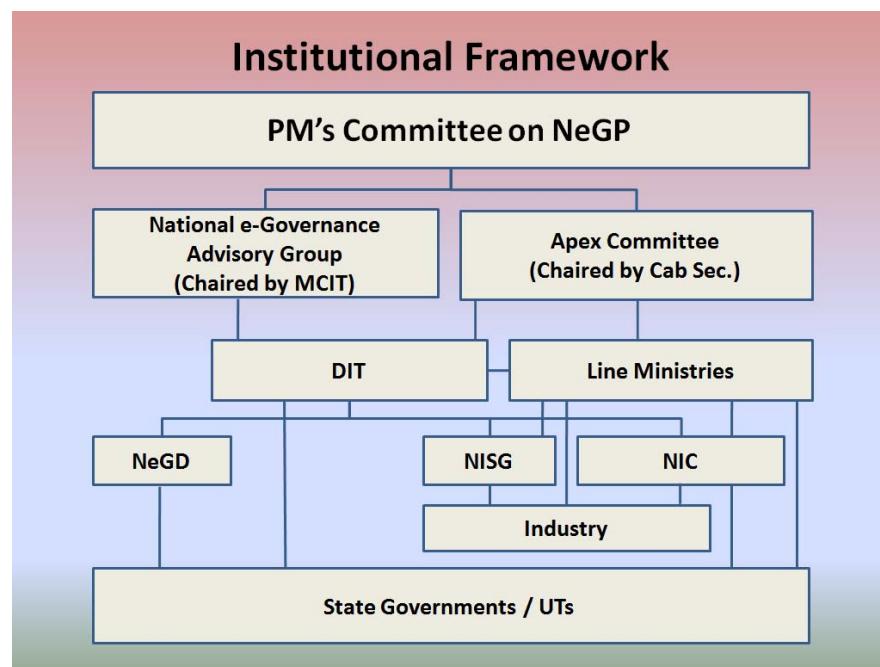

Fig 1: Institutional mechanism at the Centre

3.3.2. Department of Electronics & Information Technology (DeitY)

The National level Programme Management for e-Governance is driven by DeitY. The role of DeitY in e-Governance can be classified into three broad areas: strategy and policy making, programme monitoring and project implementation. It is responsible for visioning of e-Governance, issuing policy guidelines on all matters pertaining NeGP such as standards, security, use of new technologies, etc. DeitY serves as a secretariat to the Apex Committee and appraises it periodically with the overall progress of implementation of NeGP. It also assists the National e-Governance Advisory Group and Prime Minister's Office.

DeitY facilitates implementation of NeGP by various Ministries and State Governments and provides them with technical and programme level assistance. It is also implementing the core infrastructure projects viz.SDC, SWAN, NSDG, SSDG State Portal, the e-District MMP and project support components such as Capacity Building, Awareness and Communication etc.

3.3.3. National Informatics Centre (NIC)

NIC is an attached office of DeitY and its technology arm. NIC has been a frontrunner in the development of initial e-Governance systems in a large number of departments at the Centre and States. The strength of NIC lies in the fact that it has presence in most of the Central Line Ministries and in all States and districts of the country. In the initial days, NIC had entered into agreements with the States to provide development support free of cost. The applications for Treasury automation, Budget and Payroll management etc. were developed and implemented by NIC around the 1990s. Most of the pilot projects undertaken by the Government of India were implemented by the NIC, such as the Land Records project and the Transport project, to name a few.

NIC's role has, till now, been that of a technology service provider in implementing e-Governance projects across the country. However, the implementation of e-Governance has increased expectations from NIC among user Departments. It is envisioned that NIC would be repositioned as a Technology Advisor for the Government and will play an important role in assisting Government departments in retaining strategic control of e-Governance systems, while leveraging private sector to the extent necessary to address capacity gaps.

3.3.4. National e-Governance Division

As part of NeGP approval, the Union Cabinet assigned some key tasks associated with Programme Management of NeGP to the DeitY. The increased urgency for roll out of e-Governance initiatives across the country resulted in a manifold increase in the responsibilities of DeitY. A need was, therefore, felt to set up a broad based organization which could focus more intensively on different aspects of NeGP and at the same time also attract bright young officers working in the Government, PSUs, autonomous bodies as well as professionals from the market. After detailed deliberations, the Committee of Secretaries (COS) approved the setting up of an Independent Business Division (IBD) within Media Lab Asia (a Section 25 Company under DeitY) to undertake Programme Management of NeGP. The NeGD, inter alia, facilitates and supports DeitY in the Programme Management of NeGP and assists it in framing core policies. It provides technical assistance to DeitY, Central Line Ministries and States and undertakes appraisal of e-Governance projects. It is also the central agency for implementation of the Capacity Building Scheme.

3.3.5. Line Ministries

Line Ministries/Departments are responsible for the implementation of the assigned Mission Mode Projects (MMPs)/Components. The Mission Mode Projects are owned and spearheaded by them. The Line Ministries/Departments are responsible for conceptualizing the project, identification of e-services and service levels, preparing project documents, obtaining sanction for schemes and implementing the project along with its various components.

As brought out in the preceding section, some Ministries/Departments, notably the Railways, Income Tax and Customs and Central Excise Departments have a Directorate (Systems) for management and implementation of IT projects. These are specialized units within Departments for IT project management/implementation through other agencies or through private vendors.

3.3.6. Other Key Stakeholders- DARPG, DoPT and Planning Commission

Department of Administrative Reforms and Public Grievances (DAR&PG)[4]: DARPG, in collaboration with DeitY, has formulated the NeGP and together with DeitY is responsible for identification and prioritization of e-Governance projects, formulation of strategy for generic process reengineering and change management, human resource development and training, awareness building and defining organizational structures. In line with these objectives, DAR&PG has brought out reports on Change Management for e-Governance Projects, Business Process Re-engineering for e-Governance Projects and Government Process Architecting Framework.

DAR&PG in collaboration with the DeitY and the State Governments has been organizing annually since 1997, the National Conference on e-Governance, which provides a platform to policy makers, practitioners, industry leaders and academicians for meaningful interaction on an actionable strategy for good governance. To recognize and promote excellence in implementation of e-Governance initiatives, DAR&PG presents National Awards every year during the National Conference.

DAR&PG has also been entrusted with the responsibility of implementing e-Office, one of the Mission Mode Project (MMP) under NeGP.

The Right of Citizens for Time Bound Delivery of Goods and Services and Redressal of their Grievances Bill, 2011was introduced by the Department in the Lok Sabha on 20.12.2011 and it has been referred to the Parliamentary Standing Committee. The Bill lays down an obligation upon every public authority to publish a citizens' charter stating therein the time within which specified goods shall be supplied and services rendered and provide for a grievance redressal mechanism for non-compliance of the citizens charter and for matters connected therewith. Thus DARPG will play a vital role in the public service delivery framework, along with DeitY.

Department of Personnel & Training (DoPT)[5]: The primary responsibility of DOPT is formulation of polices related to recruitment, regulation of service conditions,

---

[4] DAR&PG website & inputs received from DARP&G
[5] DoPT website ; www.persmin.nic.in

posting/transfer and deputation of personnel etc. DOPT also ensures that the accepted standards and norms laid down by it are followed by all ministries/departments. DOPT is the cadre controlling authority for the Indian Administrative Service (IAS) and the Central Secretariat Service (CSS). DOPT also facilitates the appointment of Chairman, Managing Director, full-time functional Director/ Member of the Board of Management of various public sector undertakings/enterprises, corporations, banks and financial institutions.

The training division of the DOPT is the nodal agency for conducting training of Government functionaries and is primarily responsible for formulating policies with regard to training. It also implements certain components of training directly. The training division of the department facilitates training for all rungs of civil services on a range of subjects including e-Governance.

The Planning Commission: It is the apex planning institution in the country. The Indian economy is gradually moving from a highly centralized planning system, towards indicative planning where Planning Commission concerns itself with building of a long term strategic vision of the future and decides on priorities of the nation. Thereby, the Planning Commission plays an integrative role in the development of a holistic approach to policy formulation in critical areas of human and economic development. The Secretary Planning Commission is a member of the Apex Committee for NeGP. The Planning Commission along with Ministry of Finance allocates funds for NeGP through Plan and Non-Plan budgetary provisions and defines appropriate procedures. Also, the Planning Commission has set up an Empowered Sub-Committee for governance reforms including e-Governance reforms, as mandated by the National Development Council (NDC), while approving the 10th Five Year Plan[6].

3.3.7. Other IT Organizations at the Centre

Apart from NIC and NeGD, there are various other organizations contributing to e-Governance, in areas such as design and development, quality control, capacity building etc, all of which form important components of e Governance. Some of these institutions include:

  i. **Centre for Development of Advanced Computing (C-DAC):** Primarily an R&D institution, CDAC is involved in the design, development and deployment of advanced Information Technology (IT) based solutions. CDAC is also assisting DeitY in taking major initiatives in this area of e-Governance and is offering solutions and services.

  ii. **Standardization, Testing, Quality and Certification (STQC) Directorate:** STQC has established itself as a premier organization for Quality Assurance in the field of Electronics and Information Technology (IT) in the country. It provides Testing, Calibration, Training and Certification services through its network of test laboratories spread across the country.

  iii. **The Controller of Certifying Authorities (CCA):** The CCA aims to promote e-Governance through the wide use of digital signatures.

---

[6] Paper on e-Governance approach in India - The National e- Governance Plan (NeGP) authored by members of EGPMU, NISG

iv. **National Institute for Smart Government (NISG):** NISG has been created as a Section 25 'not for profit' Company to provide an institutional mechanism for bringing together competencies and resources, available with leading private sector players, into e-Governance projects. NISG undertakes core scoping of projects, project development and management and specialized training. One of its most important functions is providing professional manpower resources to a large number of e-Governance programmes and projects.

v. **Media Lab Asia (MLAsia):** MLAsia is also a not-for-profit research and development organization. MLAsia works with academic, research and development institutions, industry, NGOs and government for development of relevant and sustainable technologies and culturally appropriate solutions and bringing them to the daily lives of people. NeGD has been set up as an Independent Business Division under MLAsia to function as the programme management and support arm of DeitY for management and implementation of NeGP.

3.3.8. State IT Departments, Nodal Agencies and other entities

The State Governments are responsible for implementation of State MMPs/sector specific MMPs of NeGP under the overall guidance of the respective line ministries. In addition to the MMPs under NeGP, State Government Departments are also implementing other e-Governance initiatives. In order to manage the overall e-Governance at the State level, most States/ UTs have set up an institutional mechanism in-line with the guidelines of DeitY, GoI. The institutional mechanism comprises the e-Governance council headed by the Chief Minister, Apex committee headed by the Chief Secretary and department level committees headed by the departmental heads.

A diagrammatic representation of the Institutional arrangement at the State level is given in Fig2.
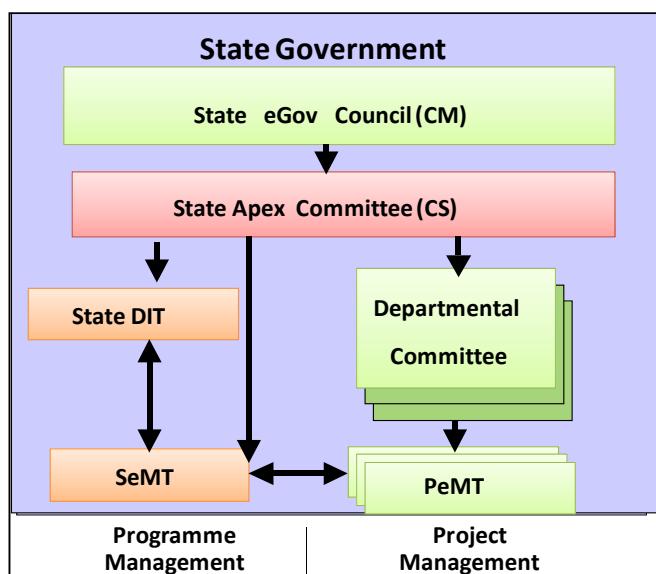

Fig 2: Institutional arrangement at the State level

The following entities manage e-Governance initiatives at the State/ UT level:

i. **Department of IT/ e-Governance** is headed by Principal Secretary/Secretary IT/ e-Governance. It is responsible for state-wide e-Governance program management, review of the progress of ongoing e-Governance projects, appraisal of e-Governance projects of the departments etc.

ii. **Line Departments** are responsible for the implementation of department specific e-Governance initiatives including MMPs.

iii. **State NIC** is involved in application development and rendering technical support to some Line Departments in the State. It reports to NIC at the Centre.

iv. **State level e-Governance Societies /Nodal Agencies** provide consultancy, procurement services and implementation support to the Government departments for their e-Governance initiatives.

v. **State e-Governance Mission Teams (SeMTs)** funded through the Capacity Building Scheme of the Government of India have been put up in place for providing technical and programme level support to the States/ UTs.

vi. **Project e-Mission Teams (PeMTs)** are department level or project level teams to oversee project execution/implementation. The PeMTs are funded out of the concerned projects.

3.4.   International Experience

Many international models, including those in Canada, UK, Malaysia, Singapore & USA were studied to understand the prevailing structures and HR policies for managing e-Governance. Countries such as the USA, UK and Canada have long established Institutional structures and HR policies for e-Governance while others like Malaysia and New Zealand are still evolving appropriate models to address the HR challenges. The literature study of international e-Governance practices has highlighted some common themes that are employed in the design and management of the initiatives. Country specific case studies are provided in *Annexure III*.

Key learnings are summarized below:

i. **Political support at the highest levels:** Enabling a culture of e-Governance and its successful implementation and sustenance requires top management commitment and political support at the apex level. Senior leaders from countries such as UK, Germany, Singapore and Malaysia have put e-Government on their agenda and actively champion the program.

ii. **Institutional Structures:** Countries with successfully managed e-Governance departments/ projects have defined institutional structures in place with designated departments for managing e-Governance programmes/projects. Most of the countries have created a mandate in the form of CIO (Chief information officer) who identifies the need for e-Governance initiatives across ministries and oversees the execution and implementation of ongoing projects.

iii. **Defined roles and responsibilities:** Roles and responsibilities for each of the organizational members are clearly defined. For example, in the United States and

Canada, roles and responsibilities of the CIO and other agencies are clearly laid out. Managerial and administrative responsibilities with respect to management of e-Governance projects have been distinguished within the department with clear responsibilities allocated to each job role.

iv. **HR Management:** Specialized organizations have been put in place for the HR Management of professional resources across ministries. Recruitment practices have been re-designed to bring in qualified and skilled manpower from the open market. Talent attraction is not limited to Government agencies; professionals from private IT firms are given opportunities to become part of the e-Government teams. The Ontario Public Service (Canada) and United Kingdom revisited their recruitment practices and widened the sourcing base to include external talent.

v. **Dedicated IT Cadre:** Some countries have created a dedicated IT cadre with a high level of expertise to execute, manage and monitor e-Governance projects. United States is an example where IT cadres have been created for e-projects.

vi. **Compensation and rewards:** These have been a focus area in countries with successful e-projects. There has been an effort to benchmark the compensation system in the Government agencies with those in the private sector and measures have been adopted to create a value proposition with both monetary and non monetary rewards.

vii. **Change Management and Capacity Building:** All these countries have made training and development an integral part of their transformation process. Most countries have set up training institutions for building capacities of officials and educational programmes to build a pipeline of talent.

4. HR Challenges for e-Governance

4.1. Background

Implementation of e-Governance is a human resource-intensive exercise and requires both domain knowledge and technical skills to manage different stages and aspects of e-Governance projects, such as the design and architecture of projects, process reengineering, change management, project implementation, procurement and contracts and technical issues such as standards and security.

Currently there are only about 5000 personnel in Government in the IT space, of which roughly 50% are in NIC. The availability of resources with the required skills is far short of requirements. To fill the resource gap, resources are being taken from the market through organizations like NISG or IT consulting organizations or directly on short term contracts. This is a sub-optimal arrangement and difficult to scale up to meet the growing requirements.

The scale and urgency of requirements gets multiplied owing to the expansion of NeGP with 4 large MMPs (Education, Health, PDS & India Post) and ambitious targets under the Plan which requires augmentation of human resources within a short time.

With the EDS Bill poised to become reality, all Government Services have to be delivered electronically within the next 5 years. This would exacerbate the need for IT resources.

4.2. HR Challenges

The HR challenges presented before the Committee can be divided into three broad categories:
  i.   Absence of well defined Institutional Structures
  ii. Shortage of Human Resources with required competencies
  iii. Absence of Institutionalized Training and Learning Framework for e-Governance

4.2.1. Absence of well defined Institutional Structures for e-Governance

As indicated in an earlier chapter, e-Governance has, till recently, been driven by individual effort rather than as a planned process by the Line Ministries and States. It was only after the approval of the NeGP in 2006 that an Institutional framework was put in place to plan and monitor the progress of e-Governance. Support to the States was also enabled through setting up of the SeMTs under the Capacity Building Scheme. However, the institutional framework is not supported by well defined organizational structures with clear roles, responsibilities and accountability. This has resulted in lack of ownership, control and coordination of e-Governance projects and absence of an institutionalized mechanism to attract, leverage and retain the scarce talent available both within the Government and outside. Thus, there is an absence of a cohesive pool of skilled resources with knowledge, experience and continuity who can move seamlessly across projects, departments and geographies and between the public and private sectors enabling sharing of knowledge, experience and skills, so critical to the success of e-Governance projects. Many e-Governance projects depend heavily on external consultants with the result that there is inadequate ownership and organizational memory within the Government.

4.2.2. Shortage of Human Resources with required competencies

e-Governance projects are facing the following issues in meeting the HR requirements for e-Governance from within the Government, from Government IT Organizations such as NIC and from the open market.

A. Existing Human Resources within Government – Challenges

i. Existing human resources within the Government are grossly inadequate. Even where available, the raw skills within Government require further training to make them "e-Gov. ready".

ii. Movement of scarce human resources across key projects is difficult due to restrictive deputation rules. In many cases, officers who opt for IT and e-Governance assignments tend to lose tangible and intangible benefits they enjoy in their parent departments, such as Government housing, prestige associated with their cadre position etc.

iii. IT and e-Governance experience is currently not treated as domain experience even though the experience in this area, whether in planning or implementation, enhances domain knowledge as well. In the absence of linkages between experience in IT/e-Governance and career growth path, officers who opt for such assignments, instead of gaining professionally, actually lose promotions and opportunities within their parent cadre.

iv. There are issues of continuity due to transfers, particularly in States/UTs.

v. There is no incentive mechanism to attract existing and trained resources to work on IT and e-Governance projects.

B. Role of NIC and HR challenges being faced

i. NIC, under the DeitY, is a premier Science and Technology organization, at the forefront of active promotion and implementation of Information and Communication Technology (ICT) solutions in the Government. NIC has spearheaded the e-Governance drive in the country for the last three decades, building a strong foundation for better and more transparent governance and assisting the Government's endeavour to reach the unreached.

ii. Despite being in existence for more than three decades, NIC faces many challenges which include inability to attract and retain high-quality professionals due to limitations of Government salary structure, Government procedures in regard to employee recruitment, contractual engagement, non availability of professional programmes and lack of project management systems & processes at par with the leading private sector providers in the country, resulting in inadequate number and quality of personnel.

C. Resources from the Open Market supplementing existing Government resources

i. There is a clear need to supplement internal resources with those sourced from the open market. The required skills have to be obtained from a limited pool of professionals who are increasingly part of a global market of IT / management manpower.

ii. Even with the ability to pay market-driven salaries, the private sector struggles to attract and retain manpower in the competitive IT sector. Government's ability to source and retain manpower within the Government is limited due to restrictive compensation and limited career progression for professionals.

iii. Even where the Government has succeeded in isolated experiments to create suitable mechanisms to induct manpower at market-linked salaries, its HR framework is severely crippled by limitations imposed by a contractual framework involving short-term contracts and lack of opportunity for continuous employment.

iv. Open market professionals require familiarization with Government systems and processes. By the time, they are well-versed with the system, many quit for want of opportunities for growth and work diversity, lack of decision making roles, career advancement and leadership avenues. Thus, after spending considerable money on hiring, orientation, training and compensation at market rates, Government is not able to derive equivalent value.

v. There is currently no mechanism to maintain a pool of such resources who quit, to attract them back into the e-Governance space within the Government.

vi. Government is unable to get even those professionals desirous of contributing to society due to absence of a framework for lateral entry, sabbatical etc.

4.2.3. Absence of Institutionalized Training and Learning Frameworks

Since technology is changing rapidly, officers involved in e-Governance need to update their knowledge and skills through continuous learning and development which is a critical functional requirement for the success of any e-Governance initiative. While a number of initiatives have been taken for training in e-Governance, there is no institutional mechanism for regular assessment of training needs, developing training strategies & plans, issuing guidelines & imparting, monitoring and assessing the impact of training. Training is not a part of civil servant's career plan. It is not linked to roles and there is no system of incentivizing learning. Thus, most Government officials do not attach much importance to training and up-skilling.

4.3. Stakeholder Consultations

The Expert Committee held consultations with representatives from Central Line Ministries, States, Industry and other organizations in the e-Governance space to understand the ground level challenges faced by implementers of e-Governance projects. Questionnaires were sent to Central Line Ministries and States/UTs to elicit their response on the current institutional mechanism and HR policies with a view to eliciting their suggestions for meeting the HR challenges. A number of formal and informal consultations were also held by the Core Group with e-Governance practitioners, both within the country and outside (through video conferencing/e-mails). The data obtained through these consultations and analysis of the response has helped the Committee, both in validating the issues identified at the outset of the consultations and appreciating certain aspects that were brought to light in the course of consultations. The suggestions made by the representatives of MMPs, States, IT organizations, Industry and others have proved to be invaluable in framing the HR policy.

4.3.1. HR challenges emanating from Stakeholder Consultations

The key challenges that emerged as part of the stakeholder consultations are mainly related to lack of organization structures with defined roles and responsibilities, lack of accountability and ownership and shortage of personnel with specialized skill sets who understand both domain and technology and can manage the bid process, contracts etc. The focus of NIC on application development rather than Technology support and lack of coordination with the departments, particularly at the State level, were cited among the key challenges. Another major challenge is the lack of empowerment of Mission/ Project Leader to take financial and administrative decisions in the course of project implementation.

The consultations also highlighted the Government's inability to attract and retain skilled resources from within and outside which has led to sub optimal manning of projects. Lack of continuity of key persons through the life cycle of the project and absence of unified authority to take informed decisions has been a major contributor to implementation delays.

4.3.2. Key Suggestions

The consultations indicated the need for defining suitable organization structures, clarity in roles and responsibilities, inducting personnel with the right competencies both from within and outside the Government, training & building capacities of Government officials and developing incentive mechanisms for officials to acquire skills and focus on outcomes. Key suggestions are summarized below:

i.   There is a need to create well defined permanent organizational structures along with clearly defined roles and responsibilities for sustainable development and implementation of e-Governance initiatives including that of NIC at the Centre and State levels.

ii. There is a need to create Chief Information Officer (CIO) type of structure whose primary responsibility should be to provide corporate leadership for e-Governance initiatives across the Government. The CIO should be assisted by a team consisting of employees from Technical, Managerial and Domain areas.

iii. Selection of the Mission Leader for a term commensurate with the term of the remaining period of project.

iv. There should be empowerment of the Mission leader by providing higher degree of authority and flexibility for timely decision making and delegation of adequate financial and administrative power to drive the implementation of mission critical projects.

v.   There should be Dedicated Project Teams with clearly defined roles & responsibilities and authority matrix to manage projects.

vi. There should be a dedicated well-structured civil services cadre for IT on the lines of IRS/IPS/IFS etc.

vii. There should be a formal mechanism for the identification of new skills & competencies required & institutionalized Training and Development framework for

employees to acquire such skills and competencies. Resources should be inducted in e-Governance as per the required skills and competencies.

viii. Mandatory IT/ e-Governance training for promotions/increments should be prescribed and training of trainers should be taken up. An ecosystem of training with web content, e-learning etc. should be built. Exposure to national and international best practices should be ensured.

ix. Setting up of e-Governance academy at the Centre and academies at the State level.

x. Monetary and non-monetary incentives for Government employees and continuity of resources.

xi. There is a need to attract resources from Open market possessing desired skill sets at salaries comparable to open market including the flexibility for lateral entry.

xii. There should be a consistent HR policy that should accommodate:

   a. A performance appraisal system based on new responsibilities & changing work environment and assessment based on outcomes
   b. Introduction of Incentive scheme linked to the performance of the officials joining e-Governance initiatives
   c. Mechanism to retain talented skilled human resources for continuity and knowledge management
   d. Defining a clear growth path and career progression opportunities for people to join e-Governance.
   e. Defining SLA's for the management cadre

5. Institutional Structures for e-Governance

The National e-Governance Plan for delivering citizen services through enterprise wide Mission Mode Projects, marks a paradigm shift from the earlier period when IT was a function largely driven from outside. With the approval of the National e-Governance Plan, the Mission Mode Projects are being spearheaded by the Line Ministries/Departments at the Centre and States. Apart from Mission Mode Projects, several other e-Governance initiatives are currently being implemented both by Central Line Ministries and by State Governments.

With the EDS Bill poised to become a reality, Departments will be expected to notify and thereafter, enable, all services in an electronic form. This will require a manifold increase in the capacities currently existing in the Government and synergies at all levels, the DeitY at the Centre, the Line Ministries and Departments at the Centre and States, NIC and other IT organizations. A robust organizational framework and well defined structures to manage the complexities arising out of the implementation of e-Governance projects, is therefore a critical requirement.

As brought out in Chapter 4, the existing structures in most of the Ministries and States are inadequate to support the implementation of the MMPs and other key initiatives. Also, inter-linkages between various entities are weak and accountability is diffused. Hence it is imperative to review the current institutional mechanisms, define roles and responsibilities and enable infusion of competent resources for the management and implementation of e-Governance initiatives.

The institutional framework for management of e-Governance initiatives is at three levels:
  i. Programme Management at the National Level
  ii. Programme and Project Management at the Central line Ministry/Department level
  iii. Programme and Project Management at the State level

5.1. Programme Management at the National Level
5.1.1. Department of Electronics & Information Technology (DeitY)

DeitY, along with DARPG has played a key role in the visioning of NeGP and laying down a common framework for implementation of e-Governance in the country. The Department is responsible for setting up the common infrastructure (SDC, SWAN, CSC), framing core policies (e.g. standards, security, authentication etc.) and providing technical guidance to various MMPs, as required. DeitY also acts as the secretariat to the APEX Committee chaired by the Cabinet Secretary for monitoring of NeGP. As e-Governance becomes the preferred means for delivery of services, the role of DeitY is expected to increase further both in terms of policy formulation, programme management and providing handholding support and for synergising the various e-Governance initiatives of Ministries and States. The Committee, therefore, recommends that an e-Governance Strategic Group may be constituted by DeitY with experts selected from NIC, CDAC, NeGD, NISG and CERT-In to assist it in framing policies and implementation strategy in the following areas:
  i.   Reference architecture
  ii. Standards and Interoperability
  iii. National Information Infrastructure
  iv. Shared Services

   v.   Cyber Security
   vi. Process Reengineering
   vii. Joined up service delivery

To tap expertise available outside the Government, the e-Governance strategic group should also include eminent experts in the field of technology, from Industry, Academia, and Research Institutions etc.

5.1.2. National e-Governance Division (NeGD)

As per the existing arrangement, NeGD provides programme management support and technical assistance to DeitY for implementation of the National e-Governance Plan at the national level in the following areas:

   i.   Framing core policies, technical advice and assistance, R&D, awareness and assessment and creation of organization structures
   ii. Facilitating implementation of NeGP by various Ministries and State Governments
   iii. Undertaking technical appraisal of all NeGP projects to examine issues such as overall technology architecture, framework, standards, security policy, service delivery mechanism, sharing of common infrastructure etc.
   iv. Providing technical assistance to Central Ministries and State Line Departments
   v.   Human resource development, training and knowledge sharing
   vi. Acting as the central agency for the effective implementation of the Capacity Building Scheme, involving inter-alia, setting up of SeMTs and specialized training across the States/ UTs

In the three years of its existence, NeGD has assisted DeitY and has been instrumental in framing several core policies, including drafting of the Electronic Delivery of Services Bill, 2011, notification of the final Framework on Mobile Governance, finalization of the e-Pramaan Framework on e-Authentication for Public Services, Guidelines for Strategic control and development of the template of Model RFP and Toolkit. It has undertaken the overall conceptualization, implementation and monitoring of the National Population Register (NPR) project, assisted in facilitating national roll out of the e-District project, formation of SeMTs in 34 States/UTs, awareness and communication policies and specialized training programmes throughout the country. It is also currently involved in the core scoping of the new MMPs in Education and Health and strategy and policies for sharing of common infrastructure/ common services and common platforms.

The Programme Management role envisaged for NeGD, is required to be played over a significantly long time frame involving assistance to the 31 existing MMPs (and possible new MMPs in future) through various stages of project conceptualization and implementation. Day-to-day operational issues being faced in managing a programme of the size and scale of NeGP have also served to highlight the need for creation of a long term institution for supporting the Government in programme management of NeGP. It is pertinent to note that a number of countries (such as Japan, Singapore, Korea, USA, UK, Sri Lanka, Ireland, Bulgaria, Sweden, etc.) that have established successful e-Governance programmes have created permanent institutional arrangements for managing their programmes at a national level. Moreover, India's NeGP has been widely recognized as one of the most ambitious against a global comparison. Hence, DeitY's initiative in setting up

NeGD for establishment of a long term arrangement for NeGP Programme Management at the national level is entirely in keeping with international practices / precedents as well as the needs and demands of a programme of this scale and complexity.

With its unique structure, which enables it to take professionals with the required competencies both on deputation and from the market, NeGD has been able to provide excellent support to DeitY on matters that require the right blend of knowledge of the domain and expertise in IT. The role of NeGD can only be expected to expand and mature in the years to come, as has been the case with similar structures in other advanced countries. The Committee, therefore, recommends that NeGD will need to continue on a long term basis and be suitably strengthened and re-structured to play its role as the central agency for programme management of NeGP and providing professional support to DeitY on a sustained basis to the Centre and States.

5.1.3. National Informatics Centre (NIC)

NIC is providing support to more than 75 Central Line Ministries and has a presence in all States and UTs upto the district level. Apart from assisting the Central Ministries and States in managing their e-Governance infrastructure, NIC is itself developing applications for Mission Mode Projects and other e-Governance Projects. Currently, NIC is performing the following functions in relation to the Central Line Ministries and States:

i.   Supporting the Ministries in setting up their ICT infrastructure, up-gradation and maintenance and providing connectivity.
ii.   Assisting Ministries in seeding and conceptualizing new projects within their departments. These initiatives are, sometimes, the pre-cursor to Mission Mode Projects.
iii. Developing a large number of smaller applications that are required by the departments.
iv.   Project implementation in some of the Ministries.
v.   Development support to the States.

The demands on NIC have grown exponentially, particularly after the approval of the NeGP, due to which it has had to resort to large scale intake from the open market both through short term lateral hiring and contractual arrangements. Currently two-thirds of the manpower deployed by NIC is contractual. Besides being thinly spread across the country, many of its resources are not geared up to meet the challenges thrown up by large and complex e-Governance projects.

The Committee on Institutional Assessment and Capacity Enhancement, set up by DeitY in pursuance of the recommendations of the Parliamentary Standing Committee on Information Technology (2005-06), had suggested models around which NIC could evolve from a technology service provider to a technology manager (Extracts from the Report are at *Annexure VI)*. It had also made a number of recommendations regarding augmenting NIC's capacity to play a leading role in e-Governance. Having regard to these recommendations, it is essential to reassess the role of NIC in the present context and to map out its core functions and the areas in which NIC should support the DeitY, the Central Line Ministries and State Governments.

The Committee, having deliberated on the strategic role of NIC, in the context of a capable private sector which is increasingly being leveraged by Central Ministries and State Governments, is of the considered view that NIC should actively involve itself in strategic planning and support for e-Governance and consciously strengthen its role beyond application development.

The Committee, therefore, recommends that:

i.   NIC will be designated as the Technology Advisor to the Government in its e-Governance initiatives at the Centre and States. NIC will conduct a study to assess its resource requirements to play such an enhanced role.

ii. NIC shall be restructured and strengthened such as to create verticals within NIC capable of providing consulting support to the Ministries/Departments/State Governments in the areas of Technology, Architecture, Security and Business Process Reengineering for NeGP and other Government initiatives in a sustained manner. For this purpose NIC may be augmented with in-sourced as well as outsourced resources.

iii. NIC shall depute resources to the e-Governance Strategic Group in the DeitY, to assist in developing policies and implementation strategy in respect of Architecture, Standards, Security and Technology.

iv. NIC should be suitably involved in all e-Governance projects, including outsourced / PPP projects to assist the Ministries/Departments. For this purpose, NIC resources would be part of the Electronic Services Division under the CIO, proposed for Central Line Ministries.

v.   In all e-Governance projects, including those implemented through NIC, appropriate Service Level Agreements (SLAs) shall be developed and documentation levels enhanced in keeping with the industry benchmarks. DeitY will facilitate monitoring of SLAs and appropriate and timely corrective action by developing a suitable mechanism.

The Committee's recommendations for NIC's HR requirements are separately discussed in Chapter 6.

5.1.4. Role of National Institute for Smart Government (NISG)

National Institute for Smart Government (NISG), a not-for-profit company, was established in 2002 under section 25 of Companies Act 1956, to promote e-Governance in India on a public-private-partnership model. NASSCOM, Government of India and Government of Andhra Pradesh are the promoters of the Company and ILFS, Government of Chhattisgarh, Government of Meghalaya and Vizag Municipal Corporation are the other stakeholders. Its Board of Directors includes the following:

i.   Secretary, Department of Information Technology, GoI.
ii. (Secretary, Pension and AR&PG), Ministry of Personnel, Public Grievances and Pensions, GoI.
iii. Additional Secretary, Department of Information Technology, GoI

The NISG was set up under a mandate from the National Taskforce on Information Technology and Software Development and a High Powered Committee (HPC) headed by the Cabinet Secretary. One of the decisions of the HPC was that the Government would issue instructions to enable Government departments to utilize the services of NISG.

In about 10 years of its existence, NISG has handled a large number of projects, providing consulting support to both Central & State Governments. Having conceptualized projects of national importance and impact such as the MCA21, Passports etc., it has grown in stature as a reliable advisory body for Central and State Governments on issues of strategic importance such as architecture, standards, localization, PKI infrastructure etc. Such skills are not readily available in the market.

The conceptualization of a project, along with the preparation of DPR and managing the bid process are critical to the success of a project. While the cost of this work may be less that 5% of the project cost, the success of the entire project hinges on this initial work. It is in this space that the strength of NISG lies. The institutional mechanism built within the NISG over the years and its position as a reliable 'not for profit' entity closely aligned to the Government makes it an ideal choice as nodal consultant for Ministries/Departments.

One of the problems encountered by the Line Ministries/Departments of the Central Government and the State Governments in engaging NISG is the selection of NISG through a bid process along with other bidders from the private sector. This defeats the very purpose of setting up NISG as an institutional mechanism to support e-Governance and deprives Government organizations from harnessing the inbuilt strength of NISG developed over the years.

The committee having considered the recommendations of the Committee for Institutional Assessment and Capacity Enhancement which highlighted the strengths of NISG and all other relevant factors, recommends that:

  i.   Deity may empanel NISG, consistent with applicable procedure, as an expert organisation in the areas of conceptualisation, design and development and core scoping of e-Governance projects, HR management and capacity building initiatives to enable Line Ministries / Departments of the Central Government and the State Governments to use its services.

  ii.   Indicative compensation packages for engagement of resources should also be drawn up in consultation with DoPT and Department of Expenditure, for similar positions, for reference by the Ministries/ Departments.

  iii. There should be close coordination between NIC, NISG and SeMTs to provide synergy between them.

5.2. Central Line Ministries – Programme and Project Management

Management of e-Governance initiatives of a Central Line Ministry is at two levels–at the Programme level and project level. At the programme level, this involves planning, conceptualizing, development and monitoring of the e-Governance initiatives of the Ministry and synergizing them with the National plans and policies. Project management, on the other hand involves implementation of the projects through their entire lifecycle.

5.2.1. Programme Management of e-Governance and CIO Role

Many countries with successfully managed e-Governance have created an institutional model anchored around a Chief Information Officer (CIO) to plan, assist and oversee (and in some cases, implement) e-Governance projects and activities across the Ministry/ Department. This role can be compared to that of a Directorate of Systems in some Ministries (Railways, Income Tax, Customs and Central Excise) headed by officers at the level of Director General.

The CIO has come to be viewed in many countries as the key contributor in formulating the strategic goals of the organization. The prominence of the CIO position has risen greatly as information, and the information technology that drives it, has become an increasingly important part of Government organizations. Typically, a CIO is involved with driving the analysis and re-engineering of existing Government processes, identifying and developing the capability to use new tools, reshaping the organization's physical infrastructure and network access, and with identifying and exploiting the organization's knowledge resources. The CIO is supported by the CTO in matters relating to core technology.

In a recently held United Nations Conference on e-Government in Asia and the Pacific (11-13 May 2011, Seoul, Republic of Korea), a view shared by the participants was that the CIO should serve as the focal point to oversee the e-Government efforts within the Organization and align the agency's ICT goals with those of other agencies in implementing inter-agency systems. Since CIOs need to push for Government-wide ICT initiatives, they need to have enough authority to influence decision-making related to ICT and administrative processes.[7]

5.2.1.1. CIO role in Central Line Ministries

The delivery of Government services through Mission mode projects and other e-Governance/IT projects requires convergence in policy, applications, infrastructure, architecture and design within the Ministry, across Ministries and between the Centre and States. As more services are delivered electronically, synergies will have to be created between different applications and issues of standards, interoperability, infrastructure, architecture and design will need to be addressed. The CIO role is designed to address these issues.

The Committee, therefore, recommends creation of a CIO function and an Electronic Services Division in all Central Line Ministries. While each of the large ministries will have a dedicated CIO, for smaller Ministries, the Committee is suggesting a CIO for clusters of Ministries on the lines of the IFA system. The CIO shall be responsible to the Secretary of the Ministry for alignment of ICT with the Ministry's priorities and directions and to the Secretary DeitY with respect to compliance with Government strategy, policies and standards for Information Management and Information Technology. The CIO shall be positioned at the rank of Additional Secretary/Joint Secretary. The APAR of the CIOs will be jointly written by the Secretary of the Administrative Ministry where posted and by Secretary DeitY.

---

[7] Final Report of United Nations Conference on e-Government in Asia and the Pacific (11-13 May 2011, Seoul, Republic of Korea): Session II: e Government Officials, Institutional & Regulatory Framework

The CIO and his team will assist the Ministry / Department in conceptualization of new projects, providing strategic and operational advice, vetting project proposals, capacity building and raising awareness, strengthening information security and in the development, implementation and maintenance of a multiyear plan and architecture in line with the directions, polices and standards of the Government of India. In carrying out this ongoing function, the CIO will be supported by a CTO / Head Technology, the NIC Team already present in the Ministries and a small core Secretariat to be created, which will form part of the Electronic Services Division.

As a key adviser to the CIO, the CTO/Head Technology is responsible for designing and recommending the appropriate technology solutions to support the policies and directives issued by the CIO. With this expertise, the CIO would be able to integrate the recommended technologies with the strategic objectives of the organization. The CTO/Head Technology shall be positioned at the rank of Director. The CTO will also have a dotted line relationship with the DeitY for alignment of the technology related policy issues with the overall policies.

The roles and responsibilities of CIO, CTO and Mission/Project Leader have been discussed in greater detail in *Annexure IV.*

5.2.2. Project Management of e-Governance Projects – Mission Leaders & Dedicated Project Teams

Once a project has been conceptualized, and the core scoping has been carried out, the next stages involving project design, preparation of the detailed project report, RFP, bid process and implementation have to be managed by dedicated and expert teams. Otherwise, the chances of success of such complex projects are extremely limited. Depending upon the type of the project, the implementation model may be different. The Ministry/Department may outsource the project through an accepted procurement process (MSP/PPP/outsourced application development etc) or the project may be implemented with the support of NIC. Either way, it requires a dedicated team within the Ministry/Department to manage the Project implementation through its entire life cycle till the Operations and Maintenance phase.

5.2.2.1.   *Mission Leader and Dedicated Project Teams*

The first and foremost task for implementation of any project should be to constitute a Dedicated Project Team (DPT) with full time expert resources to plan, manage and oversee the implementation of the project. The Committee, therefore, recommends that Dedicated Project Teams shall be put in place for all Mission Mode Projects and that no significant investment should be made in any major e-Governance project without positioning of a Dedicated Project Team. The Committee further recommends that adequate financial provision for the DPT shall be part of project approvals. A Training component shall also be built into the project cost which could be upto 5% of the project cost.

The dedicated team shall be led by the Mission Leader and shall comprise technical, managerial and domain expertise sourced from Government and external agencies. The Committee recommends that large MMPs/projects with an outlay of more than Rs. 500 Cr. and strategically important projects shall have a dedicated Mission Leader/Project Leader at the level of Additional Secretary/Joint Secretary. The structure, roles and responsibilities of Dedicated Project Teams are described in *Annexure IV.*

The absence of financial and administrative powers has been a major constraint in the implementation of MMPs, as expressed by the Mission Leaders. In order to ensure that the projects are not delayed for approvals required in the course of implementation of the projects, the Committee recommends that Mission Leaders/ Project Heads (in the Directorate of Systems) shall be vested with administrative and financial powers, including need based engagement of resources at different stages of the lifecycle of the project. A dedicated finance officer shall be posted in the project in order to support the proposed administrative and financial delegation.

5.2.2.2. *Structure of the CIO and Dedicated Project Teams*

The recommended CIO and Dedicated Team structure at the Central Line Ministry/Department level is pictographically represented in Fig 3:

Central Line Ministry / Department
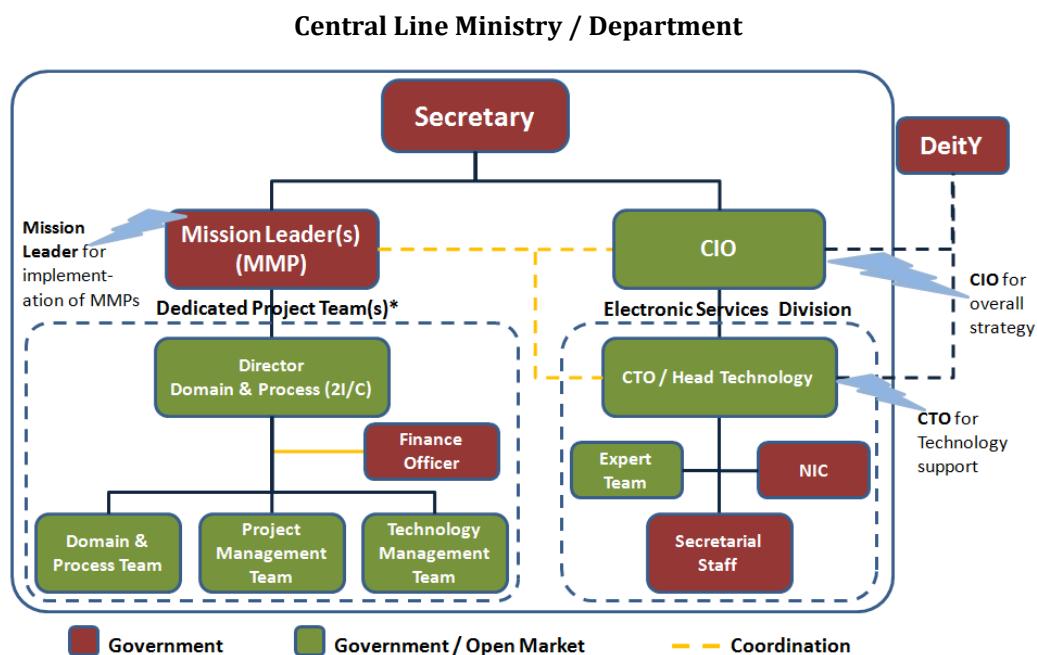
Fig 3: Proposed CIO and Dedicated Team Structure at the Central Line Ministry/ Department level

5.2.3. Different Implementation Models

As discussed in the preceding paragraphs, the implementation models of projects may be different depending on the nature and complexity of projects. The different implementation models are discussed below. However, whatever the implementation model, it goes without saying that dedicated teams within Ministries/Departments would be required to manage/oversee the projects.

5.2.3.1. *Ministry-driven projects with partners chosen through RFP*

The Dedicated Project Team may directly oversee projects outsourced to single / multiple vendors, in which case, it would provide strategic direction and overall leadership to the Project anddrive policies, supervise execution, facilitate implementation, review performance and SLAs and monitor outcomes.

Directorate of Systems

For management of multiple projects/larger projects, the DPT may need to evolve into a Directorate form of structure. The team structure may be similar to the structure of dedicated project team, but with larger team size as per the requirement. Such a structure enables coordination among various initiatives/projects undertaken within the Ministry/Department.

5.2.3.2. *Ministry-driven projects with NIC at Centre and States*

Ministries/Departments are the owners of projects and ultimately responsible for delivery of services as per prescribed standards and within stipulated timelines. Hence even in respect of projects that are implemented by the NIC, it would be necessary for the Dedicated Project Teams to exercise oversight and facilitate implementation of the project in terms of the Service level agreements entered into. The ownership of the project would lie with the respective Line Ministry/ Department, similar to projects that are outsourced for implementation.

The Committee would also like to emphasise that even in the case of projects driven by NIC, the sanction for manpower should form part of approvals similar to projects that are outsourced to private vendors.

5.2.3.3. *Ministry-driven projects with NIUs*

Management and operation of programmes/multiple projects/large projects involving multiple stakeholders or a specific component of such projects, with certain characteristics, such as perpetuity in operation, commercial nature of transactions etc., may require setting up of National Information Utilities (NIUs). Examples are IRCTC, CSC-SPV, NSDL and the proposed GST.

The NIU can cater to a single large Ministry/Department or to a group of Ministries/ Departments responsible for implementation of the programme/project(s). The NIU would work in partnership with the Ministry(ies)/Department(s) to overcome the challenge of direct involvement of Ministry/Department with the implementation partner.

The NIU would participate in high-level design, specification of requirements, proof-of-concept studies, etc, while strategic control shall be retained with the Government. For actual implementation, the NIU would contract with vendors from the market for specialized services while being completely responsible to the Government for committed deliverables and service levels.

In the NIU model, the Dedicated Project Teams in the Ministries/Departments would be expected to drive policies, supervise execution, frame appropriate contracts, adopt outcome based pricing, evolve SLAs, and conduct independent audits.

The appropriateness of the implementation model would depend on the type of the project.

i. The strategic control shall always remain with the Government. Strategic control can be achieved by having a strong dedicated team within Government *inter alia* to drive policies, design a suitable solution architecture, supervise execution, frame appropriate contracts, adopt outcome based pricing, evolve SLAs, and conduct independent audits.

ii. Where a project involves implementation by various field formations/wings of the Ministry / Department, the authority/level of the structure should be appropriately chosen so as to enable buy-in as necessary by such formations/wings. For e.g. it may be appropriate to institute a Directorate of Systems headed by an officer at the level of Additional Secretary whereas the project implementation is driven by Commissioners/Joint Secretary level officers.

iii. Perpetual structures such as a company form of the SPV or NIU shall be set up only when there is perpetuity in implementation and operation of the project. For e.g. a company form of organization may not be appropriate where an institutional mechanism is required only for managing the implementation of the project, without the subsequent operational phase which may be perpetual.

iv. Where any project/programme or part thereof is outsourced to an entity outside the direct administrative control of the Government (e.g. NIU), the relationship between such entity and the Government may be defined by an Agreement, which contains the allocation of tasks and responsibilities, financials including the revenue model for sustainability, SLAs and the business continuity plan upon exit.

Table 2: General principles for determination of the appropriateness of the model

5.2.4. Council of Mission Leaders/CIOs and Council of CTOs

Considering the commonality of issues in various Ministries and the role assigned to DeitY as a facilitator, a 'Council of Mission Leaders' has been created to act as a peer group to discuss and resolve common issues and challenges. The Council is headed by the Additional Secretary, DeitY and comprises of the Mission Leaders, Director General, UIDAI, Director General NIC, Director General STQC and CEO NeGD as members and other special invitees. The JS (e-Governance) DeitY, is the member convener. The Council provides a forum for discussions, identification of potential challenges, resolving common issues related to interoperability, alignment of timelines etc. and sharing of knowledge.

The Committee recommends that the Council of Mission Leaders should be expanded to cover the CIOs as well and it should continue to meet regularly. The Council may be vested with commensurate powers to make decisions that are commonly applicable across projects. The Committee also recommends that a Council of CTOs should also be formed which will be a platform for CTOs across the country to meet regularly, exchange ideas, discuss common issues and challenges, best practices and innovations in regard to technology.

5.3.   States and UTs- Programme and Project Management

Programme management at the State level involves managing issues that cut across projects such as overall policies, strategies, technologies, common infrastructure and so on. These issues need to be dealt with by a department designated by the State Government typically the State Information Technology (IT) department or the e-Governance Departments (Karnataka and Punjab). At the project level, departments of State Government implementing MMPs/e-Governance projects have to manage projects from conceptualization to implementation and O&M phase. The issues involved here are considerably different and are intimately connected with the domain in which the department functions.

5.3.1.   Programme Management of e-Governance in the States and UTs

5.3.1.1.   State DIT

As stated above, programme management for e-Governance at the State level is driven by the State Department of IT (DIT) headed by the Principal Secretary or Secretary IT (IT/e-Gov). In many cases, the IT/e-Governance Secretary also manages a number of other portfolios.   Considering the need to synergise the e-Governance projects at the State level and manage the additional responsibilities that would arise with the enactment of EDS bill, the Committee suggests that the States should create a full-time post of Principal Secretary (IT/e-Gov)/Secretary IT (IT/e-Gov), which should be a cadre post. Selection to this post should be made based on defined competencies and aptitude.

5.3.1.2.   EDS Directorate/Commissionerate

Currently, in most States, the Secretary IT is supported by a small secretarial team. While some States have an IT cadre (with employees at the programmer and system analyst level), many others have only a few non technical staff in the department. With the enactment of the EDS Bill and its notification, all services will have to be delivered electronically by all departments in the States. This will necessitate a committed Head of Department set-up for monitoring and providing necessary support to State Departments, facilitating use of shared delivery channels, regulating the authorized service providers and a host of other functions. The Committee, therefore, recommends creation of a separate Directorate/ Commissionerate of EDS headed by a Director/Commissioner of EDS. Selection to this post should be made based on defined competencies and aptitude.

5.3.1.3.   State NIC

The NIC has presence in all the States upto the district level, with 5 to 20 staff at the State Headquarters and limited numbers in the districts. Although the NIC is involved in the implementation of various e-Governance projects in the States, it has no direct reporting relationship with the State Government, particularly with the State IT/e-Gov. Secretary. In order to bring cohesion between the work of the State NIC and the State administration, States have recommended redefining the role of NIC and enabling a reporting mechanism to the State IT/e-Governance Secretary.

The Committee concurs that there is a need to harmonize the work of various entities at the State level, viz, the State IT/e-Governance Department, the Line Departments and NIC, which are currently functioning as disparate entities, sometimes leading to duplication of

efforts. The Committee, therefore, recommends a structure similar to that being proposed at the Centre. The Committee also recommends that the SIO, NIC shall be part of the State DIT Team in developing policies related to Architecture, Standards, Security, Technology and optimal utilization of core infrastructure and common services; and will also support the Line Departments in their e-Governance projects including outsourced / PPP projects. For this functional requirement, the SIO will have a dotted line reporting to the Secretary IT/e-Governance who will also initiate his/ her ACR/APAR and send it to DG NIC. The SIO will continue to report to the DG NIC, so as to ensure consistency at the State level in respect of the national policies for standards, security, etc.

At the District level, the human resources with expertise in IT and e-Governance are currently limited. Districts in which only 1 or 2 resources are in place need to be augmented with 2 to 3 resources and placed with the District e-Governance Societies. The State Governments should also assign a suitable role to the DIO in the District e-Governance Societies for better alignment of all the central, state and district level e-Governance initiatives. The DIO shall have a dotted line relationship with the District Collector / Magistrate.

5.3.1.4.   *State Designated Agency/State Nodal Agency*
Every State has designated a Nodal Agency as its commercial arm for work related to e-Governance. Some of these Nodal Agencies are doing excellent work in setting up of the IT infrastructure, procurement of hardware and software and execution of projects. The Committee suggests that these entities may be suitably strengthened with the right kind of resources and manpower to enable them to play a role similar to that of National Information Utilities at the Centre. Wide disparity between compensation of the SDA resources and market salaries is an issue in some SDAs that may require correction.

5.3.1.5.   *SeMTs*
Considering that most States/UTs lack quality personnel on full time basis and the skill-sets needed to handle the challenges in implementing the vision and objectives of NeGP, State e-Governance Mission Teams (SeMTs) with 5 to 13 professionals, have been set up under the Capacity Building Scheme of the Government of India to provide programme management, project development and capacity building support to the States. These professionals, in the areas of technology management, project management capacity building, finance and change management, are assisting the State IT Departments in planning and managing the e-Governance initiatives of the State.

This support is for a limited period of three years only. In view of the enormous benefit that the States are deriving from the scheme, the States have strongly recommended that this arrangement be continued. The Committee, having considered the constraints of the State Governments and the need for technical and professional support to the States, recommends that the scheme for placing SeMTs with the States may be continued for a further period of 5 years.

5.3.1.6.   *Composite Teams*
Keeping in view the security, availability and reliability of the Data Centre, DeitY issued guidelines to the States to constitute implementation committees with representatives from DeitY and State NIC as members of the committee. The guidelines also indicate that the State

and NIC together shall form a composite team for the State Data Centre which shall further be supported by domain specialists and staff, i.e. Data Centre manager, database administrator, system administrator etc. for overall operations and management of the Data Centre.

The Composite Team will be a team of 7-8 technical experts in SDC and shall be responsible for all aspects related to establishment, operations and management of the State Data Centre and associated e-Governance infrastructure in the State. These teams are currently being put in place in all States and are proposed on a long term basis.

5.3.1.7. State IT Cadre

Many States have highlighted the need for a State IT cadre under which lateral and market hiring could also be permitted. However not all States share this view. The Committee is of the view that current and cutting edge skill sets are essential attributes for the personnel of any such technical cadre. It is difficult for a cadre, constituted on the lines of other State cadres to acquire, retain and continuously up-skill specialist personnel, especially on account of wide disparity in compensation levels as compared to the market. Having considered the merits and demerits of a separate cadre, the Committee is not in favour of recommending the creation of a cadre unless it could be created as a virtual cadre with resources taken on deputation and through market hiring based on defined competencies. This will enable the following:

i. Provide to the States/UTs resources with updated knowledge/skill-set at different levels and for different competencies.
ii. Provide flexibility to match demand based on the project lifecycle/requirement of Departments.

5.3.1.8. Institutional arrangement for programme management in the States

The recommended Institutional arrangement is shown in Fig 4.
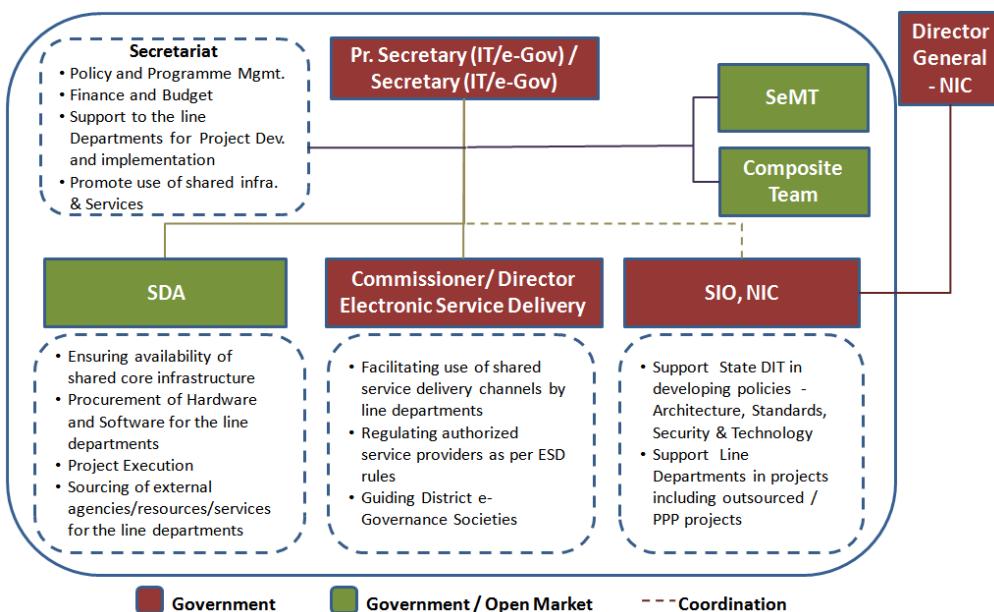
Fig 4: Proposed Institutional Structure at State Level

5.3.2. Project Management by State Line Department(s)

The State line departments are responsible for implementation of department level e-Governance projects including MMPs. As brought out in the earlier section on project management for Central Line Ministries, dedicated teams are required to manage the project from the stage of conceptualization to implementation and O&M phase. While many States have nominated nodal officers for projects, dedicated Project e-Governance Mission Team (PeMTs) have not been set up and in most cases, the management of the projects has also been outsourced. The outcomes of many such projects have been unsatisfactory or poorly realized.

The Committee, therefore recommends that on the lines of the Dedicated Project Teams suggested for the Central Line Ministries, Line Departments of the States should also constitute dedicated teams, funded through the project funds, for their Mission Mode Projects/large and strategic e-Governance projects. These teams should be delegated with appropriate administrative and financial powers (refer Para 5.2.2.1).

6. Developing Human Resources within the Government for e-Governance

e-Governance is about leveraging technology to transform Governance. Thus, e-Governance projects are essentially governance projects, with technology being an enabler. Fore-Governance projects to be successfully implemented, officers in the Government need to have the capability to conceive and manage technology enabled projects for delivering services.

The ARC in its eleventh report had also observed as follows:

"It may not generally be feasible to develop all the required competencies within an organization. Technological capabilities in the field of ICT advance rapidly often rendering existing technology obsolete. It is therefore advisable that these capabilities are outsourced. Very large organizations may develop some in-house technological capabilities, but even they would, on occasion, have to take recourse to outsourcing. However, conceptualisation and subject matter knowledge are best developed among the employees of an organization. Similarly, it is advisable to develop the project management capabilities within an organization as it leads to ownership of the project and hence better implementation"[8].

The Human Resource factors for the success of e- governance are:

i. A political and administrative leadership sensitized to the transformational potential of e-Governance

ii. Specialized skills within the Government to conceptualize and manage e-Governance projects and empowerment of those entrusted with e-Governance responsibilities

iii. Engagement of the rank and file of employees and their willing support in the transformational process.

iv. Ability to draw in the best talent from the private sector and academia

HR interventions and policies are required to address the challenges in each of the above categories, with a focus on developing a specialized pool of talent in the Government, for managing e-Governance projects in the country.

6.1. Towards a Transformational Leadership

e-Governance will be truly successful when all schemes of the Government are conceptualized using technology enabled platforms. For this to happen, the top political and administrative leadership has to be sensitized to the transformational potential of technology. This is possible through leadership orientation and training and exposure to the best practices within and outside the country. The interventions for leadership orientation are discussed in detail in the chapter on Training.

6.2. Specialized skills for e-Governance positions

Successful implementation of e-Governance projects requires individuals with a range of technology and domain skills both in the short term and long term. While most Mission

---

[8] 11th Report –IInd ARC – Chapter 6 Para 6.5.5

Mode Projects are being either outsourced to vendors or are being implemented by NIC, the overall management of projects necessarily needs to vest with the Government Departments. This makes it necessary for project teams in the Government to understand the nuances of project design and architecture, contracting and bid process management, project management, SLA monitoring and exit management. Specialized skills are also needed in the Government to drive changes in legislation, rules and guidelines, reengineer processes, manage change and train stakeholders.

While external talent needs to be inducted to complement the human resource pool in the Government, in-house expertise for e-Governance should be organically grown in the Government by identifying officers with the right attitude, aptitude and capability, and building their skills through training and other capacity building interventions.

6.2.1. Gap Analysis

A majority of the Mission Mode Projects have progressed beyond the conceptualization and the design development phase of the project life cycle. The schemes of most of the MMPs have been approved and many of these projects are in the implementation phase. However, many projects are facing major challenges due to the following gaps in terms of skill sets and competencies:

i.   Addressing the prioritization of activities, implementation strategy, business models, issues relating to technology (such as technical architecture, solution design).

ii. Creation of balanced and legally tenable bidding and contract documents

iii. Business process re- engineering and change management

iv. Managing contracts and service level agreements (SLAs) and on-going enhancements/changes.

v.   Planning and executing capacity building and training interventions.

vi. Stakeholder consultation, stakeholder management and designing appropriate awareness and sensitization programs for all stakeholders.

vii. Formulating and ensuring compliance with appropriate policies, guidelines, standards and procedures on Cyber security as well as creating heightened awareness and imparting training to prevent probable attacks.

viii. Exercising Strategic Control over the outsourced projects.

Based on the foregoing, the Competency Framework for managing e-Governance projects would appear as under:
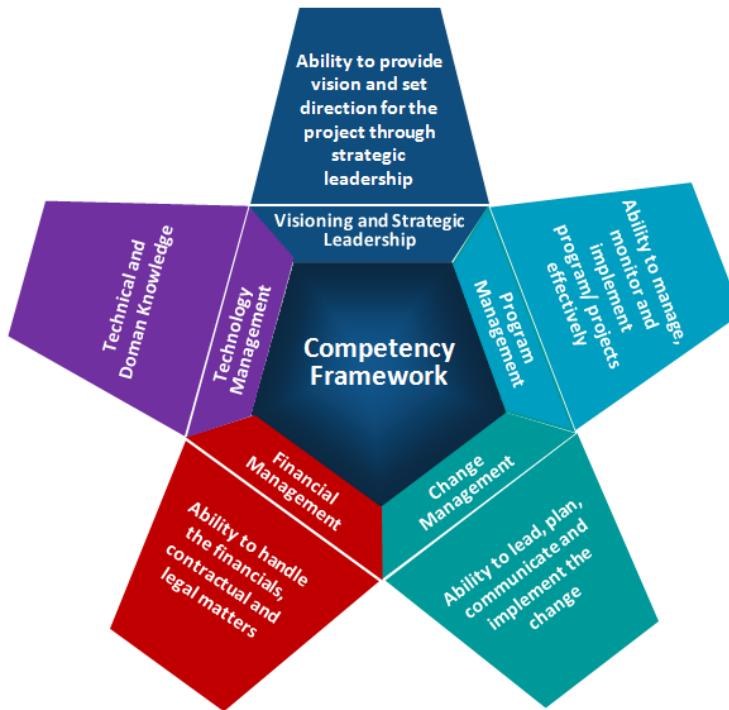
Fig 5: Competency Framework for e Governance

The above competencies can be further divided into the following sub competencies:

Competencies	Sub Competencies
Visioning and Strategic Leadership	Strategic Management
	Domain & Process expertise
	Scenario Planning & Direction Setting
	Decision Making & Result Orientation
	Business Process Reengineering
	Cross Sectoral perspective
	Business Modelling
Program/ Project Management	Project Management
	Contract Management
	Performance Assessment/ Audit
	Vendor Management
	SLA Management
	Execution Excellence & Time Management
	On-going enhancements & changes
	Ambiguity Tolerance & Problem Solving
Change Management	Risk Management
	Understand and create case for change
	Adoption of Change
	Leading Change
	People Management
Procurement and Financial Management	Procurement Management
	Negotiation and Conflict Management
	Financial Data Management
	Financial Modeling & Impact Assessment
	Contract Management

Competencies	Sub Competencies
Technology Management	Architecture and Design
	Network Design and Management
	Data Center Management
	Configuration Management
	IT Security Management
	IT Service Continuity Management
	Exit Management

Table 3: Domain-wise requirement of Competencies

6.2.2. Competency Benchmarking

The National Training Policy 2012, approved by the Government of India states that *"for transforming the civil service, it is imperative to move to a strategic human resource management system, which would look at the individual as a vital resource to be valued, motivated, developed and enabled to achieve the Ministry/Department/Organization's mission and objectives. Within this transformational process, it is essential to match individuals' competencies with the jobs they have to do and bridge competency gaps for current and future roles through training."*

These *"competencies encompass knowledge, skills and behaviour and consist of core skills such as leadership, financial management, people management, information technology, project management and communication and specialized skills that are relevant for specialized functions".* The Policy recommends that competencies required for performing work in each post should be laid down and that each job should be performed by a person who has the required competencies for the job.

As indicated in Table 3 competencies required for e-Governance are a mix of core skills and specialized skills. The Committee recommends that competencies for all positions in e-Governance, shall be defined in consultation with DeitY and posting of officers to these positions, whether through the CSS route or through open competition or by following any other process shall be made based on the competencies defined for each position.

The Committee recognizes that initially there may not be many Government officers possessing all the competencies identified for the respective jobs. Selection of officers may, therefore, need to be made based on their aptitude, past experience and willingness to learn. Capacity gaps of such individuals shall be made good through an institutionalized training plan which been discussed in detail in Chapter 8.

6.2.3. Creating Leadership Pools – CIOs, Project Leaders & Dedicated Project Teams

The success of e-Governance projects hinges on the quality of the top leadership. Complex e Governance projects require strong leadership within the Government with authority, empowerment and accountability for the implementation. Leaders of e-Governance projects need to have strong domain expertise with knowledge of IT and the capability to provide direction and leadership to support transformation. Attracting the right leaders is also critical to attracting, organizing, leveraging and retaining the best resources in the projects. The Committee, therefore, recommends that the officers for leadership positions should be chosen based on competencies defined for each role.

Dedicated Mission Teams and CIOs

In Chapter 5 the Committee has recommended setting up of Dedicated Project Teams with full time availability of expert resources within line Ministry/ Departments, both at the Centre and in the States, for effective management of the e-Governance projects. The Committee has also recommended the creation of a CIO function to assist the Ministry, *inter-alia*, in conceptualization of new projects, providing strategic and operational advice, capacity building, Information Management and Information Security in line with the directions, polices and standards of the Government of India.

The Committee makes the following recommendations for the selection of officers to these key positions:

Mission Leaders: The Mission Leader will be appointed from amongst serving Government officials of different services through a selection process based on defined competencies, aptitude and track record of implementation of e-Governance projects for a fixed tenure of 5 years.

CIOs: The positions of CIO shall be filled through a process of open competition and selection by a high level selection committee with members from the Government, industry and academia. Competencies for these positions shall include both domain and technology and officers from the Government, PSUs and Autonomous bodies as well as those from the open market shall be eligible.

CTOs/Head Technology: The CTO/Head Technology should possess expertise in Technology and an understanding/ familiarity with the domain. These positions shall also be filled through a process of open competition and would be open to officers from NIC, and other technical organizations and external resources.

The Committee is of the view that Mission leaders and CIOs, while possessing an appreciation and understanding of technology, should invariably have leadership skills and a deep knowledge of the domain. The positions of CTO / Head Technology on the other hand would require expertise in Technology. DeitY/NeGD shall assist the Ministries/Departments in defining competencies, constituting panels and in the selection process.

Dedicated Project Teams: Dedicated Project teams with expert resources in the areas of Technology, Project Management, Contract Management, Domain & Process expertise, Change Management, Cyber Security and Legal expertise shall also be placed through a process of open competition and selection. The selection committee shall consist of members from the Government, industry and academia. DeitY (State DIT at the State level) could assist the Departments in the process of selection of the teams.

6.2.4. Tenure of Project Leaders and Project Teams

Continuity of key personnel is of utmost importance to ensure that projects are navigated through the critical stages. The issue of continuity and retention of talent was underscored during the stakeholder consultations as well. It was pointed out that losing key resources due to transfers or completion of tenure, during the critical stages of projects, jeopardizes the completion of projects/leads to sub optimal outcomes. To ensure stability of tenure, the Committee recommends that the tenure of the Mission Leader and the Dedicated Project

Teams shall be for a minimum period of 3 years/coterminous with the project. In any case, they should stay in the post until an appropriate break point in the e-Governance project to reduce the risk of failure. Tenures should be extended based on the criticality of the project. However, consent of the concerned officer shall be obtained. The extension in tenure shall be enabled by relaxing the appropriate deputation rules and guidelines with respect to total tenure of deputation, wherever necessary.

In cases where an officer is promoted in his/her parent cadre while on deputation to the e-Governance project, to enable retention of critical talent during the implementation of projects and also ensure at the same time that the officer does not lose out on the career advancement opportunities and the benefits and perks attached with it, the Ministry / Department may consider temporary upgradation of the post with necessary approvals.

Relaxation in the Deputation Rules for e-Governance

Considering that the pool in Government for managing e-Governance positions is extremely limited and continuity of officers is critical for success of e-Governance projects, the Committee recommends that the deputation rules laid down under IAS (Cadre) Rules, 1954 in respect of IAS officers and corresponding rules in respect of officers from Central Services and those applicable to any other group of officers should be relaxed suitably for holding positions in e-Governance. This would require relaxation of stipulations regarding lateral transfer during central deputation, the maximum deputation tenure at a stretch and the maximum period on deputation during the entire service.

6.2.5. Attracting and retaining Government Officers

Not only is the talent pool for e-Governance extremely limited, wherever such resources do exist, they are deeply committed. It also needs to be borne in mind that officers who are comfortably placed in their cadre may not be prepared to sacrifice various tangible and intangible benefits, such as, Government housing, proximity to their home town, prestige associated with their cadre position etc to work as part of Mission or CIO teams.

The current capacity gaps have to be met by attracting these scarce resources, wherever they exist, by making it worth their while to enter and stay on in these positions. During the Stakeholder consultations, the general consensus was that attracting and retaining such Government resources will be difficult unless there are monetary and non monetary benefits attached to such roles. Not only would these benefits compensate such officers for the loss of perks and privileges of their jobs, they would also create a branding for specialized roles. Further, bringing in such resources would reduce Government's dependence on external consultants. This would be in the interest of retaining strategic control of projects, ensuring continuity and ownership and would ultimately result in substantial savings and growing the resource pool of e-Governance experts within the Government.

6.2.5.1. *Monetary and Non-monetary incentives for identified roles*

By virtue of their specialized skills and global demand, IT professionals world over command higher compensation. In India, due to the opportunities available in the private sector, including overseas assignments, IT professionals earn very attractive packages and there is a considerable gap in the compensation earned by professionals in Government and

those in the private sector. Further, as indicated in the earlier paragraphs and elsewhere in this report, Government officers who opt to work in this area tend to lose the perks and benefits of their regular cadre posts. The Committee, therefore, recommends the following monetary and non monetary incentives:

i. In-service officers selected for identified e-Governance functions based on competencies, may be considered for grant of separate set of incentives to attract and retain officers with e-Governance specialization on the lines of Training Allowance to officers deputed to Training Institutions based on the recommendations of the Sixth Central Pay Commission.[9] Such incentives shall be applicable to specialized and identified positions and not across the board.

ii. A scheme for performance related incentive comprising of organizational, group and individual incentives similar to PRIS Scheme introduced by the Department of Atomic Energy based on the recommendations of the Sixth Central Pay Commission, should be instituted by DoPT in consultation with DeitY, for employees working in e-Governance projects.

iii. Officers opting to serve in SPVs, PSUs, Companies and similar entities managing e-Governance projects shall be entitled to all facilities available to regular Government employees, such as government housing, medical facilities, transport etc. Necessary approval for such a dispensation should be obtained.

iv. A mechanism for public acknowledgment of the contribution of Government officers who opt to work in the area of e-Governance, certificates of outstanding performance, letters of recommendation etc. should be instituted for recognizing superior performance and driving higher retention levels.

6.2.5.2. Performance Related Incentive System

As outlined in the earlier para, to reward achievement of outcomes and timely completion of Mission Mode Projects, Performance Related Incentive System (PRIS) needs to be introduced.

The Department of Atomic Energy, based on the recommendations of the Sixth Pay Commission, has introduced a Performance Related Incentive Scheme (PRIS) with the following incentives:

i. Organizational incentive based on achievement of set mission goals and review of overall performance of the organization once in five years.

ii. Group Incentive awarded to specific groups on an annual basis, based on their achieving set targets in the high end R&D areas or innovative technologies or programmatic goals in a particular year which would be reviewed by an Expert Committee constituted for the purpose.

iii. Individual incentive in the form of additional increment to deserving Scientific and Technical personnel at the time of promotion in recognition of individual meritorious performance to be assessed by the Departmental Promotion Committee.[10]

---

[9] Department of Personnel & Training (Training Division) OM No.13024/1/2008-Trg. I dated 5th Sept. 2008

[10] Department of Atomic Energy OM No.1/1(5)/2008-SCS/284 dated 5th May, 2009

The Committee recommends that a scheme on similar lines should be instituted by DoPT in consultation with DeitY, for the employees working in e-Governance projects. To ensure that very high standards are applied for the grant of such incentives, detailed guidelines shall be drawn up by DeitY in consultation with DARPG. The Apex Committee, based on the progress of the project and achievement of the milestones and the guidelines for the grant of PRIS, shall approve Performance Linked Group incentive for projects. Such incentives shall be applicable to both Government and external resources on employment contracts.

6.3. Obtaining the willing support of employees

With the increased use of IT in the Government and the statutory provision for providing all Government services electronically within the next 5 years, through the enactment of the EDS Bill, every Government employee will be required to shift from manual mode to electronic processing of their work. Hence, basic ICT skills would be an essential requirement for all Government employees.

Employees are the most important stakeholders in e-Governance projects as they not only front end the applications in many cases but can contribute immensely in changing existing processes. Unless all employees are part of the transformation process and lend their willing support, e-Governance projects will not be able to succeed. This necessitates the following changes:

6.3.1. Changes in Recruitment Rules for entry in Government

Many States have incorporated changes in their recruitment processes enabling intake of persons with ICT skills. The Committee recommends that possessing basic ICT skills should be a mandatory requirement at the entry level for all positions. Wherever currently such provisions do not exist in the Recruitment Rules, appropriate changes in the recruitment rules should be made. A suggested draft model provision for the Recruitment Rules is enclosed at *Annexure V.*

6.3.2. Mandating ICT Skills for Promotion

As employees are promoted to higher levels, their knowledge of e-Governance and ICT competencies may require to be enhanced to enable them to bring in process changes, monitor SLAs, etc. The Committee, therefore, recommends as follows:

i. Basic ICT competence should be mandated for promotion in all cadres of Government employees from 2014 onwards, for which revision of recruitment and promotion rules needs to be taken up on priority.

ii. Competencies for different levels should be defined and promotions should be made subject to employees successfully completing the prescribed training course for which a comprehensive training framework shall be put in place. This is discussed in detail in the Chapter on Training.

6.3.3. Incentives and rewards

Schemes to reward employees for possessing higher order skills and certifications and exemplary contribution to e-Governance should be developed. This is also discussed in further detail in Chapter on Training.

6.4.   HR interventions for NIC

In the preceding chapter on Institutional Structures for e-Governance, the Committee has made certain recommendations with regard to the role of NIC.

The HR challenges faced by the NIC, in brief, are as follows:
   i.   Shortage of human resources for execution of projects
   ii.   Inability to attract resources from industry/open market
   iii. Capacity building and exposure to emerging technologies and international best practices.
   iv.   Absence of an incentive mechanism for NIC professionals for their innovative contribution in technology development / adoption

The Committee while deliberating on the mandate of the Prime Minister's Committee has taken note of the submissions made by NIC, the feedback received from the State Governments and the Central Line Ministries and the recommendations of the Committee on Institutional Assessment and Capacity Enhancement (2008) in regard to the strengthening of NIC.

The Committee on Institutional Assessment and Capacity Enhancement (2008) had carried out a detailed study on the needs and the future strategy for enhancing capacity of NIC. It had considered the various factors germane to any proposal for augmentation of capacity in the Government system. It had recommended that in order to meet NIC's resource requirements for NeGP, the number of permanent posts should be incrementally increased over time to maintain an organizational balance between the permanent employees and those sourced through other means. Relevant extracts of the report are at *Annexure VI*.

Having considered the recommendations of the above report in the present context, this Committee is of the view that the following recommendations for augmenting NIC are still relevant:

   i.   The number of permanent posts within NIC should be incrementally increased over time so as to maintain an organizational balance between permanent employees and those sourced through other means to meet specific requirements of projects.

   ii.   Direct recruitment at higher levels and deputation from the private sector to encourage cross-fertilization of ideas and experience will help NIC bridge the capacity gap and discharge its new role as technology manager.

   iii. A continuous capacity building programme for NIC staff is required to ensure that their skill sets match the evolving requirements and help retain quality manpower within the organization. This should include technology upgradation programme for officers of the level of Technical Director and above and also global exposure and incentivize skill upgradation.

The Committee recommends that the above recommendations should be implemented within a time frame of one year with a modification that the words "be incrementally increased over time" in (i) above, may be substituted by "be adequately increased over time…". NIC will conduct a professional study of the requirement of additional resources and skills for the permanent positions.

6.5.   Complementing the Government Resource Pool

As indicated earlier in the Chapter, availability of officers with the required competencies is currently limited. Therefore it would be necessary to complement internal resources with those taken from the market. Such resources may be engaged on employment contracts to work as part of the Government. Certain positions in e-Governance projects that require highly specialized technical skills, such as, project design and architecture, security, database management and legal skills may be required for a limited period and during specific phases of the project.   These external resources may be engaged for shorter periods on consultancy contracts. The Committee would like to make a clear that there exists a clear distinction between such resources engaged to work as part of the Government and those who work in the Government as vendors.

Details regarding sourcing skills from outside the Government are discussed in Chapter 7.

7.   Inducting External Talent into Government

The earlier chapter brought out the need for individuals with a range of technology and domain skills for managing e-Governance projects. While some of this talent will come from within the Government, it is clear that Government does not currently have specialized resources in sufficient numbers to meet this requirement. While every effort has to be made to grow the talent pool in the Government, it is also necessary to leverage the much larger national talent pool to augment resources within the Government.

It is necessary to attract and retain high caliber talent from the industry with a proven track record who can effectively contribute to e-Governance initiatives in the country. Such resources would have a shorter learning curve which would ensure meaningful contribution to these projects in the least possible time.

An HR framework needs to be designed for recruiting, developing, deploying and retaining such personnel. The policy should help define the individual capabilities/behaviour, competencies required, desired employment relationship, the management of these employees and their performance and ability to contribute effectively to the department.

The prerequisites of a successful HR framework for e-Governance in which both internal and external resources are expected to form cohesive units and deliver results are:

  i.   Developing functional, 'result oriented' structures
  ii.   Populating and sustaining the team with the right people in terms of competencies, attitude, culture and people management skills
  iii. Empowering and aligning the incentive structure with outcomes
  iv.   Laying the foundation for a culture that will help deliver the project's mandate
  v.   Appreciating the elements of change management in terms of acceptance of new environment (for people joining from the private sector) and new colleagues (for serving Government personnel).

7.1.   Different Models – Contractual, Consultancy and Outsourcing

The Government's current process for bringing in talent from the private sector has been broadly designed to support talent gaps via the "outsourcing" or "client-vendor" model. In this model, Government departments engage consultants to provide certain skill sets for short-term project support. This is clearly brought out in the Handbook published by the Chief Technical Examiner's Organization under the administrative control of the Central Vigilance Commission (*Annexure VII*) which says "In this era of large-scale infrastructure development, the in-house resources available with public organizations are felt inadequate to deal with the growing demand. Therefore, outsourcing various project activities such as IT projects, project management consultancy etc., has become necessary". Clearly, the focus till date has been on utilising the services of individuals or consultants who function essentially like "vendors" and are rarely a part of the "organisation". It is this relationship that usually leads to a lack of goal alignment and true "buy-in" to project objectives and usually results in significant delays, overruns and a schism between the two stakeholders.

It may not always be feasible to develop all the required competencies within an organization. The technological capabilities in the field of ICT advance rapidly, often

rendering existing technology obsolete. It is therefore advisable that these capabilities be outsourced. Very large organizations may develop some in-house technological capabilities, but even they would, on occasions, have to take recourse to outsourcing.

The Government does have some routes to bring in highly skilled individuals from the private sector but the lacunae in the same are brought out in the following diagram:

Existing Government Mechanisms – Ability to Support Effective Hiring from the Private Sector			
"Non-Negotiable" for effective hiring from the Private Sector	Consultants Personnel have only advisory powers and do not have "accountability" towards the Government	Lateral Entry Personnel are considered to be inducted into the Government machinery	Short term employment Contracts Personnel have authorities & accountabilities akin to that of Government officers
Near-market remuneration	√	X Government pay slabs	X Government pay slabs/ Lump-sum compensation
Growth opportunities	X	√	X
Empowerment/ Decision making ability	X Role is only advisory in nature	√	√ Capability to take decisions on files commensurate to level
Ability to lead and manage team	X Government officials cannot report to Consultants	√ Government officials can report to the individual; Ability to write APAR	√ Ability to write APAR
Accountability for tasks performed	X	√ As per CCS Conduct Rules	√ During tenure: As per CCS Conduct Rules; Post tenure: Needs to be defined

Table 4 - Existing Mechanisms for Sourcing from the Private Sector

The Lateral Entry mechanism has been successfully used to recruit a limited number of individuals at the senior level. However, it does not seem to be an appropriate mechanism to hire large number of personnel that may be required for e-Governance projects. The other two mechanisms of hiring individuals i.e. Consultancy or Short term employment Contracts, clearly fall short on some key aspects that must be factored in while seeking to hire (and retain) talent from the private sector.

Existing provisions of Government of India Rules for hiring consultants are as under:

i. **Rule 163 of GFRs:** The Ministries or Departments may hire external professionals, consultancy firms or consultants (referred to as consultant hereinafter) for a specific job, which is well defined in terms of content and time frame for its completion or outsource certain services

ii. **Rules 165 of GFRs:** Engagement of consultants may be resorted to in situations requiring high quality services for which the concerned Ministry/ Department does not have requisite expertise

A quick overview of some of the Government guidelines / norms that are applicable for hiring talent from the private sector indicates that currently "consultants" (*the term*

consultants today includes consulting firms, individuals/ experts) can:

i.   be used to help in a wide range of activities...to complement the capabilities of the Government Ministry/ department (*reference-"Manual of Policies & Procedure of Employment of Consultants", issued by Department of Expenditure, Ministry of Finance and CVC guidelines*)

ii.   normally not be appointed as Head of Divisions and should not be engaged in routine day-to-day work' (*reference -Planning Commission guidelines*)

iii.   be hired for a maximum continuous period of 5 years. A person would again become eligible for engagement after working for a minimum period of 5 years outside the Planning Commission (*reference -Planning Commission guidelines*)

iv.   not take decisions or give advice on files

v.   not conduct the performance appraisal of Government employees

These guidelines do not support effective capacity building at an organisational level as they were designed for a scenario where leveraging national talent and creating hybrid organisations was not envisaged as possible or even necessary.

Further, currently there are no Government of India guidelines that allow:

i.   Consultants to evaluate the performance of Government personnel (which may be a requirement while creating a hybrid organisation)

ii.   Performance appraisal of individual consultants (other than when they are evaluated as an external vendor, performing a set of tasks given in the Terms of Reference of an RFP)

iii.   Function within clear conduct, leave rules etc.

Existing Government of India rules listed above and their current interpretations /remits may not completely support the creation of hybrid, knowledge-based e-Governance projects. Thus some of these aspects will be addressed for the first time.

Similar challenges are being faced by virtually all technology related projects in the Government. Studies of comparable organisations in other countries convincingly demonstrate that they also had to adapt or change existing provisions to be able to attract the right talent. It therefore becomes critical to develop a set of enabling provisions that will allow the Government to effectively hire, and retain personnel from the national talent pool.

7.2.   Enabling environment

A key aspect of the HR policies should be that they must support the ability to populate the project / department. It would be pointless to look at hiring talent from the private sector without creating a framework and wherewithal to fill the vacancies with requisite calibre. More importantly these resources must be retained in an engaged manner over the duration of their tenure.

A careful study of the Government's IT projects and the e-Governance charter reveals that some of the skill sets required are such niche specialisations that they may be rare even within the private sector. Thus such individuals would form a part of the global talent pool.

Even leading private sector companies in India face difficulties in recruiting such talent and it will therefore also be a challenge for the Government to attract and retain these individuals. This talent would currently be well entrenched at leading "tier one" technology/ multinational companies, who by definition are able to fight the war for talent at high compensation rates.

While the opportunity to contribute to a national cause will attract some, a strong value proposition needs to be created to enable such individuals to work in the Government to and retain them for a pre-determined period of time.

The Government will need to build its own "covenant" with the people it employs from the private sector. This would entail fair treatment, respect for the skills (irrespective of the origin or background of the individual), recognizing the importance of exploring different viewpoints and offering an opportunity to work in an environment that focuses on speed, competence and results. The HR policies for the e-Governance project must also take into consideration the complexities of recruiting and retaining high quality and highly motivated people.

Enabling provisions: The following key enabling provisions will be required to bring in talent from the private sector:

i. **Identification of positions** where lateral entry of external resources may be undertaken.

ii. **Framing Recruitment Rules:** For posts created for MMPs or other e-Governance activities of a Department, Recruitment Rules should be framed as per the existing guidelines. With a view to enabling the Department to populate the posts quickly in tandem with the rolling out of MMPs, fast tracking the process of framing Recruitment Rules is necessary.

iii. **Competitive 'near-market' salaries:** Currently the Government is unable to offer competitive salaries to persons holding posts in the Government. Given the type of talent that the e-Governance projects seek to recruit, this limitation will clearly be a constraint for attracting specialized resources from outside. It is recommended that positions should be mapped against Industry Benchmarking Reports to determine the remuneration for each role/grade in order to design a salary structure which is capable of attracting the "best-fit" talent from the private sector. The basic framework of the compensation structure may be worked out in consultation with DoPT and the Department of Expenditure. Serving Government Officials would also be eligible to be appointed on similar terms provided they resign from Government service. The Sixth Central Pay Commission has already made recommendations in this regard.[11]

iv. **Homogenous organization:** An environment needs to be created where incumbents sourced from the Government & Private Sector work as a single, synchronous unit and employees are treated and respected as equals regardless of their lineage. Incumbents sourced from the Private Sectorneed to be provided with the requisite authority for taking decision on files and to effectively manage their team's performance by writing their appraisals etc. The last aspect is especially crucial for the effective functioning of

---

[11] Report of the Sixth Central Pay Commission-Paragraph 1.2.6

any hybrid, knowledge based organizations. One of the reasons that many large scale technology driven projects fail is that major external changes and outcomes are expected without factoring in the need to change internal mind-sets and processes.

v. **Inducting professionals from diverse backgrounds** (Government and private sector), to help create a team that exists in a vibrant, knowledge environment, populated by high performing individuals, using cutting edge technology, with high degree of governance and control will present its own challenges in terms of culture etc. Addressing these issues will require that individuals be open to change and even "unlearn" some of the old accustomed ways of doing things. This aspect of Change Management will critically impact the success of the e-Governance projects. Orientation programmes for new entrants on the lines of the programmes already being conducted for SeMTs will help in the transition process. The Committee recommends that all new entrants should be enabled to undergo such Orientation Training programmes to enable new entrants to contribute effectively.

vi. **Stable contract tenure of upto 5 years:** Currently the Government usually hires individuals from the private sector on short duration contracts. However, such contracts would be considered too short a tenure by the type of talent that technology projects would require. It is highly unlikely that a large number of individuals (who are currently firmly entrenched in the private sector) would leave their existing organisations if they are offered short duration contracts alone. If the e-Governance projects seek to hire talent that would contribute to the project in a meaningful manner (especially at the middle to senior level) the department should have the ability to offer contracts upto 5 years and the ability to renew the contract if required.

vii. **Ability to offer growth opportunities during the tenure period:** As mentioned earlier, the Government needs to both attract and retain the best talent from the national pool. Providing growth opportunities for personnel hired from the private sector becomes a pre-requisite for retaining them. Though such personnel would be on contract for a defined period, there needs to be an annual assessment of their performance during their tenure and appropriate rewards in the form of promotions and/or increments must be introduced. Performance management guidelines (on the lines of the APAR process) would need to be designed to evaluate performance in a robust and a transparent manner which will also help create a strong outcome oriented culture across the department.

7.3. Recruitment and Appointment Process

In order to promote e-Governance projects as a coveted employer, non traditional methods should also be adopted such as advertising and promoting the positions on various e-platforms such as Job Portals and Professional Networking Sites and conducting outreach programs at premier higher education institutes. Given the complexity, scale of the project and the need for intake of a large number of personnel, the projects must also be able to involve specialized recruitment agencies to get suitable candidates especially at the middle to senior levels. In special cases, recruitment through 'Search Committee' process may be adopted. A provision for inducting personnel who are desirous of giving their services to organizations on sabbatical or secondment from their parent organisations should also be introduced.

Finally, a robust, transparent and multi-stage recruitment process with technical/ behavioural interviews by suitable committees needs to be designed.

Once the enabling provisions mentioned above are in place, an Employment or Consultancy Contract could be signed between the hiring organization and the individual being sourced from the private sector. The two contracts should be designed keeping in view the needs of the organization and the requirements from the personnel:

i. **Employment Contract:** Based on organizational requirements there could be a number of posts where the personnel hired from the private sector would need to take decisions on file or be responsible for critical tasks. The fact that these role holders would have a significant impact on the key outcomes of the project suggests that they would need to be retained for a longer period of time. Such roles should be identified and it is recommended that individuals be hired for these roles for a period of upto 5 years (renewable if required).Once due process has been followed to hire an employee on an Employment Contract, s/he will be considered a Government employee, for accountability and other aspects of official functioning for the duration of the contract period.

ii. **Consultancy Contract:** Sourcing of other personnel from private sector could be made directly through 'Consultancy Contracts' as they may only be required to provide advice and not take decisions on file. These individuals could be hired on contracts of upto 3 years (renewable if required).

7.4. Performance Review

A Performance Management System (PMS) needs to be designed on the lines of the Government's APAR process to ensure the effective functioning of all personnel recruited from the private sector. To make goal setting easier and aligning the overall departmental planning process, the PMS should follow the April-to-March cycle followed by the Government. A mid-year review which provides an opportunity for mid-course correction of targets and alerts the employee about the gap in the perception of his/ her behaviors should also be incorporated into the annual PMS cycle. Further, it would be advisable to reiterate a strong performance-driven culture by force-fitting all performance ratings into a Bell-Curve as part of a Normalization Process.

The PMS will act as a fair assessment framework to identify individual strengths and areas of development and will work as a feedback system to highlight capability gaps (if any). It can also be used as the basis for identifying development/ training needs.

The Sixth Central Pay Commission, as part of its recommendations for the Department of Atomic Energy and Space had recommended that "The contract should provide for an annual increase of 5% to 20% depending on the performance. A person who has not got a minimum cumulative increase of 20% in any two years of contractual appointment would be liable to have his contract terminated." Similar provisions could be incorporated in the employment contracts to drive a high performance culture in the department.[12]

---

[12] Sixth Pay Commission-Paragraph 7.50.13

7.5. Career Growth

Considering the diligence and effort that will go into attracting and hiring appropriate talent from the private sector, it would be important not to lose high performers. This will result in loss of both departmental knowledge and strong contributors. The absence of **retention mechanisms** like career growth opportunities could lead to a loss of talent, a fresh round of recruitment costs and a learning curve before the new recruit comes up to a level where he can start contributing effectively.

Therefore, an assessment of the individual's performance, identification and development of high potential employees becomes critical for ensuring that such employees remain engaged with the department during their contract period. A detailed process needs to be designed for deciding **increments and promotions** so that they can be used as effective tools to reward key employees. An individual's performance assessment should form the basis for such recommendations. The final decision on promotions/ increments etc. should be taken in a transparent manner by a committee consisting of officers from the Government.

7.6. Delegation of powers

The Ministry/ Department should have the ability to delegate relevant and appropriate functional, administrative and financial powers to the Mission Leader/Project head, CIO and CTO/Head Technology, as may be decided by the Ministry/Department within the provisions of Delegation of Financial Power Rules. Suitable delegation of power and responsibility, guided by a risk-based model, would lead to increased efficiency and minimal response time for service delivery.

This aspect is also essential for ensuring that individuals who come in from the private sector feel empowered and are able to contribute effectively.

7.7. Accountability and Other Policies

As mentioned earlier, employees on Employment Contracts will be considered on par with Government employees for the purpose of accountability and other aspects of official functioning for the duration of their contract period. This will impose on them security clearances (if required), restrictions and responsibilities similar to those on Government employees. To ensure strategic control and governance, all key positions in the project should be held by Government employees – either sourced from the Government or on Employment Contracts.

HR Policies will also have to be created to detail out the Conduct, Leave and Disciplinary Rules etc. which would be applicable to personnel hired from the private sector. The same should be created in-line with Government guidelines and special approvals/ exemptions to existing GOI guidelines could be sought to enable the functioning of a hybrid department.

    i. Applicability of Conduct Rules: Appropriate conduct rules need to be designed separately, on the lines of the Central Civil Services (Conduct) Rules, 1964 and incorporated in the employment contract as the applicability of existing CCS (Conduct) Rules and the CCS (CCA) Rules on the employees hired from open market may have long term implications.

ii. Guidelines will need to be created for work related travel, local travel, interview Travel reimbursement and joining &relocation expense reimbursement. Similarly, a leave policy will need to be defined.

7.8. HR Management of the Resource pool

There is need for a specialized and dedicated HR set-up to support the Line Ministries/Departments at the Centre and in the States in the HR management of this special pool of resources, which involves the following functions:

i. Assisting the Ministries/States in identifying positions required, defining roles, competencies and eligibility and benchmark compensation.

ii. Coordination with Line Ministries and States to fulfill their resource requirements through a multi stage rigorous selection process and hiring procedure involving background verification, medical tests, fixing compensation and offer of appointment.

iii. Ensuring standardization by providing the right kind of resources.

iv. Maintaining database of the skilled resources.

v. Facilitating movement of resources across projects.

vi. HR Management of the resource pool including training and development.

The Capacity Building Management Cell (CBMC) in NeGD, together with NISG, has been playing the HR management role for NeGD and the SeMTs as part of the Capacity Building Scheme. It has been successful in attracting and retaining external talent and facilitating a professional HR management process. The resources are on the rolls of NISG but are managed by the CBMC.

It is recommended that a dedicated and appropriately strengthened CBMC/HR division within NeGD may be set up to manage the HR process including capacity building of the resource pool. NISG as the implementation partner will also need to suitably strengthen its HR apparatus.

8. Training and Capacity Building

8.1. An Overview of Training Initiatives

The UNDP defines capacity building as "the process by which individuals, organisations, institutions and societies develop abilities (individually and collectively) to perform functions, solve problems and set and achieve objectives"[13]. The World Bank has similarly defined "capacity" (as opposed to the activity of capacity building) as "the combination of people, institutions, and practices that permits countries to achieve their development goals"[14].

The Committee on Civil Service Reforms (2004) chaired by Shri P.C. Hota had observed in its report as under:

> *"Any large scale e-Governance initiative can succeed only if there is an on-going and sustained programme for such training at the State and district levels. Further, there is also a need for training officials at IT policy level, to take policy decisions and handle issues of strategy. Such officers could be expected to lead large e-Governance programmes or become IT Secretaries in States etc. The training should include domestic and international components and such officers should be given exposure to training/conferences/workshops internationally at frequent intervals. In comparison with the large scale at which e-Governance training is being undertaken by countries such as China, there is a significant gap in the training infrastructure and programmes being implemented in India"[15].*

8.1.1. Capacity Building under the National e-Governance Plan

For e-Governance to succeed in India capabilities must be built at all levels starting from the top leadership to the user of e-Governance services. It is equally important to foster an attitude and mindset that is receptive to ICT based administration and delivery of services. While designing the NeGP, Government of India (GoI) recognized the importance of building capacities to conceptualize, initiate, implement, manage change and sustain e-Governance initiatives. Human resource development and training thus forms one of the eight support components of the National e-Governance Plan.

The Capacity Building Scheme approved by the Government in January 2008 sought to give the much needed impetus to training and knowledge sharing in e-Governance. Considerable work has already gone into the development of training design and content and a number of training programmes have been rolled out. These include:

i. Leadership Meets for sensitizing the top political and administrative leadership on e-Governance and sharing of best practices

ii. Specialized Training in e-Governance Programme (STeP) for training of project teams, SeMTs and other officers involved, in 8 specialized areas of e-Governance such as e-Governance project lifecycle, project management, change management, process reengineering etc.

---

[13] Capacity Development, UNDP- June 2009
[14] Demand for Good Governance Stock taking Report, World Bank – August 2008
[15] The Committee on Civil Service Reforms (2004) – Paragraph 3.14

    iii.   Chief Information Officers (CIOs) programme for Mission Leaders, CIOs and 2nd in command of projects

    iv.   Orientation Programmes for SeMTs

Details of training programmes under the Capacity Building Scheme currently on offer are at *Annexure VIII*.

8.1.2. Initiatives of DoPT, DARPG, Other Line Ministries and States

Modules on e-Governance have been included in the foundation and mid career training programmes for officers, by DoPT and by various training academies. Project specific trainings are being conducted by the MMP Departments to meet the specific requirements of projects and are the key drivers in enabling change. The Department of Administrative Reforms and Public Grievances (DARPG) is in the process of rolling out a Master e-Governance Training Plan for Government officials in the Central Line Ministries/Departments.

Andhra Pradesh has been a pioneer in formulating and conducting several CIO training programmes. States such as Gujarat, Karnataka, Haryana and Rajasthan, to name a few, have policies enabling acquisition of ICT skills by Government employees. Some States have made such trainings mandatory for recruitment/promotion and have linked them with incentives and disincentives e.g. in Karnataka, Rajasthan, Gujarat etc.

In Gujarat, ICT training has been made compulsory for recruitment/promotion since 2006. Karnataka has also made basic IT knowledge mandatory for all Government employees, other than Group D employees below the age of 50. No promotion can be given till the clearance of the Test and there is clause of stoppage of increment if not passed within 4 years. Rajasthan has made IT skills mandatory for recruitment to ministerial posts. Government Departments are also directed to earmark 50% of their training budget for IT training programmes. A state of art training facility has been started in the Secretariat for imparting IT training. Upon successful completion of trainings, the cost is reimbursed to the employee. In addition, an incentive of 25% of fees is offered as an incentive on successful completion of the course in the first attempt. In Mizoram, the IT competency is linked to promotions. Similar initiatives have been taken by other States/UTs.

8.2. Challenges and Gaps

Although a number of States have training programmes focused on acquiring of basic ICT skills and some States, have undertaken other training initiatives as well, they are, in most cases, not part of a comprehensive in-service training plan for officials. Also, successful training plans are in isolated pockets and best practices have not been replicated across Government.

The training programmes undertaken as part of the Capacity Building Scheme have also not been as effective as envisaged, primarily because e-Governance training has not been institutionalized as part of the career plan of officials. It is not linked to job roles and competencies and career advancement. Many organizations & employees do not see any immediate or deferred benefits in training. Therefore, despite the availability of excellent training programmes, the progress is slow.

The Committee, therefore, recommends that training in e-Governance should be repositioned as an in-service mandate linked to career progression at all levels in the Government in line with the National Training Policy of the Government of India (2012) which stipulates inter-alia the following:

> *"All civil servants will be provided with training to equip them with the competencies for their current or future jobs. Such training will be imparted:*
> > *a. At the time of their entry into service, and*
> > *b. At appropriate intervals in the course of their careers.*
>
> *Such training will be made available for all civil servants from the lowest level functionaries to the highest levels.*
>
> *The opportunities for training will not be restricted only at mandated points in a career but will be available to meet needs as they arise through a mix of conventional courses, distance and e learning.*
>
> *Priority will be given to the training of frontline staff, including training on soft skills, so as to improve customer orientation as well as quality of service delivery to the citizens."*

The National Training Policy also enjoins upon the Ministries to link the training and development of competencies of individuals to their career progression and ensure this by suitably amending service rules/issuing administrative instructions as proposed in this report[16].

8.3. Recommendations

Training is the most important tool for developing competencies of Government employees and enabling organic growth within the Government. Opportunities for learning will also aid in attracting external talent into the Government. The Committee, has therefore, identified the following priority areas to strengthen the capacity building initiatives:

  i. Continuing and expanding the current Capacity Building program
  ii. Develop and implementing a Comprehensive Training Framework
  iii. Training to be an integral part of any project proposal
  iv. Setting up an e-Governance Academy as a premier institution for training, research and knowledge management
  v. Developing Communities of Practice (CoP) to provide subject matter expertise and support the training initiatives
  vi. Developing a mechanism for recognizing and rewarding skilled personnel

8.3.1. Continuing and expanding current efforts

The committee recognizes that substantial efforts have been made as a part of the Capacity Building plan. However, the efforts need to be strengthened, scaled up and systematized:

  i. **Leadership Sensitization:** Strong leadership and efficient management are critical for any transformational project. The Committee, therefore, recommends a robust Leadership Sensitization Programme. Efforts should be made to continue and expand

---

[16] Department of Personnel & Training (Training Division) OM No.12021/8/2011-Trg.I dated 19th Jan.2004

the current leadership orientation programmes to systematically reach political and administrative heads in the Central and State Governments. These programmes should sensitize the leadership on conceptualizing all schemes using technology enabled platforms, changing Government processes and managing change. The political and administrative leadership should be exposed to the best practices and successful e-Governance projects at the national and international level. These should be ongoing and efforts should be made to continually monitor, assess, design and deliver high quality programmes.

ii.   **Programme for Mission Leaders, CIOs and e-Champions:** This training is specially designed to create a talent pool of officials throughout the country who can assume lead or second-in-command roles in the implementation of e-Governance projects. The main objective of the CIO's Training Programme is to train carefully selected in-house resources from within Line Ministries/Departments (both at the Centre and States, who are leading or identified to lead e-Governance MMPs and other projects in the departments and help them understand e-Governance implementation from the very basic elements to complex issues pertaining to e-Governance project execution. Such officers can be considered for selection to key positions in the project/CIO teams. The Committee recommends that the CIO Programme should be scaled up so that officers are trained in sufficient numbers every year and exposed to the best national and international practices in e-Governance. The international tour component of the programme should focus on the best implementation models in the relevant sector.

iii. **Specialized Training Programs**: The specialized training modules cover areas such as Government Process Reengineering, Business Models & PPP, Project Management, Regulatory framework for e-Governance and Technology Management. The objective of the Programme is to build knowledge and skill sets at various levels in Government for effective implementation of MMPs and other e-Governance projects.These courses are designed by experts and are primarily targeted at officers in the senior and middle management in the States/UTs, SeMTs and project teams. The Committee recommends that the programmes should be upscaled and, to derive maximum value, they should be conducted as part of a training plan for officials in the States and Central Line Ministries.

iv.   **Orientation Training:** Orientation Training of SeMTs is part of the CB scheme. This programme helps new entrants, most of whom are from the open market, to understand policies of the Government, rules and processes and current developments in e-Governance. The Committee recommends that personnel inducted from the open market to the project teams and the proposed CIO teams should have access to such training programmes. They should also be afforded the opportunity and actively encouraged to undergo other training programmes on offer to Government officers.

v.   **Embedding e-Governance Training in National and State level Training Academies:** In order to build a leadership pool that appreciates how to leverage technology for Governance, it is necessary that all National level academies embed e-Governance modules in the Foundation and Mid Career Training of officers. e-Governance modules should also be made mandatory in the foundation and in-service training programmes for officers of Central and State Governments at all levels.

In addition, it may be mandated that every institution, both Central and State, providing in-service training to Government employees of any level shall revisit its training modules such as to embed the basic principles of e-Governance into their training programmes. This will go a long way in ensuring the acceptance and quality of implementation of e-Governance projects by Government functionaries. The role of DoPT in ensuring this process would be critical.

vi. **Training of Government employees and those providing mediated service:** Training of Government employees using e-Governance applications for delivery of services and those providing mediated access is also equally important. It is therefore necessary to develop training content and make it available for wide dissemination in an easy to use format- in an online repository, e-learning mode and for face to face training.

It should also be made mandatory for every Government employee to complete and obtain a certificate in basic e-Governance training. This training would cover basic IT skills and an understanding of e-Governance. States such as Gujarat, Karnataka and Rajasthan are already leading in this aspect and have training policies that focus on basic IT & computer skills. It is recommended to put a mechanism in place which would enable online courses and contact programmes leading to certifications.

vii. **Training to be an integral part of project proposals:** A capacity building component shall be an integral part of every project proposal which could beupto5% of the project cost for training and capacity building.

viii. **Project Management Training:** Adoption of Project Management practices is critical to the planning and execution of projects, efficient utilization of resources and avoiding time and cost overruns so as to get the desired results in the stipulated timeframes. It is, therefore, recommended that all identified resources managing e-Governance projects should undergo project management training to equip them with necessary skill sets.

ix. **Exposing officers to National and International best practices:** Officers should also be familiarized with the best practices and emerging trends in e-Governance both at the national and international level. Hence participation in international conferences, seminars and training programmes should be encouraged. Officers whose papers are accepted at the international level should be allowed to participate in international conferences/seminars/meets once in 2 years with Government funding. This will enrich, engage and develop the knowledge and skills of officers managing e-Governance and incentivize research and development.

x. **Training of Trainers:** Inadequacy of a knowledgeable faculty pool is a major concern area. It is, therefore, recommended that Train-the-Trainer programmes need to be taken up on a priority basis. This will ensure maximum reach and continuity of these programmes. The trainers may be certified and empanelled centrally for different e-Governance courses. The list of trainers should be made available centrally on the DeitY/DoPT/DARPG/NeGP website for use by training academies across the country.

8.3.2. Putting in place a Comprehensive Training Framework

For training and Capacity building to be successful, it is necessary to have a structured learning curriculum and a lifelong continuous learning framework for all Government employees and all groups of stakeholders. The committee recommends formulation of a comprehensive training framework which will address the training needs during various phases of the e-Governance projects life cycle. It recommends formulating a framework consisting of the following:

i. **Training Needs Analysis (TNA):** Training Needs Analysis is an effective diagnostic tool to assess capability gaps amongst individuals and groups. Diagnosis of skill gaps is the first step in implementing a training framework.

ii. **Developing a comprehensive competency assessment framework:** Based on the TNA, a competency assessment framework shall be chalked out for different groups of stakeholders such as:
   a. Civil Service Leadership
   b. Mission Leaders and project teams implementing e-Governance projects
   c. IT professionals
   d. Employees using e-Governance applications for service delivery

iii. **Training and Learning Frameworks:** Using the outcomes of the training needs analysis as an input and the competency framework as the basis, a training framework consisting of training plans, training content, guidelines, strategies and measures for increasing the pool of trainers should be developed. In formulating this framework, the needs for the last mile electronic delivery service should also be assessed and appropriate capacity building schemes designed around the same.

iv. **Training Quality Standards (TQS):** The Government may not be equipped to undertake all the trainings in-house and thus should explore other training options available in the market. It would be valuable and time saving to assess the professional courses in the market. In order to identify and select the courses, it will be necessary to develop Training Quality Standards based on the content and effectiveness of the courseware. These standards could become the benchmark for maintaining the quality standards of courses.

v. **Online and Web Based Training:** The Government can also evaluate alternative methods of training delivery and certification and such as online delivery and web enabled certifications, and put in place Learning Management Systems (LMS). This mode of training enables individuals to access trainings at their own convenience and pace. It also results in tremendous savings in infrastructure and travel costs involved in face to face trainings. Hence it is recommended that web based tools may be explored as one of the options for delivering training.

vi. **Monitoring and Evaluation Framework:** It is necessary to assess the effectiveness of training and capacity building exercise; hence developing a monitoring and evaluation framework is of utmost importance. The feedback on trainings and their outcomes would help in improving and aligning trainings to address specific requirements, planning future needs and mapping the Line Ministries/ Departments on a Capacity Readiness Index.

vii.   **Incentives for Training:** In spite of the above efforts, capacity building initiatives may not always deliver the expected results and the reasons may not be related to effectiveness of training. Training effectiveness is also be influenced by individual motivation. Hence, establishing linkages of training with promotions, increments, incentives and other HR policies would be beneficial. The Committee therefore, recommends that the training framework should also link incentives and disincentives with successful completion of trainings. Best practices of State Governments that already have such policies should be shared with others.

viii. **Certification for Specialized Roles:** In a subsequent paragraph, certification for specialized roles is being recommended. Acquiring of such certifications, apart from it being a desirable requirement for holding of certain positions, should also be incentivized. Expenditure for undergoing such certification programmes should be fully reimbursed by the organization where such persons are employed. Financial incentives for acquiring certification, on the lines of incentives currently approved by the Government may be put in place.

This framework should be formulated by January 2013.

8.3.3. e-Governance Academy

The Committee recommends that an e-Governance Academy shall be set up at the National level as also recommended by the Working Group on Information Technology Sector for the Twelfth Five Year Plan. This Academy shall be the dedicated institution to continuously assess and reassess training needs, develop training plans and strategies for implementation of training for different groups of stakeholders.

It shall serve as a Think Tank for e-Governance, undertaking research & development in e-Governance, developing a repository of e-Governance projects, best practices, case studies, experts, master trainers, etc. The Academy shall design/ create standardized content and certify the available content in the market for use by all stakeholders. The Academy shall empanel institutions within and outside the country for different trainings and collaborate with various institutions in the Govt., public and private sector including institutions of excellence, national universities and international organizations. It shall offer training in house as well as through other Government and non Government institutions.

The e-Governance Academy can be set up as an independent society/ company under the DeitY with DOPT and DARPG on the Governing council/ Executive Committee/ Academic Council of the academy, with defined aims and objectives.   The Academyshould be able to work out a self-sustaining business & financial model (e.g., levy user charges/ charge for services or a combination). However there would be a need for an initial corpus and minimum annual core funding by Government of India. Such national institutions and academies have been set up under the Ministries of Government of India. They include:

  i.   National Judicial Academy under the Ministry of Law and Justice

 ii.   Indian Institute of Corporate Affairs the under Ministry of Corporate Affairs

iii.   National Institute of Rural Development the under Ministry of Rural Development

8.3.4. Life-long learning approach

Life-long learning approach to training is necessary for e-Governance as rapid developments in technology and processes make it necessary for officers to keep abreast of the latest trends. Systems must be put in place to ensure that Government officers have opportunities for continuous learning and linkages are created between their learning needs and the fulfillment of their personal aspirations. Knowledge sharing and building communities of practice will also enable continuous learning and breaking hierarchies of position and age. Professional bodies like PMI and ITIL have established certain good practices that could be adopted.

8.3.5. Community of Practice (CoP)

It is recommended to establish, at a Central level, "Community of Practice (CoP) in the area of e-Governance". The CoP will be a connected e-Governance community within the Government, which could be an Expert pool for e-Governance, mentor employees, become part of the faculty pool and contribute by way of project case writing and knowledge sharing. The CoP should be linked to levels of Certification attained by Government employees based on their level of competency.

8.3.6. Certification for key positions

The National Training Policy of the Government of India states that "for transforming the civil service, it is imperative to move to a strategic human resource management system, which would look at the individual as a vital resource to be valued, motivated, developed and enabled to achieve the Ministry/Department/Organization's mission and objectives. Within this transformational process, it is essential to match individuals' competencies with the jobs they have to do and bridge competency gaps for current and future roles through training."

The Committee recommends that certification for some of the key positions such as CIOs and expert teams, on the core competency areas, should be a desirable requirement, if not a pre-requisite. The training and certification for each level shall be finalized by DeitY as part of the competency framework.

8.3.7. Recognizing and Rewarding Skilled Personnel

Capacity Building programmes would need to look at incentives for acquiring skills. Incentives such as additional increment, entry in APARs, opportunities for training abroad, cash rewards, special leave for undertaking longer-duration training programmes in e-Governance, need to be designed. The incentives would need to be formulated by DeitY in consultation with DARPG and DoPT and incorporated as policy changes that can be implemented across the board at Central and State/UT levels.

Not only must trained personnel who acquire high level skills / certification be incentivized, they must also be considered for deployment in mission critical projects. A list of such officers should be maintained by NeGD centrally and also be available on the website of DeitY in order that the organizations/projects can readily draw upon these resources.

8.4.   Support of Government of India in Training and Development

DeitY has been supporting training and development initiatives in e-Governance for the officials of the State Government/UTs under the Capacity Building Scheme. This needs to be continued and upscaled and the training initiatives need to be extended to all Central Government Ministries and Departments.

9.   Other Recommendations

As seen in earlier chapters, the need for skilled human resources for e-Governance is set to grow in the coming years.   Therefore, there is a need to ensure that the increased requirement of academically qualified resources is realized through appropriate interventions in the educational curriculum.

9.1.   Changes in College curriculum

The "Committee for Institutional Assessment & Capacity Enhancement", in its Report dated July 2008, had recommended:

i.   Formulation of specific courses/curriculum/electives in areas of relevance to e-Governance.
ii.   Positioning of the above initiative to extend beyond the top tier institutions.
iii. Sensitizing faculty and students alike on the role they could play in this major national programme. Creating awareness on the relevance of key management skills, concepts and practices to the successful implementation of the NeGP.

This Committee, having regard to the above recommendations, and also its assessment of the need for a higher number of academically qualified resources to meet the increased demands for the implementation of e-Governance, recommends that e-Governance should be a part of the regular University/ College professional programmes and disciplines. It may be introduced as an elective in the Engineering courses (Electronics, Communications, Computer Science, IT, etc) at the graduate and post graduate level and also in programmes like BCA and MCA. This will ensure a pipeline of a knowledgeable pool of candidates for the Government as well as the private sector. The design and content for the professional programmes for Universities/ Colleges will need to be decided in consultation with AICTE and UGC. The assistance of NIELIT which is already conducting University affiliated professional programmes in Electronics and IT may be taken for this purpose. Training modules developed for training of Government employees may also be shared with National Universities to enable them to develop college and university level courses and curriculum.

With a view to making e-Governance an attractive subject in Universities/Management Institutes, opportunities should be created for internship within Government and Industry.

DeitY is conducting University level workshops throughout the country to sensitize the faculty and students on the national plan for e-Governance, progress achieved and challenges that are to be overcome. Such initiatives should be institutionalized and funded.

9.2.   Knowledge Management

Knowledge Management (KM) is the systematic, explicit, and deliberate building, renewal, and application of knowledge to maximize the knowledge-related effectiveness of an enterprise. Knowledge Management is critical to the success of e-Governance, as a vast body of knowledge and data is exchanged among various parties on a continuous basis. Information and communication technology provides very powerful and easily manageable possibilities of retrieving, exchanging and generating data, information and knowledge.

9.2.1 Knowledge Management Framework

The Committee recommends developing a Knowledge Management (KM) Framework to capture and harness knowledge on e-Governance both within the country and outside.

The KM Framework should have the following components:
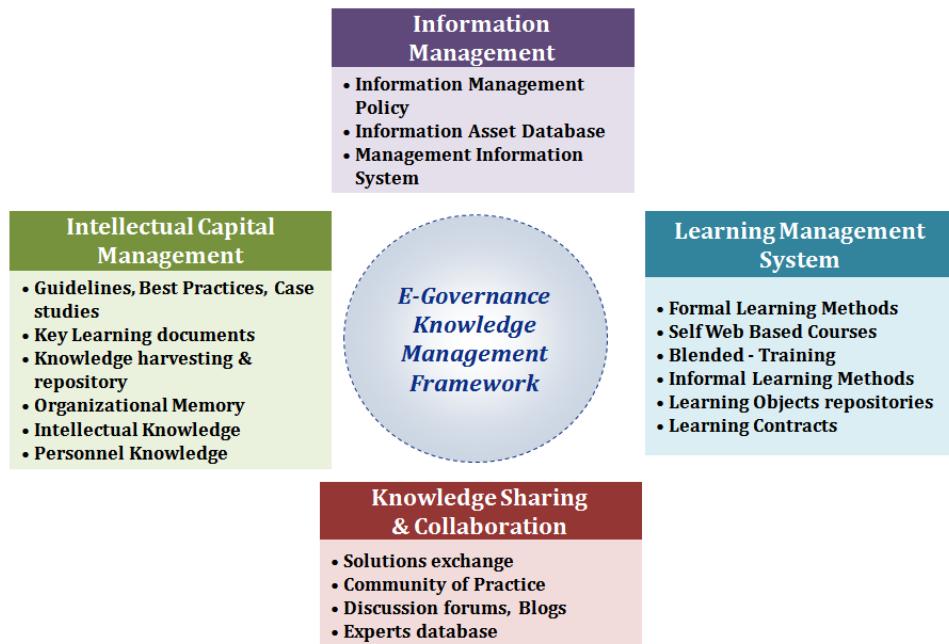
Fig 6: e-Governance Knowledge Management Framework[17].

These components will form the core of the e-Governance KM strategy. However, the KM strategy may not be limited to the above components. Components may be added / deleted depending upon the needs of the organization.

9.2.2 Knowledge Portal

To enhance and leverage the store house of explicit and tacit knowledge being generated by professionals involved in e-Governance, a Knowledge Portal may be setup. This portal should be a single online stop for e-Governance stakeholders to access latest information and post queries related to projects. This would create an information-catch-all mechanism that leads to conversion of hidden or tacit information into re-usable knowledge. It will help e-Governance stakeholders to learn from each other's past experiences to enhance success and to mitigate threats and road blocks in project completion.

Setting up of a Knowledge Management Portal will strengthen the on-going capacity building programme and help the Ministries/ States in coping with *information explosion.* It will have a positive spill-over and multiplier effect on policy making, analytical and applied skills in e-Governance policy formulation and implementation and facilitate getting the right information to the right people at the right time. It would help people create knowledge and share and act upon information in ways that will measurably improve the performance of

---

[17] Inputs from Dr. Pradeep Kumar, Ex. Vice Chairman & Coordinator – Centre for Learning in ICT & e-Governance, IIPA, New Delhi

projects and its staff. The portal should be multi-pronged to include the following:

   i.   A Centralized Documents Repository for Information and Intellectual Capital Management

  ii.   Enterprise wide Collaboration framework with a social networking aspect for knowledge sharing and collaboration

 iii.   An Expert Network

 iv.   A Learning Management System

i. Centralized Documents Repository

Currently, there is no repository available for officials to make use of and refer to the best practices adopted in past. Sometimes, this leads to reinventing the wheel every time a project is faced with a critical problem. Most of the knowledge intensive industries maintain a centralised repository of all the documents which acts as ready reference for employees. Availability of all project information at one common location would be advantageous and convenient for officials working on a project. A document repository provides such a platform for managing and archiving documents on a shared server. It also forms a suitable platform for sharing best practices with team members. Documents consisting of induction manual, best practices/learning, domain knowledge documents, project level documents related to requirements/design/software specifications/testing etc. can be kept in the repository. This would help new members starting work on a project and ensure that project related information is not lost with the departure of team members.

DARPG is already documenting best practices in e-Governance gleaned through the annual e-Governance awards. These documents would be a valuable input into the Centralized Document Repository.

ii. Enterprise wide Collaboration framework

Knowledge Management support to stakeholders with seamless and immediate access to people, knowledge and expertise through world-class collaboration is envisaged as one of the critical components of the Capacity Building Scheme. This framework would empower users with tools to generate real-time knowledge on an-incident basis.

iii. Expert Network/ Community of Practice (CoP)

In order to leverage the consultative skills of professionals aligned with e-Governance, the committee recommends creation of an Expert Network. This expert network will:

- Contain an online repository of Expert Profiles, searchable by a detailed taxonomy, keyword, and profile attributes
- Facilitate consultations which could be telephonic, web-conferencing, one on one meeting and site visits

iv. Learning Management System:

This component shall include both formal and informal methods of learning. It will facilitate self learning and blended learning and help address the training requirement of the staff by synchronizing the effort with other capacity building initiatives.

The Governance Knowledge Centre in the DARPG's website contains, *inter alia,* a repository of the best Governance practices, including some case studies on e-Governance as well. The Knowledge Portal for e-Governance could have suitable linkages with the Governance Knowledge Centre.

10.   Funding

10.1. Background

The Committee recognizes that the Report will remain incomplete without specific suggestions on the fund requirements arising from the recommendations of the Committee, the details of which are discussed in this Chapter. However, the Committee is of the view that the additional fund requirements could be balanced if we take into account the spending already incurred by the Government on outsourcing of these activities, as well as the direct financial savings due to the shortening of the project cycle and economic linkages that may arise on account of efficiencies resulting from the implementation.

10.2. Funding Requirements

The funding requirements can be classified as under:

    i.   Funding required for the recommendations linked to the projects
    ii.   Funding required to attract, retain and incentivize resources
   iii.   Funding required for creating institutions of a perpetual in nature
    iv.   Capacity Building Scheme

10.2.1.   Funding required for the recommendations linked to the projects

In view of the criticality of having a project team in place, well before the implementation of the project, the Committee has recommended in Chapter 5 that no significant investment should be made in any major e-Governance project without positioning of a Dedicated Project Team.

The setting up of the dedicated project teams which would be responsible for end to end management of the projects will require a very small percentage of the project cost but the savings in terms of time and money and project outcomes will be immeasurable. The cost of the teams would be met from within the project outlays and no additional budget is required to be provided for.   The Committee, therefore, recommends that the funds required for setting up the Dedicated Project Teams should be earmarked by the respective Line Ministry/ Department within the project outlays at the time of sanctioning of the project. A capacity building component shall also be built into the project cost which should be upto5% of the project cost.

10.2.2.   Funding required to attract, retain and incentivize resources

A separate set of incentive has been recommended for in-service officers deployed against identified positions, through a selection process based on competencies. The committee is of the view that the increase in the funds for this purpose should be part of the budgets of the respective Line Ministry/ Department. The additional expenditure on this account will be negligible compared to the enormous benefit that the Government will derive by way of timely project outcomes and quality of project implementation by attracting competent resources to these positions.

10.2.3. Funding required for creating institutions of a perpetual in nature

i. **NeGD:** The Committee has recommended that NeGD will need to continue on a long term basis and be suitably strengthened and re-structured to play its role as the central agency for programme management of NeGP and providing professional support to DeitY on a sustained basis to the Centre and States/UTs. Funding for the NeGD on a long term basis may, accordingly, be provided.

ii. **CIO structure:** Creation of posts will be required for the CIO structure recommended for Line Ministries. Such posts will be required on a long term basis. The importance of this role and the functions of the CIO team have been detailed in Chapter5. Since the CIO has to push for Ministry-wide e-Governance initiatives and serve as the focal point to oversee the e-Government efforts within the Ministry and also align the Ministry's e-Governance goals with those of other Ministries/ Departments, this role is critical for the success of e-Governance. The Committee, therefore, recommends that the respective Line Ministry should budget the funding of these teams.

iii. **NIU/SPVs:** Institutions such as NIUs/SPVs which are perpetual in nature should have an independent and self-sustaining funding model where in the institution levies charges for its service to the respective Line Ministry/ Department. It is important that a user levy policy is clearly spelt out in respect of e-Governance services taking into account the need for viable and sustainable business models for such institutions.

iv. **e-Governance Academy:** The e-Governance Academy, to be setup under the joint ownership of DOPT, DARPG and DeitY, as recommended in Chapter 8, should be able to work out a self-sustaining business & financial model (e.g., levy user charges/ charge for services or a combination). However there would be a need for an initial corpus and minimum annual core funding. The Committee recommends that a provision should be made for the same.

v. **Knowledge Management Portal:** Additional funds required from the Government of India for setting up knowledge portal and its regular up-gradation and maintenance may not be significant. Funds required for this initiative may be met out of the Capacity Building funds.

10.2.4. Capacity Building Scheme

10.2.4.1. Training initiatives

Presently, funding for the Capacity Building is essentially for the States and Union Territories. Details of training initiatives currently in place and those that require to be introduced have been discussed in Chapter 8. Considering the importance of Capacity Building as one of the eight support components of the NeGP, the funding for this activity is considered essential. The Committee therefore recommends that the training initiatives under the Capacity Building scheme should be continued and extended to cover the Central Line Ministries also. Appropriate funds should be provided for the same.

10.2.4.2. SeMT Scheme

The Government of India is also providing support to the State Governments/Union Territories, under the Capacity Building Scheme, by providing to the IT Departments of the States and UTs specialised manpower as part of SeMTs. This has provided the much needed professional support to the State Governments/Union Territories in implementing their e-Governance projects. The Committee recommends that this scheme should be extended for another 5 years.

10.2.5. Other Recommendations

University Level Workshops: DeitY is conducting University level workshops throughout the country to sensitize the faculty and students on the national plan for e-Governance, progress achieved and challenges that are to be overcome. Such initiatives should be institutionalized and funded.

Annexures

Annexure I: Communication from Prime Minister's Office
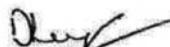
PRIME MINISTER'S OFFICE

South Block, New Delhi – 110 101

The approved minutes of the first meeting of the Prime Minister's Committee on National e-Governance Plan are enclosed for necessary action.

2.   While approving the minutes, the Prime Minister has also approved that the DIT may be requested to prepare an HR Policy for taking NeGP forward. This policy could become part of NeGP itself. This policy could include plans for:

(i)   Strengthening presence of IT personnel in the Ministries/Departments and in the State Governments that are responsible for delivering the 31 identified Mission Mode Projects (MMPs).

(ii)   Strenghtening NIC. This could include

a. raising staff strength, enhanced training and exposure to best practices;
b. incentivizing NIC professionals to patent and commercialise their work. Entrepreneurship among NIC professionals can be encouraged by commercialization grants and seed funding/incubation;

(iii)   Harnessing the tremendous IT talent that exists outside the government but within the country. There could be a process to institute a seamless movement and exchange of IT professionals between public and private sectors. Private industry may be encouraged to participate in the NeGP effort through the PPP mode. There is need to treat the entire knowledge domain in IT in the country as connected.

(Dheeraj Gupta)
Director

Secretary, Department of Information Technology
PMO ID no. 460/31/C/11/2011-ES.I(Vol. 2)   Dated: 12.12.2011

Minutes of the first meeting of the Prime Minister's Committee on National eGovernance Plan

A meeting of the Prime Minister's Committee on NeGP, chaired by the Prime Minister, was held on 23.11.2011 at 7, Race Course Road, New Delhi. A list of those present at the meeting is placed at Annexure A.

2. The Prime Minister welcomed the participants and mentioned that the country has been maintaining a healthy growth rate and significant progress has been made in all areas. Referring to the need to tackle corruption, he stated that improvement needs to be made in the delivery of public services, and Information & Communication Technology (ICT) can play a major role in this. He further stated that for inclusive growth and for wider access to public services, eGovernance needs to permeate every aspect of governance. He highlighted that ICT has a major role in bringing about greater transparency, efficiency and accountability in government procurement. He stated that widespread penetration of mobile devices presents us with an unparalleled opportunity to deliver public and financial services to the remote and far-flung areas of the country.

3. The Minister of Communications & Information Technology informed the committee that under NeGP, robust e-infrastructure is being created to facilitate deployment of ICT solutions by various Departments and state governments, in addition to implementation of a number of Mission Mode Projects (MMPs) which have a high level of citizen interface. He further informed that significant progress has been made both in the creation of e-infrastructure and in delivery of services identified in MMPs. He further stated that 27 State Wide Area Networks, 16 State Data Centres and about 97,000 Common Service Centres (CSCs) have been set up, and 600 out of 1,100 services planned under MMPs are being delivered.

3.1 He also mentioned that to speed up the process of enabling electronic delivery of public services, the Department of Information Technology (DIT) is proposing enactment of an Electronic Delivery of Services (EDS) Act, which would mandate compulsory provision of public services through electronic means from specified dates. He stressed the need to adopt e-procurement in a phased, time-bound manner. He stated that mobile devices such as the Aakash tablet hold tremendous potential to expand the reach of and access to public services. He informed that DIT has already published a draft policy framework for leveraging mobile devices.

3.2 He further stated that it was imperative to expand the NeGP umbrella to other sectors, such as Education, Health, Posts and PDS, for greater citizen

1

empowerment and inclusive growth. He also expressed the need to strengthen synergies and deepen the relationship of NeGP with Bharat Nirman and other flagship programmes of the Government of India. He urged the Prime Minister to declare NeGP as a flagship programme of the Government of India.

4. Secretary, DIT, in his presentation, highlighted that effective implementation of governance initiatives demands both scale and quality, which is possible only through infusion of technology. He stated that NeGP, focussed on service delivery, is gaining traction. He further informed that although 18 out of 27 MMPs have started delivering services, these services are not uniformly available across the country. He also apprised the committee about the progress made under the various support components of NeGP, for which DIT is primarily the nodal agency.

4.1 He also informed the committee that there is a need for greater emphasis on process re-engineering and sustained high-level ownership and drive. He mentioned that inadequacies in project leadership in Departments/states remain a major bottleneck. He opined that new technologies could help expedite delivery of services, and that there was a need to identify projects that could be brought to fruition quickly. He suggested that an Expert Group may be constituted to look into each project, to identify critical issues and suggest measures to address the same.

4.2 He further informed the committee that the Electronic Delivery of Services (EDS) Bill, which would mandate e-delivery of all public services within five years of its commencement, has been finalized in consultation with Ministries/states and is proposed to be introduced in the winter session of Parliament.

4.3 On e-procurement, he stated that ICT could bring about more transparency, cost-competitiveness and efficiency in public procurement. However, adoption of e-procurement requires changes in processes and training of officials and of bidders, in addition to putting in place a certification mechanism to ensure that the e-procurement solutions are secure. He proposed mandatory adoption of e-procurement in a phased and time-bound manner.

4.4 On delivery of services through mobile devices, he stated that high penetration of mobiles and availability of low cost access devices like Aakash can be leveraged to enhance the reach of public services. He suggested delivery of all public services through mobile devices as well as in all projects.

4.5 Regarding new MMPs under NeGP, he informed the committee that the Apex Committee on NeGP has approved inclusion of four MMPs on Health, Education, Posts and PDS. He further mentioned that the Departments

2

concerned needed to adopt all possible measures, including cloud-based utilities, for expeditious implementation.

4.6   On extension of banking services to panchayats using ICT and mobile technology, Secretary, DIT, informed the committee that the Department of Financial Services plans to provide banking facilities by March 2012 in 73,000 villages that have a population of over 2,000. He suggested extension of basic banking services to every panchayat through Common Service Centres (CSCs), and money transfer facility to every village by December 2013, leveraging ICT and mobile technology.

5.   Thereafter, the Committee discussed the items on the agenda and suggestions made by the Department of Information Technology. The following points/views figured in the course of these discussions:

(1) The overall direction presented is strategically correct. However, proper implementation needs to be ensured.

(2) It must be ensured that assumptions underlying the plans are realistic.

(3) While there are issues with implementation, these can be taken care of. In the last few years, tremendous advancement has taken place in technology and new platforms created; the challenge now is to integrate these platforms and use them for participatory implementation.

(4) Implementation issues can be raised with the Expert Group proposed. Suggestions may also be sought from outsiders who are knowledgeable. The usefulness of eGovernance is not in computerising and automating the existing processes but in re-engineering processes. While DIT provides handholding support, process re-engineering is to be undertaken by each Department.

(5) Duplication of efforts should be avoided and States and Departments should learn from each other, rather than try to reinvent the wheel.

(6) As core infrastructure is quickly coming in place, there is an excellent opportunity for each Department to use new technologies and accelerate the rollout of their services.

(7) In view of fast-growing expectations and aspirations, and rapid technological obsolescence, we must have targets only for two years at a time.

(8) For purposes of strategic control, it is necessary that application development be managed in-house, and that NIC assume as its role provision of consultancy and strategic control.

3

(9) The biggest constraint in the adoption of eGovernance is lack of enough qualified resources. At times, it is advised that help of NIC be taken in development of an application, although when NIC is approached, NIC cites shortage of staff as a constraint in rendering the necessary help. Further, the staff of NIC is understood to be underpaid for this kind of work. Therefore, possibilities may be explored of sourcing software from outside NIC.

(10) For capacity building, resource persons have to be trained within the Government, and private sector outsourcing resorted to wherever needed.

(11) Software, and even hardware, may be outsourced to the private sector, except in strategic sectors. Government must focus on process reengineering and capacity building.

(12) Creation of utility-like models may be useful for expediting implementation of eGovernance projects and for avoiding duplication.

(13) Government must pick the right officers for eGovernance initiatives and incentivise them well.

(14) One of the biggest challenges in eGovernance is capacity building at the Centre as well as in states. At the last Apex Committee meeting, DIT has been asked to organize 50 regional workshops, which are currently being organized

(15) While good progress has been made under NeGP, this progress is uneven and more handholding is required for those states where progress is slow, especially for the Northeastern states.

(16) Most of the public services are being delivered by state governments, which have been asked to allocate 3% of the Plan budget for eGovernance initiatives. However, they are slow in implementing eGovernance projects.

(17) We must make a commitment to deliver all services both through CSCs, which provide assisted service, and through mobiles, for self-service.

(18) CSCs are very much required because a large number of poor people cannot afford to have their own devices.

(19) CSCs as business correspondents can be a game-changer for the entire country.

(20) To ensure that the benefits of eGovernance reach all citizens, all handsets and access points should support the local language.

4

(21) The goal of financial inclusion by December 2013, as indicated in the presentation, appears feasible. The Ministry of Finance is already taking necessary steps, and is also in contact with the UID Authority of India in this connection.

(22) The eGovernance projects of Income Tax and Central Excise could yield more results with further simplification of procedures.

(23) In view of complexities involved in certain public procurement process, like the two-stage bid process, it needs to be considered how a computerised e-procurement solution could work for non-routine procurement.

(24) An e-procurement utility could be established and this could start with a few Departments, with other Departments joining in over time, depending upon the level of readiness.

(25) Though e-procurement cannot be made 100% mandatory, it can be certainly be adopted in a phased and time-bound manner. A lot of e-procurement has already been adopted by different organizations and states.

(26) Since large sums of money are being invested in eGovernance initiatives, NeGP requires national branding, for which NeGP may be declared as a flagship programme.

(27) Government has done good work in improving the functioning of the legal system by using eGovernance solutions for the common man. Legal aid facilities are also being provided for those who cannot afford the legal system.

(28) While creating new organisations, Government needs to guard against simply adding to the manpower. Instead, we must leverage technology to achieve the objectives of bringing transparency, accountability and efficiency in delivery of public services. All new initiatives should be designed with infusion of technology in them from day one.

(29) The EDS Bill should be aligned with right to services legislation, as the latter alone cannot deliver services without effective use of ICT.

(30) The Department of Administrative Reforms and Public Grievances is preparing a Bill on Public Grievances. There is a need to harmonise this Bill with the EDS Bill.

6.   After detailed discussions, the committee endorsed the following:

(a) All Departments concerned need to adopt all possible measures for expeditious implementation of MMPs.

(b) An Expert Group would be constituted with the approval of the Prime Minister to review each project and suggest measures to address critical issues, including process re-engineering, open standards, creation of a common platform, and integration across projects. The Expert Group would be supported by professionals and consultants as required, and may also draw upon expertise available with the States / Union territories. DIT would serve as the secretariat for the Expert Group.

(c) The Electronic Delivery of Services (EDS) Bill would be introduced in the winter session of Parliament.

(d) E-procurement would be adopted mandatorily, in a phased, time-bound manner. The Department of Expenditure would drive the adoption of e-procurement by Central Ministries/Departments, Central Public Sector Enterprises and autonomous/statutory bodies, and e-solutions would be certified by DIT on technology and security.

(e) Public services under all projects would be delivered through mobile devices as well.

(f) Basic banking services would be extended to every panchayat through CSCs, and money transfer facility would be extended to every village by December 2013, leveraging ICT and mobile technology.

7.   The meeting ended with a vote of thanks to the Chair.

***

6

List of participants/ attendees

1. Dr. Manmohan Singh, Prime Minister of India
2. Shri Pranab Mukherjee, Finance Minister
3. Shri P. Chidambaram, Home Minister
4. Shri Kapil Sibal, Minister of Communications & IT
5. Shri Salman Khursheed, Minister of Law and Justice
6. Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission
7. Shri Nandan Nilekani, Chairman, UID Authority of India
8. Shri V. Narayanasamy, Minister of State (Independent Charge) for (Personnel, Public Grievances & Pensions)
9. Shri Sachin Pilot, Minister of State for Communication and Information Technology
10. Shri Pulok Chatterji, Principal Secretary to PM
11. Shri Ajit Seth, Cabinet Secretary
12. Shri Kiran Karnik, Expert
13. Shri Som Mittal, President, NASSCOM
14. Shri R. S. Gujral, Finance Secretary
15. Shri R. Chandrashekhar, Secretary, Department of Information Technology
16. Shri Sumit Bose, Secretary, Department of Expediture
17. Shri Rahul Khullar, Secretary, Department of Commerce
18. Shri D. R. Meena, Secretary, Department of Legal Affairs
19. Shri V. K. Bhasin, Secretary, Legislative Department
20. Dr. B. K. Gairola, Director General, National Informatics Centre
21. Shri Harish Khare, Media Advisor to PM
22. Shri R. Gopalakrishnan, Member Secretary, National Innovation Council

Annexure II: Constitution of the Expert Committee

No. 6(1)/2012-EG II
Govt. of India
Ministry of Communications & Information Technology
Department of Information Technology
(E-Governance Group)

Electronics Niketan
6 CGO Complex, Lodhi Road,
New Delhi – 110003
Date: 05.03.2012

OFFICE MEMORANDUM

Subject: Constitution of Expert Committee to frame the HR Policy for e-Governance

In pursuance of the Prime Minister's directions, to prepare an HR Policy for e-Governance, it has been decided with the approval of the Competent Authority, to constitute an Expert Committee to frame the HR framework and policy for e-Governance, which would address the need for harnessing talent from the Government as well as from the open market.

2.   The Composition of the Expert Committee will be as follows:

i)	Shri Nandan Nilekani, Chairperson,UIDAI	– Chairperson
ii)	Shri R Chandrashekhar, Secretary, DIT & DOT	– Member
iii)	Secretary, DoPT	– Member
iv)	Secretary, Expenditure	– Member
v)	Shri J. Satyanarayana, CCLA and Special CS, GoAP	– Member
vi)	Shri Ravi Saxena, Additional Chief Secretary, Science & Technology, Gujarat	– Member
vii)	Dr. B.K. Gairola, DG, NIC	– Member
viii)	CEO, NATGRID	– Member
ix)	Shri Som Mittal, President, NASSCOM	– Member
x)	Shri Sanjeev Mital, CEO, NISG	- Member
xi)	Shri Kiran Karnik	– Member
xii)	Dr. C. Muralikrishna Kumar, Sr. Advisor, Planning Commission	– Member
xiii)	Additional Secretary/Joint Secretary,DIT	– Member
xiv)	Shri Ajay Sawhney, President & CEO, NeGD	– Member Convener

3.   The Expert Committee would be assisted by a Core Group consisting of the following members:

Core Group for HR Policy:

i)	Ms. Deepa Sengar, Director, Capacity Building, NeGD	- Chairperson
ii)	Shri D. Krishnan, (Addl. Commissioner, CBEC and ex-PC,NeGD)	- Member
iii)	Shri K.S. Saha, Retd. Director, DoPT	- Member
iv)	Ms. Rama Vedashree, Vice President. NASSCOM	- Member

3.1 Members of the Core Group would assist the Committee as Special Invitees.

4.   Terms of reference of the Expert Committee:

4.1   The following would be the terms of reference of the Committee:

I.   Study the existing HR Policy of Government/Public/Private Sector and identify gaps in the existing HR framework and policies with respect to fulfilling requirements of e-Governance, both for the implementation and maintenance phase.
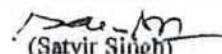
- :: 2 ::-

II.   Arrive at an inclusive HR Policy framework to:

   a.   Enable identification, incentivisation and positioning of existing talent within the Government;
   b.   Attract, retain and effectively leverage human resources from the market for short and medium term requirements and induct high caliber professionals into the government.
   c.   Provide opportunities for growth and career advancement both for Government officials and open market professionals in the e-Governance space so as to retain talent.
   d.   Establish linkages, of experience in e-Governance, with promotion and career growth path of Government officials;
   e.   Allow deputation of officers from the government to public and private sector organizations on short-term contracts;
   f.   Strengthen NIC by raising the staff strength, lateral entry, enhancing training and incentivising staff to help them contribute effectively to e-Governance;
   g.   Enable other technical organizations and emerging e-Governance SPVs within the Government to attract and retain skilled resources for e-Governance;
   h.   Build scalability and flexibility in the policy framework to cope with the dynamic nature and quantum of work over the years;
   i.   Design HR profile for various roles at different stages of e-Governance and the appropriate positioning of Government and open market resources for each role.
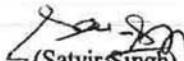
III.   Suggest a suitable organizational structure to help implement the HR Policy framework.
IV.   Suggest necessary changes in the existing HR Policies and the HR and financial rules within the Govt. to implement the suggested HR Policy for e-Governance.
V.   Recommend mechanisms by which the entire knowledge domain in e-Governance in the country could be connected enabling seamless movement of talent across e-Governance programmes and projects.
VI.   Any other issue which is relevant to achieving HR Policy outcomes spelt out in the Note vide PMO ID No.460/31/C/11/2011-ES.I(Vol.2) dated 12.12.2011.
VII.   The expert committee will meet once in a month or at such intervals as it deems fit and the Chairman may invite any expert as a special invitee and the Committee shall submit its report within a period of three months.

This issues with the approval of Secretary, DIT vide OPA 32568 dated 15.02.2012.

(Satvir Singh)
Joint Director

To

   1.   All members of the Expert Committee
   2.   All members of the Core Group
   3.   Guard file

(Satvir Singh)
Joint Director

No. 6(1)/2012-EG II
Govt. of India
Ministry of Communications & Information Technology
Department of Information Technology
(E-Governance Group)

Electronics Niketan
6 CGO Complex, Lodhi Road,
New Delhi – 110003
Date: 25.10.2012

OFFICE MEMORANDUM

Subject: Constitution of Expert Committee to frame the HR Policy for e-Governance.

Ref: O.M. No. 6(1)/2012-EG II dated 05.03.2012

In partial modification of this Department's O.M. of even number dated 05.03.2012 for constitution of a Expert Committee of the above cited project, the undersigned is directed to convey the nomination of Secretary, DAR&PG as a member of Expert Committee to frame the HR Policy for e-Governance.
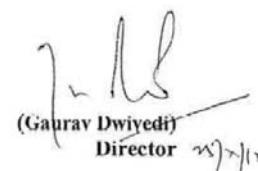
This issues with the approval of Hon'ble MCIT.

(Gaurav Dwivedi)
Director

To

1. All members of the Expert Committee
2. All members of the Core Group
3. Dir(MR), DeitY
4. Guard file

(Gaurav Dwiyedi)
Director

Annexure III: Country specific Case Studies

1.   e-Governance HR Practices in Canada[18]

Recognizing the importance of information and information technology (I&IT) as an essential foundation for transforming Government and improving public service deliver by leveraging the same, the Ontario Public Service (OPS) embarked on its journey of transformation. The process of recognizing the need for change and aligning systems and processes to ensure successful transformation of the Ontario Public Service began in 1998 with a vision for OPS to be an organization that is customer – centered, focused on its core business, streamlined and integrated, and accountable for delivering results.

The OPS viewed technology as a primary enabler of the transformation aiming at increasing the effectiveness and efficiency of the Government and the way it delivers services to the public. It sought to become an e-Government viz. by changing the internal processes and practices, providing a variety of electronic channels for direct service delivery, facilitating a two-way citizen engagement etc.
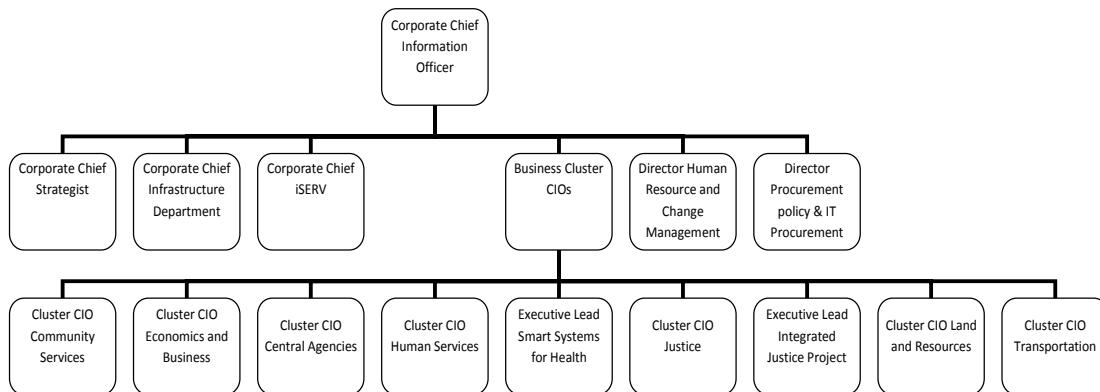
Their study of the existing status of I & IT revealed lacunas in the existing system such as the absence of a corporate authority with capability to provide direction and leadership to support such initiatives and integrate initiatives of various ministries. IT was treated as a cost and there were issues in overall financial control on IT related investments. Also the employment market for skilled IT professionals was tight and consultants were expensive.

Keeping the vision in mind, the Government began to develop a new I&IT strategy for the entire OPS focusing on aspects of Organization, Systems, People and processes. A new organizational structure was created for the OPS with the intent to rebalance corporate and local Ministries interests and strengthen the links between I& IT and the Government's business direction. As a first step to the change in the organization structure the OPS created the post and appointed a CCIO (Corporate Chief Information Officer) in the Management Board Secretariat whose primary responsibility was to provide corporate leadership for I&IT across the Government.

Ministries that delivered programs and services with common themes were grouped into clusters to ensure optimal utilization of resources. The clustering strategy represented a major departure from the Government's traditional approach of organizing I&IT activities by individual ministries. The clustering strategy helped OPS become a more integrated enterprise with the goal of improving service delivery, policy and planning. For each business cluster there was a CIO appointed and entrusted with the responsibility to develop an I&IT plan for their cluster, manage resources and architecture, stakeholder management etc. A diagrammatic representation of the model is given the following page:

---

[18] Leading the way, Transforming the Information & Information Technology Organization of the Ontario Public Service, A Retrospective Case Study Documenting the Journey of the Human Resources & Change Management Branch, August 2002

Transforming Public Service for the 21ST CENTURY: An Ontario Perspective, Ontario Public Service Restructuring Secretariat Cabinet Office, April 2000

I&IT organization structure in August 2002

With the new vision and strategy in place, a need to attract, direct, organize and retain qualified IT professionals was recognized and so a dedicated office of Human Resources and Change Management Brand within the CCIO's office was set up. HRCMB was responsible for ensuring capability development and smooth transitioning to the new I&IT structure. The office focused on 3 priorities – recruitment, organizational design and structure and change management.

The office of HRCMB partnered with IT consultants to establish a new organization structure with an aim to maximize the efficiency and effectiveness of the available resources. HRCMB has created a recruitment strategy in line with the vision and business objectives of OPS. It partnered with external recruitment agencies to establish accountabilities and competencies for various positions and start a country wide recruitment campaign to recruit qualified and skilled IT professionals. Both internal and external candidates were considered for new positions within I&IT. The need for developing a new compensation structure to complement the new structure and talent was also recognized and a revised compensation structure with a redesigned incentive system was developed. The external staff was offered salaries within the same range as the people selected for these positions from within Government.

OPS emphasized the importance of driving the change and strategy initiatives as a part of their transformation process. The branch focused on building organizational capacity by developing dynamic leaders (conducting leadership events, developing a leadership framework, succession planning) fostering a learning culture (identify key roles, develop an integrated learning process, tie up with vendors for creating learning modules) and attracting and retaining IT youth (initiating internship programs, revised recruitment practice).

Having initiated transformation and deployed measures to driving the change process HRCMB directed its efforts in ensuring sustenance of the change initiatives. It attempted to ensure acceptability of the new processes and systems by creating awareness through the OCCIO website, conducting employee surveys and increasing stakeholder awareness.

The success of the OPS e-Government transformation process is a factor of recognizing the need for change and establishing a planned strategy to align Government's vision to the overall business objectives with an aim to provide efficient and effective delivery of public services.

2. e-Governance HR Practices in UK[19]
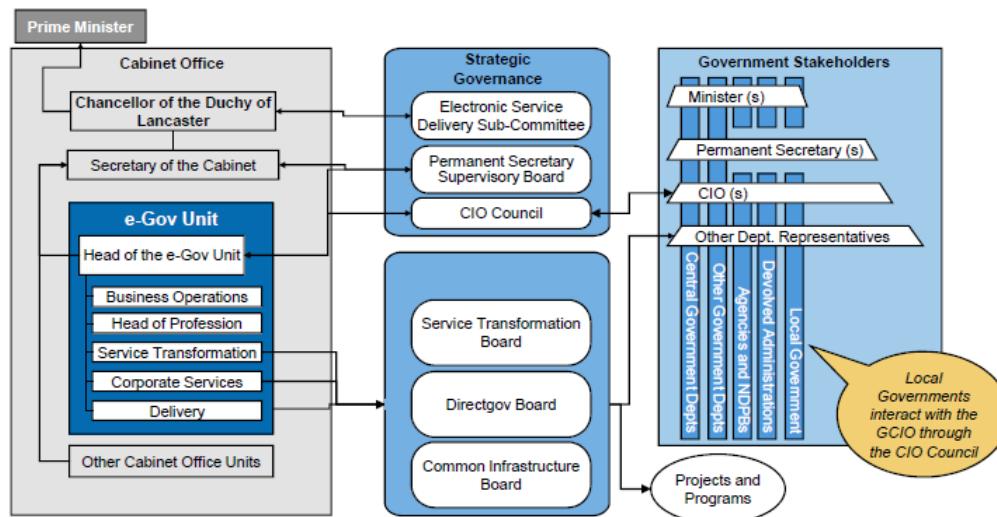
The UK has established a dedicated, powerful function focusing on e-Government and service delivery transformation.

The UK has an ICT capability strategy that includes as key outcomes a blueprint for a programme to utilise and develop talent amongst existing civil servants and the guiding principle that Senior Responsible Owners (SROs) are appointed on the basis that they will stay in the post until an appropriate break point in the ICT programme or project life to reduce the risk of failure.

The UK Government integrates the Civil Service Common Curriculum, and national skills frameworks, occupational standards and qualifications so as to increase the capability of ICT professionals at all levels and sets standards for the key transition points to G6/7, to SCS, to CIO and for graduate entry.

The strategy defines the entry mechanism into the Government IT profession at any level including the levels of CIOs. There are professional Government academies like IT Academy and CIO Academy which act as propellants for accelerated development streams at Civil Service Grades 6/7 (or equivalents) and the Senior Civil Service (SCS) levels to their entries in the SCS and CIO respectively.

The Blueprint is a pictorial representation of how career development paths in the IT Profession, entry routes, progression (i.e. promotion) gateways, and curricula (for ICT skills, common civil service skills, and the gaining of wider experience) all fit together as a whole. It is for civil servants who identify themselves as members of the IT Profession, and everyone in the Profession fits somewhere within it. From their current position, everyone is able to see possible routes forward in their development, identify the skills and the experience they need to acquire and the standards they need to reach, and have access to the means to achieve their goals.

Note: Organizational structures are shown for the periods during which the subject countries were initiating and aggressively developing their E-Government capabilities. Those periods are the most relevant for the current Indonesia context.
Source: UK Cabinet Office, Booz & Company analysis

UK e-Governance Structure
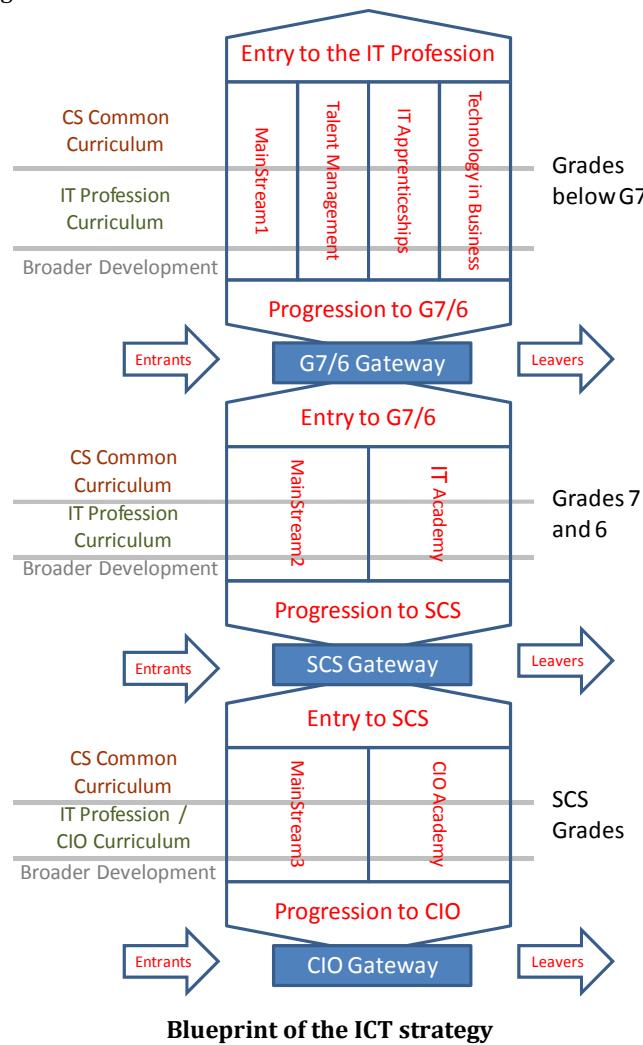
The Blueprint provides the bridge between the specific development needs and curricula for the IT Profession, and the Civil Service Learning Common Curriculum. There is a significant amount of work

---

[19] i-Government Working Paper Series, Paper No. 12, Richard Heeks, Building e-Governance for Development: A Framework for National and Donor Action, 2001

Government ICT Capability Strategy, A sub strategy of the Government ICT Strategy, March 2011

E-Governance Structure and Processes, Presentation of Analysis, Findings, & Recommendations, Jakarta, July 13, 2010

involved in defining the content of each development stream (a rectangle in the picture) and making it accessible and usable — the number of possible combinations of grades, skills combinations and skill levels is very high.

Blueprint of the ICT strategy

3.   e-Governance HR Practices in Malaysia [20]
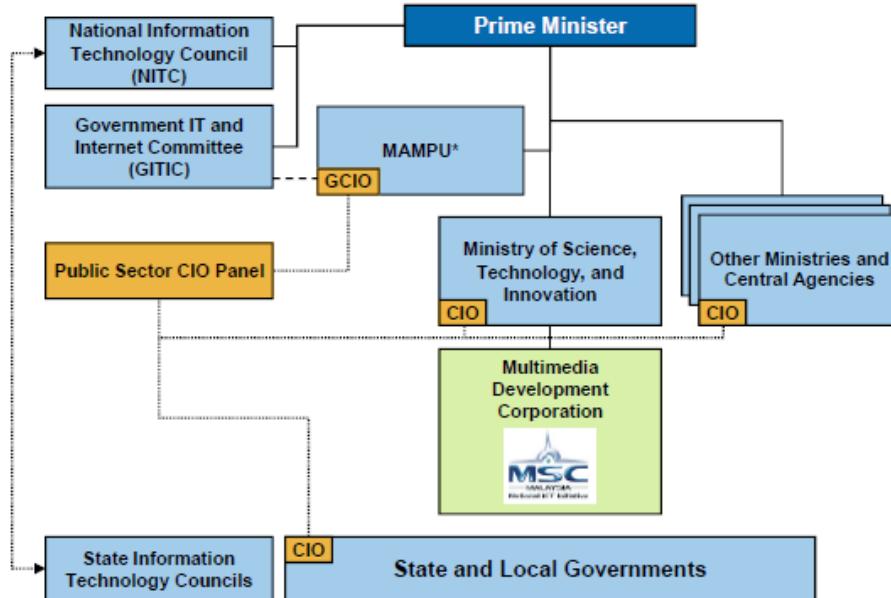
The implementation of e-Government has taken a holistic approach encompassing elements such as applications, networks, security, process reengineering, operations and support, change management, and skills and knowledge. In moving forward into the future, four guiding principles have been identified namely: collaboration between the public and private sectors, sharing of data and information, customer satisfaction and information and data security.

Current e-Government applications have enabled automation and streamlining of processes which has resulted in new roles and responsibilities for certain personnel. However in the future, as applications move from automation to customer centric services, departing from function-based processes, it will entail elimination of boundaries, restructuring of organizations, establishment and adoption of common procedures with continuous improvement embedded.

---

[20] Dr. Noore Alam Siddiquee, Innovations in Governance and Service Delivery: E-Government Experiments in Malaysia, Workshop on Innovations in Governance and Public Service to Achieve a Harmonious Society, Beijing, December 2005

Also as more and more ministries and agencies implement e-Government applications, there will be an increasing need to share resources. The major challenge lies in getting buy-in from agencies willing to share resources as well as in utilizing the services that will be offered by the Shared Services Outfit (SSO) which was established to focus on establishing a common and integrated IT infrastructure, with consistent quality.

Malaysia's e-Governance structure has provided the leadership to establish its ICT industry and e-public services

*Malaysian Administrative Modernisation and Management Planning Unit
Source: MAMPU and agency web sites, Booz & Company analysis

Malaysia e-Governance Structure

The Malaysian Government has established dedicated project teams to implement the various applications with the consortia appointed. However, it has been found that transfer of technology from the consortia to the Government team members has not happened as desired. This situation is at times attributed to the non-availability of the technology recipients, and the fact that the consortia may be too focused on getting their applications finished on time.

To address skill a shortage in the ICT and manufacturing sectors, the Malaysian Government is investing in a high-quality, comprehensive education system designed to meet the demands of the evolving workplace. At the Multimedia University, for example, new skills such as information and knowledge management, as well as programming applications, are being incorporated into the education and training curriculum. Also several efforts are being made to increase ICT literacy.

4. e-Governance HR Practices in Singapore[21]

As the owner of the e-Government initiatives, Ministry of Finance (MOF) sets the policy direction on use of ICT in Government, champions and provides funding for whole-of-Government programmes and projects.

Working closely with MOF, the Infocomm Development Authority of Singapore (IDA) acts as the Chief Information Officer for the Government. IDA provides technical advice and recommendations, master

---

[21] Infocomm Development Authority of Singapore, Report on Singapore e-Government, 2005

planning and project management services to MOF and other Government agencies in the implementation and management of e-Government programmes.

IDA also plays a key role in defining Government-wide ICT policies, standards and procedures and conceptualizing and managing Government projects.

The Government CIO of Singapore champions and oversees 'whole-of-Government' ICT initiatives to maintain Singapore Government's leadership position as an innovative user of infocomm technologies to provide public services; and to co-create and connect with its people. This includes eGov2015 master plan and sectoral infocomm initiatives to support the transformation of the education, financial, tourism, trade, healthcare sectors.

Every Government agency also appoints agency CIOs who are responsible for agency-specific infocomm technologies, infrastructure and services within their own organisations. Agency CIOs assist Permanent Secretaries of Ministries, Heads of Organs of State and Chief Executive Officers of Statutory Boards to

- Articulate the organisation's vision in the exploitation of ICT
- Align ICT policies, standards, projects, systems and infrastructure with those of the central authority, to meet business needs and priorities
- Provide leadership in the planning and prioritization of IT initiatives, in alignment with the eGov2015 Master plan
- Ensure appropriate management attention, manpower and monetary resources are given to implement infocomm technology initiatives.

Non-IT trained civil servants can attend training sessions offered by the Civil Service College or the Infocomm Development Authority of Singapore to acquire the necessary IT knowledge and skills to improve their performance. Recruitment of foreign talent in the ICT departments is also encouraged.

The Infocomm Education (IE) programme aims to equip all officers with the necessary skills to see the possibilities and capitalize on the opportunities for the creation of an e-Government. IE also aims to ensure that all officers are fully equipped to work expertly within an e-Government. The Distinguished CIO Speaker Series targeted at public sector Chief Information Officers was launched in February 2001 to facilitate experience sharing between agencies. Leaders and senior officers in the public service are also benefiting from the Infocomm modules and case studies that have been introduced into their milestone courses.

These initiatives contribute to the core set of ICT curriculum currently being developed for all public sector levels - leaders, senior and middle management and executives.

5. e-Governance HR Practices in USA[22]

The Office of Management and Budget supervises the functioning of the e-Governance and is headed by the President of United States. The Office of e-Government and Information Technology which is a part of the Office of Management and Budget is headed by the Federal Government's Chief Information Officer. This office takes care of the successful implementation of the e- Government policies and takes all the initiatives that are required.

The Office of Performance and Personnel Management which is another office as a part of the structure of the Office of Management and Budget works with the agencies of hiring and oversees the recruitment and hiring process from the civilian workforce to the federal Government jobs.

---

[22] www.cxo.gov

The CIO Council is the principal interagency forum on Federal agency practices for IT management. The CIO Council's mission is to improve practices related to the design, acquisition, development, modernization, use, sharing, and performance of Federal Government information resources.

The CIO is directly appointed by the President and can also be appointed by the Heads of Departments and agencies after consultation with the Director of the umbrella office. Agency Heads, IT executives and senior managers in all organizational components of the Agency have clear responsibilities and accountability for adhering to Agency IT policy and direction established by the CIO.

CIO Council committees, through their subcommittees and working groups, manage projects on behalf of the CIO Council to keep the Federal IT community up to date on important, timely issues.

Currently, there are six CIO Council committees:
1. The Accessibility Committee
2. The Strategy and Planning Committee
3. The Management Best Practices
4. The Information Security and Identity Management Committee
5. The IT Workforce Committee
6. The Privacy Committee

Of the above committees, the IT Workforce Committee is Government's advocate for strategies to help develop and maintain an effective IT workforce. Its broad agenda encompasses the full employment life cycle: workforce planning, recruitment and retention and career development. The Committee members, representing nearly every federal Department and agency, work in partnership with the HR community to develop, implement and communicate strategies to recruit, retain and manage a fully trained and qualified IT workforce, to meet current and future mission requirements.
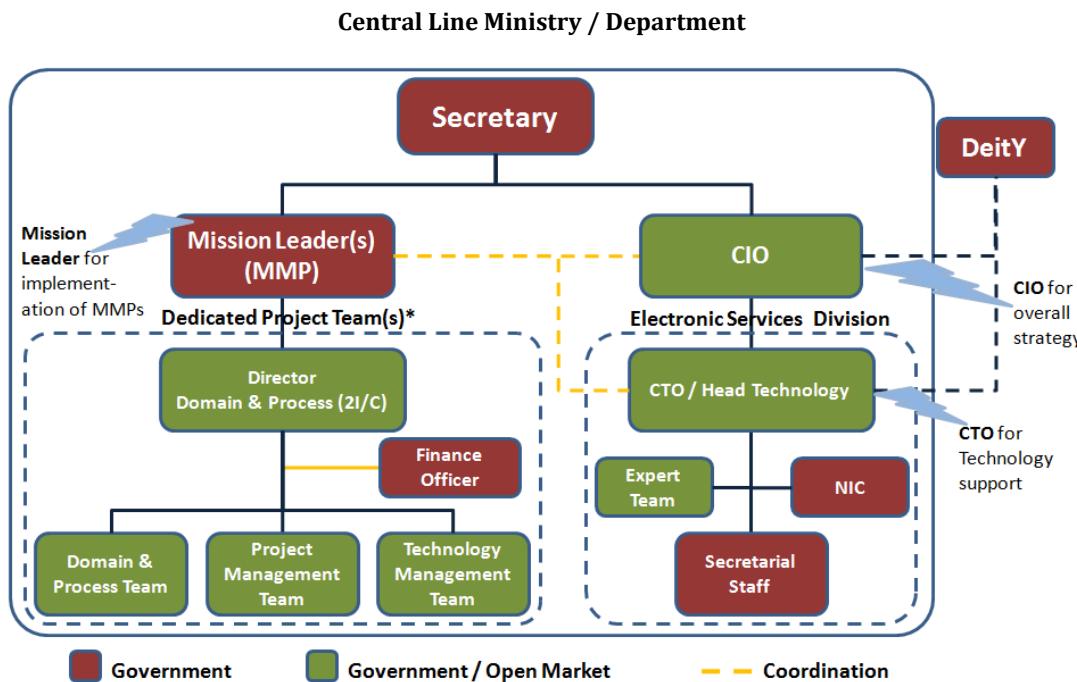
The Chief Information Officers Council (CIOC), working closely with the Office of Personnel Management (OPM), has launched a Technology Fellows program to increase the Federal Government's pool of qualified IT professionals. This program supports the IT Reform Plan calling for the Government to build a pipeline of emerging talent for Federal IT.

Annexure IV: Roles and responsibilities of CIO, Mission / Project Leader and Dedicated Project Team

A.   CIO framework and functions and the details of role and relationship with the Mission Leader

1.   In chapter 5 the Committee has recommended the creation of a CIO role in the Central Line Ministries. While the bigger Ministries would have a dedicated CIO, some of the smaller Ministries will be formed into clusters with a common CIO, on the lines of Integrated Financial Advisor model.

2.   It has been recommended that the CIO would be of the rank of an Additional Secretary/ Joint Secretary and will be supported by a CTO / Head Technology and a small team of experts. The NIC team, which is present in the Ministry, would be part of the CIO structure and an EDS Division would provide secretarial support for compliance of the provisions of the EDS Act, as indicated below:

Central Line Ministry / Department

3.   The position of CIO and of the Expert team would be filled through open competition with officers from the Government, PSUs, and Autonomous bodies (including SPVs) and from the open market based on defined competencies.

4.   While the primary reporting of the CIO would be to the Secretary of the Administrative Ministry where posted, he/she would also have a dual reporting to the Secretary, DeitY.

5.   The roles and responsibilities of CIO are envisaged as follows:
   a.   Providing strategic and operational advice on an ongoing basis to the Secretary(ies) of the Ministry(ies) on e-Governance issues and opportunities to use of ICT to improve services to citizens, businesses and other entities as well as to improve the efficiency and effectiveness of departmental operations.
   b.   Publishing the list of public services to be delivered electronically and periodically reviewing the list.
   c.   Signing off on significant ICT project plans (including expenditures) within the department.
   d.   Ensuring use of the common infrastructure and shared services.

    e.   Ensuring Strategic control over the information assets and applications.

    f.   Security of information, including formulation of security related policies and guidelines, raising awareness of information security issues, and methodologies to assess and address risk.

    g.   Developing synergies between projects, policies, standards, reengineering of processes across projects and ensuring that standards and policies are aligned to those prescribed by the DeitY.

    h.   Increasing awareness of and compliance with Government-wide strategy, policy, architecture, plans and standards.

    i.   Capacity building for e-Governance within the Ministry and change management.

    j.   Carrying out Impact Assessment. Creating Feedback mechanisms for continuous improvement and further enhancements.

    k.   Other activities to support the needs of the Ministry such as implementation of a standardized desktop, e-mail, collaboration tools, web-services and tools, etc.

    l.   Participating as a member of the Steering/Empowered e-Governance Committee (chaired by the Department Secretary) for major ICT-enabled projects including the MMPs and as a member of the Council of Mission Leaders.

6.   The CIO will be closely aligned with the Mission Leader and will provide specialized support for implementation of the project at every stage. The CIO would also provide inputs on behalf of the Ministry to the DeitY and participate in the Council of Mission Leaders and CIOs.

B.   Roles/Responsibilities of the Mission Leader and Dedicated Project Team:

1.   The actual implementation of a project would be the responsibility of the Mission Leader of the Project / Project Leader who would be assisted by a Dedicated Project Team.   The Mission Team would closely interact with the CIO and his team during the various phases of the project.

2.   Large MMPs/projects with an outlay of more than Rs. 500 Cr. would have a dedicated Mission Leader/Project Leader at the level of Additional Secretary/Joint Secretary. While the Mission Leaders will continue to be placed through the Central Staffing Scheme, the DoPT would select officers with defined competencies, aptitude and track record of implementation of e-Governance projects. The members of the Dedicated Project Team would be selected through a selection process from amongst officers of the Government, PSUs, autonomous bodies and the open market.

3.   The roles and responsibilities of the Mission Leader and the Dedicated Project Team are envisaged as under:

    a.   Overall ownership of the ICT project. Responsible for finalizing the project objectives, defining the scope of work and implementation of the project within budget.

    b.   Process Reengineering in the project, statutory changes and Change Management in close consultation with the CIO and with the help of Domain, Legal and Process experts.

    c.   Obtaining Budget and Cabinet approval

    d.   End to end project implementation within well defined timelines and budget covering all facets of implementation such as:

- Application development and Documentation such as Technical design documents, SRS, test cases etc.
- Procurement of hardware, site preparation etc.
- Go-Live of the Software Application
- System and User Acceptance testing of the software application
- 3rd Party Audit and Certification of the Software Application
- Backup and Disaster Recovery Policy
- Facilitate transfer of strategic control of all assets and processes to the Government in a timely manner.

e. Project management, including development of project metrics, enforcement of SLAs, incident tracking & resolution, changes in requirements, periodic project audit and quality reviews

f. Resolution of any matter that is escalated, either from the Service Provider or any other stakeholder

g. Designing, implementing and monitoring the manner of delivery and quality of services in the MMP

h. Reviewing and recommending changes to program components and continuous improvement opportunities

i. Capacity Building for the project- Periodic assessment of capacity building requirements & effectiveness through feedback etc.

j. Creating awareness and devising communication strategies

k. Providing guidance and support to State Departments, agencies and other stakeholders and monitor implementations.

l. Finalizing and entering into an MoU with NIU/Directorate (if any)

4. The comparative assessment of the envisaged roles and responsibilities of the CIO and the Expert Team *vis' a vis'* the Mission Leader and the Dedicated Mission Team is as under:

Roles and Responsibilities of Mission Leaders and CIOs

Role of Mission Leader and DPT	Role of CIO
• Business Process Reengineering w.r.t. project, statutory changes and Change Management, • Budget and Cabinet approval • Designing, implementing and monitoring the manner of delivery and quality of services in the MMP • Project management and implementation • Capacity Building w.r.t. the MMP • Awareness and communication strategies • MoU with NIU (if any)	• Conceptualizing projects, Architecture and design • Publishing the list of public services to be delivered electronically • Periodically reviewing the list • Developing synergies between projects, policies, standards BPR etc across projects • Strategic control, Cyber Security and Common Services • Guiding implementation of e-Governance across the Ministry/ Department • Coordination with the DeitY / NeGD • Capacity Building and communication strategy for Ministry • Heading the Electronic Service Division (ESD)

C. Chief Technology Officer (CTO)/Head Technology- Roles and Responsibilities

The role of the CTO within each organization can be simply stated as that of the primary interpreter of operational technology issues and decisions. As the role of the CIO faces outward and is concerned with policy and strategy, the complementary role of the CTO faces toward the organization's needs, use and replenishment of technology within strategic and policy guidelines. The CTO role involves a detailed understanding of where technology is going, a vision of where the business should go, and the ability to mesh those together and explain on both sides how that vision is going to be accomplished. Ultimately, the CTO serves as the bridge between the technologies and program areas to help them understand these details in order to make disciplined, proactive IT investment decisions.

As a key adviser to the CIO, the CTO is responsible for designing and recommending the appropriate technology solutions to support the policies and directives issued by the CIO. With this expertise, the CIO would be able to integrate the recommended technologies with the strategic objectives of the organization. This establishes the CTO as the technology specialist. The CTO should place more emphasis on a strong technology background and knowledge of significant trends and features which differentiate technology products and services.

The CTO will have the following roles and responsibilities:
- Participating with CIO and other Senior IT leaders including Architecture team in planning the short and long-term technology strategies;
- Provides Subject Matter Expertise to the Chief Information Officer;
- Providing leadership in ensuring appropriate technology usage
- Developing IT technology standards and protocols in line with Government requirements and industry "best practice";
- Assesses new and emerging technologies, identify and oversee business process driven technology improvements
- Recommends, develops, integrates, administers, and evaluates policies, procedures and standards needed to provide flexible and cost-effective IT services (specifically related to Web Services, Software Development Life Cycle, Technology Refreshment, Solution Architecture, Technology Research and Collaboration);
- Defines essential training required for the implementation, operation and maintenance of the e-Governance initiatives of the Department.

D. Key Functional Roles in e-Governance

Functional Divisions	Key Functions
Strategy & Domain Expert	• Strategy and Planning • Design and Architecture • Process Reengineering • Program/ Project Management • Monitoring & Assessment
Organisational Expert	• Change Management • Capacity Building • Information and Knowledge Management • Communication & Awareness
Functional Divisions	• Key Functions
Quality Expert	• Quality and Audit
Finance and legal	• Contract and negotiation • Legal aspects • Budget
Security Expert	• Application, Infrastructure, Cyber and Network Security • Authentication • Privacy
Technology Expert	• Application and Database • Standards & Interoperability • ICT Infrastructure • Business Continuity Planning and Disaster Recovery Planning (BCP/ DRP)

The above roles may be played by one or more persons, and one or more roles can be played by one person; depending upon the size and complexity of the project.

Annexure V: Draft model provision for ICT skills in the Recruitment Rules

Essential:

Working Knowledge of Computer including use of office suites and databases

(Including Preparation of two power points presentations/slides on MS-Power Point

Typing a letter/passage/paragraph of about 150- 200 words in MS-Word

Preparation of Table/Database in MS-Excel)

Annexure VI: Extracts from the Report of "The Committee for Institutional Assessment and Capacity Enhancement" (2008)

Gist of Recommendations relating to NIC

1. NIC should scale up its involvement and help meet expectations under NeGP by expanding its current role as a technology service provider to that of a technology manager for systems across all levels of Government.

2. NIC, as a manager of technology, has an important role to play in assisting Departments retain strategic control of e-Governance systems. The strategic control could either be exercised directly (where NIC has taken end-to-end responsibility for implementation) or in association with the concerned Department. In the second case, NIC personnel will be deployed on secondment / deputation within the implementing Department / SPV.

3. Personnel requirement of departments should be divided into one-time (application development, hardware procurement) and perpetual (strategic control/maintenance of application, data management). NIC should deploy personnel on deputation, wherever feasible, to meet perpetual requirements of Line Ministries / Departments.

4. Vacancies could be considered to have arisen wherever the period of deputation equals exceeds 3 years. Recruitment against resultant vacancies could be done at any level equal to or less than the level of personnel so deputed. The appropriate level could be decided by DG, NIC. Recruitment arrangements could incorporate flexibility in offering higher start within existing scales of pay to outstanding candidates during recruitment.

5. NIC should consider direct recruitment at higher levels including Technical Director and even Senior Technical Director, by lowering the experience criteria and enhancing the merit criteria.

6. NIC should consider deployment of personnel (sourced through contractual employment at market salaries through NICSI) at various project sites. The contractual recruitments should be at market salaries and for a period not exceeding five years. Contractual employees could be offered options for extension of the contracts or possible absorption as permanent employees against NIC vacancies based on a formal merit-based evaluation process.

7. NIC should consider deputations from the private sector, across all levels, to encourage cross-fertilization of ideas and experience.

8. NIC should remain the cadre controlling authority for all technical personnel including those sent on deputation.

9. The number of permanent posts within NIC should be incrementally increased over time so as to maintain an organizational balance between the permanent employees and those sourced through other means.

10. NIC should adopt a suitable policy of rotation of personnel, so as to disseminate knowledge across projects/departments and to facilitate better Knowledge Management.

11. NIC should come up with innovative schemes for employees focusing on continued, targeted training, career advancement and assistance in continuing professional education to help retain quality manpower within the organization at prescribed Government salaries / scales.

12. Existing resources within NIC should be better utilized by focusing them on high priority areas and projects. To the extent possible multiple versions and implementations of the same project should be avoided so as to rationalize the resources and spread them across more initiatives.

13. A strong interface for project implementation should be worked out between the Government agencies like NIC and the private sector.

14. For supplementing its resources for application development and for rollout of large projects, NIC could empanel a set of private Application Service Providers (ASPs).

Detailed Deliberations relating to NIC- Emerging Role of NIC

15. The Committee deliberations brought out the significant role NIC needs to play in implementation of the NeGP. NIC's involvement in e-Governance projects in the past has been in the role of a technology service provider. Its contribution has been particularly significant in carrying out the initial set of ICT-led interventions within Departments. NIC has thus been involved in implementing the first version of e-Governance systems in a large number of Departments, several of which are large scale implementations covering key transactions. However, initial successes have typically increased expectations among user Departments. Moreover, NeGP's emphasis on citizen-centricity and governance issues has considerably scaled up project requirements and also squeezed available timelines for implementation.

16. An analysis of NIC's strengths and weaknesses (refer Annex 5) helps bring out the role that NIC needs to play under the NeGP. The Committee feels that the only way NIC can scale up its involvement and help meet expectations is by expanding its current role as a technology service provider to that of a technology manager for systems across all levels of Government. Para 7 has clearly brought out the imperative of retaining certain critical capabilities within the Government. NIC, as a manager of technology has an important role to play in assisting Departments retain strategic control of e-Governance systems, while leveraging private sector to the extent necessary to address capacity gaps.

NIC's Role in Exercising Strategic Control

17. NIC's role in exercising strategic control could broadly take one of the following two forms :

   i) **Direct Control:** This would apply to situations where NIC has taken an end-to-end responsibility for implementation. It is quite likely that this could involve back-end contractual arrangements between NIC and private service providers; however, the Department itself would have no role in bringing in the private providers into the project and as such would look upon NIC as the main agency responsible for the project deliverables. Most of NIC's involvement in "first-version implementations" within Government Departments typically takes this form. During this phase of ICT interventions, Departments usually lack a dedicated project team and therefore display single point dependence on NIC. In such cases, NIC also plays the role of a consultant, framing project requirements on behalf of / in consultation with the user Department as part of its primary role as a solution implementer.

   In such situations, strategic control would be directly exercised by NIC as an arm of the Government. It is recommended that NIC should also establish (and notify) necessary documentation and procedures to enable exercise of such control. NIC should also formally and progressively sensitize the user Departments to key issues and processes relating to strategic control and management. Greater transparency between NIC and the user Departments will only help NIC ensure that necessary responsibility and accountability are exercised by the Departments with respect to domain and security related issues under their purview.

   ii) **Associating with the Department in exercising strategic control:** Here other technology partners, including those for software development and consulting, could be engaged by the Department through various contractual arrangements (including outsourcing approaches like PPP). In such cases, NIC personnel would assist the MMP-PMU / PeMTs / SPVs (see Annex 4 on possible implementation models) in helping retain strategic control over the e-Governance systems. NIC personnel should be deployed through secondment / deputation in such cases (refer Para 22) and should work shoulder-to-shoulder with other officers at the PMUs / SPVs

to help retain knowledge repository within Government and maintain continuity between successive contractual arrangements.

18. The two roles with respect to strategic control envisaged for NIC above reflect the changing expectations of the user Departments as they evolve from entry-level systems which can be directly implemented, managed and controlled by smaller NIC teams to those under NeGP which involve major citizen / business interfaces and are overseen by full-fledged Departmental teams. A shift in NIC's role as envisaged above would significantly help the organization in scaling up its operations and involvement to meet expanding NeGP requirements. It will also greatly help transfer of skills across e-Governance implementations through rotation of expertise by NIC between different Departmental project teams. At the same time, such a shift will also entail considerable skill upgradation within NIC and infusion of necessary competencies from outside. The succeeding paragraphs list out several recommendations to help NIC achieve the necessary capacities and capabilities.

Augmenting NIC Capacity – Factors for consideration

19. Any effort to augment NIC capacity needs to take into account the following:

   i. NIC is present in each district, State and in most Ministries. The size of the NIC team in each case is therefore, necessarily skeletal (two in each district, core teams of only 4-5 people for even the most important projects as against an actual requirement of 10 times this number).

   ii. This historical legacy has the following consequences:
      a. In some cases, where departments are not ready, savvy or ambitious, NIC personnel are underutilized and have not had opportunities to use/upgrade their skills.
      b. In other cases, where departments are keen to implement ambitious projects, NIC personnel are often found inadequate both in number and quality.
      c. NIC personnel have developed "roots" in the place of posting and are often difficult to move. The positive aspect of this situation is that NIC personnel have acquired considerable knowledge of the domain and the processes involved and in fact, often regard themselves as "belonging" to that domain, both geographically and functionally. The negative aspect of this situation is that NIC personnel, since they do not actually belong to the domain, are far more familiar with the existing processes and much less with the direction the department needs to take for transforming itself into an efficient provider of services.

   iii. Currently, NIC personnel are deployed by NIC itself, though departments may be consulted in some cases. The implications of this arrangement are that these officers continue on the rolls of NIC and departments have no formal choice or control in respect of NIC personnel. Further, since NIC is a Government organization, the roles of NIC and departmental personnel are not clearly and formally delineated. There is often a tendency for departments to dump all responsibility for "anything connected with IT" on NIC personnel. This has led to some unsavoury situations, as was brought out during the course of the committee deliberations, where NIC officers has been subjected to enquiries by investigating agencies in connection with certain projects which they were supporting. Such aberrations have led to some anxieties and concerns among NIC personnel, particularly where valuable data is involved.

Current NIC deployment policy is marked by the following features:
   i. Preference for positioning (secondment) of senior personnel rather than deputation, supplemented by lower level personnel deployed through both deputation (in limited number) and hiring on contract from the market.
   ii. Extent of mobilization of NIC personnel in organizations determined by the extent to which, NIC has the principal responsibility for application development/ data management.

iii. Combination of a small core team of NIC personnel with professionals drawn from the market (contract hiring) for major application development projects.

20. NIC has recognized the need for inducting fresh blood into the organization. Such induction is taking place, albeit in insufficient numbers, against vacancies arising from attrition as also against very few vacancies resulting from occasional deputations. Attrition levels in NIC are reportedly lower than those prevailing in the IT industry. No assessment has been made on the qualitative aspects of the retention-attrition breakup.

Suggestions for Capacity Augmentation at NIC

21. While requirement of technical personnel across Government for e-Governance projects has increased manifold, it is quite unlikely that MOF/Planning Commission would agree to any large-scale increase in the cadre strength of NIC. Posts are more likely to be sanctioned in individual departments in the context of specific projects. However, each department/ organization would be unable to independently sustain a cadre of technical personnel to meet its needs. It is also not desirable or advisable to create another centralized technical cadre to meet the type of departmental needs indicated.

22. Keeping the above in view, an approach has been recommended in the following paragraphs, which appears to be the only solution to meet the human resource challenges posed by the NeGP and to attract, retain and deploy highly skilled resources within Government organizations and at project sites. Not adopting an approach along the suggested lines may lead to uncontrolled and unrestrained induction of private sector resources to manage Government's technical infrastructure. This would be strategically unwise and set in motion a dangerous trend. While induction through contractual recruitments and deputations has been suggested to meet a major part of NIC's resource requirements under NeGP, it is also recommended the number of permanent posts should be incrementally increased over time to expand the core of permanent personnel. Such a creation of posts will be necessary to maintain an organizational balance between the permanent employees and those sourced through other means.

23. Based on its deliberations, the following steps are being recommended by the Committee:
    i.   Personnel requirement of departments should be divided into one-time (application development, hardware procurement) and perpetual (strategic control/maintenance of application, data management). NIC should deploy personnel on deputation, wherever feasible, to meet perpetual requirements. Vacancies could be considered to have arisen wherever the period of deputation is equal to or exceeds 3 years. Recruitment against resultant vacancies could be done at any level equal to or less than the level of personnel so deputed. The appropriate level could be decided by DG, NIC. Recruitment arrangements could incorporate flexibility in offering higher start within existing scales of pay to outstanding candidates during recruitment.
    ii. The current recruitment policy of inducting personnel only at the lowest levels (where personnel with significant industry experience are unlikely to offer themselves as candidates) has not been conducive to adoption of prevalent industry practices in IT implementations. Hence, independent of the earlier recommendation, NIC should consider direct recruitment at higher levels including Technical Director and even Senior Technical Director, by lowering the experience criteria and enhancing the merit criteria. This would hasten adoption of industry best practices within Government. Since NIC adopts FCS, this would not affect promotion opportunities of existing personnel.
    iii. NIC should consider deputations from the private sector, across all levels, to encourage cross-fertilization of ideas and experience. Cost differential between Government and private sector scales could either be met by NIC or the sponsoring industry as found feasible and appropriate. Cost of such professionals posted at PeMTs could be met from the

project funds and payments would form part of the payments made to NIC by the Line Department.

iv. NIC should consider deployment of personnel (sourced through contractual employment through NICSI) at various project sites. The contractual recruitments should be at market salaries and for a period not exceeding five years. Contractual employees could be offered options for extension of the contracts or possible absorption as permanent employees against NIC vacancies based on a formal merit-based evaluation process. Such recruitments would particularly be relevant in the context of attracting and retaining outstanding talent (including campus recruitments from leading institutions) to work at the centres of excellence recommended to be created under Para 56.

v. NIC should remain the cadre controlling authority for all technical personnel including those sent on deputation. NIC should continue to exercise technical control over the entire cadre, including deputationists.

vi. NIC should adopt a suitable policy of rotation of personnel, so as to disseminate knowledge across projects/departments and to facilitate better Knowledge Management, a vital issue for any IT organization.

vii. In this regard, NIC should come up with innovative schemes for employees focusing on continued, targeted training, career advancement and assistance in continuing professional education to help retain quality manpower within the organization at prescribed Government salaries / scales. The offer of upgrading an individual's skills including acquisition of advanced degrees at organizational cost could help to offset compensation differential between Government and private sector in attracting talent from the market.

viii. The mechanism of augmenting NIC's manpower resources by making use of expertise on a contractual basis through NICSI remains relevant. However, such mobilization for use within individual projects cannot form a substitute for attracting and retaining best technical expertise through more formal channels as described above. Moreover, such personnel on contract through NICSI would not ordinarily form part of the resources deployed by NIC on perpetual basis for strategic control, maintenance of application and data management referred to at (i) above.

ix. Existing resources within NIC should be better utilized by focusing them on high priority areas and projects. To the extent possible multiple versions and implementations of the same project should be avoided so as to rationalize the resources and spread them across more initiatives. This requires ensuring better flow of such knowledge across the organization and for adoption of the techniques and tools of Knowledge Management within the organization.

Augmenting Capacities by Partnering with Private Sector

24. A strong interface for project implementation should be worked out between the Government agencies like NIC and the private sector. **NICSI** could identify broad areas of expertise of relevance to e-Governance and empanel service providers in each of these areas. The pre-qualification norms prescribed for empanelment of vendors should be suitably relaxed with respect to limits relating to turnover so as to enable SMEs to participate in the selection process and get empanelled. Focus should be laid on experience in domain areas, even if the concerned agencies have not specifically worked on e-Governance projects. This will help in expanding the candidate set of firms from whom capacities could be sourced. It will also help generate e-Governance experience among a wider set of firms. Consultant engagement by NIC (through NICSI) should emphasize more on technology related consulting. Sourcing through organizations like NISG could be more appropriate for consultancies relating to areas like DPR preparation, bid process management, BPR, change management, framing of service level agreements, etc. For smaller projects, the norms for selection and engagement could focus more

on consultant qualification than on organization turnover and experience. Such norms could also be used for critical high-end expertise where quality and individual expertise is more relevant than organizational depth and experience. This would enable competent SMEs which are currently excluded from the e-Governance arena, to contribute effectively to the programme.

25. For supplementing its resources for application development and rollout for large projects, NIC could empanel a set of private Application Service Providers (ASPs). The ASPs could partner with NIC to develop applications, and provide the necessary depth and reach for rollout, user training and handholding, and ongoing software maintenance. These partners should be willing to enter into necessary SLAs with concerned Government Departments for project rollout and implementation.

SWOT Analysis of NIC

STRENGTHS:	WEAKNESSES:
• Long experience on Government Projects • Domain Knowledge relating to areas of Government functioning • Ability to accept project-related responsibilities with minimum formalities • Ability of NIC personnel to work seamlessly with Government organizations • Reach and penetration across all districts in the county • NIC offices co-terminus with major Government headquarters at State and District levels • IT infrastructure in the form of Data Centers and Networking • Capabilities to perform the vital role of an in-house Government agency for execution of sensitive projects having security implications. • Experience in responding to peculiar requirements of Government projects characterized by impractical timelines, unclear project boundaries, continually changing scope, etc. • Providing single point contact for project implementation by coordinating Government procurements through NICSI. • Ability to offer innovative projects and enriching work content to professionals.	• Inability to attract and retain high-quality professionals due to limitations of Government salary structure. • Limitations imposed by Government procedures in connection with employee recruitment, equipment procurement and contractual arrangements. • Lack of sufficient coordination and KM practices across national, regional and local arms to avoid redundancy, reduce overlaps and ensure uniformity in implementation. • Lack of professional programme and project management systems and processes on par with the leading private sector providers in the country. • Procedural bottlenecks and chronic HR problems leading to delays in project delivery and reduction in quality. • Lack of systematic application of project management methodologies to ensure adherence to quality, timely delivery and continuing process improvement. • Lack of documentation and quality control techniques

OPPORTUNITIES:	THREATS:
• Huge e-Governance requirements from Central and State Government Ministries and Departments • Current thrust on NeGP to deliver projects on priority • NIC's experience in a number of priority e-Governance projects • Need for a number of new projects under NeGP to maintain continuity with existing/legacy applications developed by NIC • Large requirement of professionals within e-Governance to help manage technology, hold the IPR/Knowledge repository within the Government and maintain continuity across successive contractual arrangements	• Increasing reliance of Government Departments on private sector providers to fulfil their IT needs. • Attrition of trained quality manpower • Increase in demand for professionals in the industry, further reducing NIC's ability to recruit and retain professionals • Increasing dependence of NIC on private sector sub-contractors to develop, execute and manage processes without a comprehensive, explicit policy to regulate and manage private sector involvement • Lack of demarcation of project responsibilities/ accountability between NIC and user Department leading to involvement of NIC personnel in alleged cases of misconduct.

Annexure VII: Extracts from the Handbook published by the Chief Technical Examiner's Organisation under the administrative control of the Central Vigilance Commission

3. APPOINTMENT OF CONSULTANT

3.1 Earlier the public organizations were undertaking the planning and supervisory activities in-house. Nowadays, in this era of large-scale infrastructure development, the in-house resources available with public organizations are felt inadequate to deal with the growing demand. Therefore, outsourcing various project activities such as IT Projects, Architectural services, preparation of DPR, Project Management Consultancy, and Quality Assurance etc. has become necessary.

3.2 Many times the Consultants are appointed either without a genuine need or in an arbitrary and non-transparent manner. Further, once the Consultant is appointed all the responsibility is abdicated to the Consultant. Sometimes even multiple Consultants are appointed without individual well defined responsibilities. At times the proposals put up by the Consultant(s) are accepted without question or any scrutiny.

3.3 Commission has issued the following guidelines on appointment of consultants:
(a) Irregularities/lapses observed in the construction works undertaken by Public sector undertakings/banks.

The Chief Technical Examiner's Organization under the Commission has had occasion to examine and comment upon the works undertaken by Public Sector Undertakings, Banks etc. under the guidance of consultants. Common lapses noticed as a result of these inspections are enumerated below:-

  i.   Employment of consultant without verifying his credentials and capacity or capability to do the work assigned to him.
 ii.   Inadequate planning of work and incorrect preparation or non-preparation of detailed estimates by consultants.
iii.   Non-preparation of justification statement for the rates quoted in tender, resulting in contract being awarded at very high rates.
 iv.   Rejection of the lowest tender without adequate justification, on the ground that the contractor is not reliable or lacks capacity to execute the work, even though he was included in the original pre-qualification list.
  v.   Improper evaluation of tenders, leading to allotment of works wrongly with ultimate loss to the public undertaking.
 vi.   Allowing upward revision of rates in some cases by contractors on very flimsy grounds during the process of negotiations, so that the lowest tenderer manages to make up the difference of cost between his quotation and the second lowest quotation.
vii.   Payment of money to contractors outside the terms of contract. For example, in a large number of cases contract is for fixed price, but substantial payment is made on the ground of escalation of prices.
viii. Use of inferior material in the construction, while payment is made at full rates on the approval of the consultant without making any financial adjustment.
 ix.   Substitution of low-rated items by higher-rated items beneficial to contractor.
  x.   Lack of proper supervisory arrangement by the undertakings placing total reliance on the consultant for even preparation of the bill which leads to incorrect measurement of works and payment for the items of work not done.

In view of these factors, it is recommended that while consultants may be engaged for the purposes of original planning and designing, scrutiny of tenders and execution of work should, as far as possible, be done by technical officers directly and fully answerable to the public undertaking/banks etc.

concerned. For this purpose, engineers may be taken on deputation from Government departments, such as the CPWD. To the extent a consultant is engaged, it is also necessary to ensure that the relationship between the undertaking and the consultant is correctly defined so that the consultant can be held legally and financially responsible for the work entrusted to him.

It is requested that suitable arrangements may be made for properly awarding works and exercising effective supervision and control in their execution with a view to ensure timely and systematic completion. Care may also be taken to guard against the types of irregularities indicated above.

(CVC Circular No.3L PRC 1 dated 12.11.1982)

Annexure VIII: Training programmes under the Capacity Building Scheme currently on offer

1. Leadership Meets

As a part of the Capacity Building initiative under the NeGP, Department of Electronics and Information Technology (DeitY), GoI sponsors and facilitates the "e-Governance Leadership Meet" in all the State Governments with participation from the political and administrative leadership of the States/UTs. The objective is to sensitize the political and policy level decision making leadership of the State to understand and appreciate the use of ICT for improving Government service delivery for the benefit of citizens at large. This programme also enables the political participants to understand and appreciate the State specific e-Government initiatives, challenges and the possible strategies to design and develop effective citizen service delivery channels.

Operating since 2009, this programme has been implemented in 23 States/UTs and has brought together over 1500 senior level political representatives and Government policy leadership to understand the NeGP perspective and provide their commitment and buy-in.

The e-Governance Leadership Meets are each of three days duration that includes
   i. One Day Sensitization Workshop for the Political and Policy level decision makers
   ii. One Day field visits Political and Policy level decision makers
   iii. One Day Sensitization Workshop on Implementing e-Government projects for Policy level decision makers

2. Specialised Training for e-Governance Programme (STeP)

These training programmes, as the name suggests are for building specialized skills for implementing e-Governance initiatives. The training courses, of 2 to 5 days duration, are for different target groups and more than 100 programmes, covering more than 3000 Government officers have been conducted so far. The programme imparts knowledge and skills on different aspects of e-Governance as indicated below:

   i. **Specialized Training : Set 1 courses for Principal Secretary, Secretary, Commissioner, Additional Secretary, Jt. Secretary & District Collector 2 - days Training courses**
      a. e-Governance Project Lifecycle
      b. Government Process Reengineering
      c. Business Models and Public Private Partnership

   ii. **Specialized Training: Set 2 courses for Director, Jt. Director, Additional Director, Sr. Officials at HQ & District, SeMTs & PeMTs**
      a. e-Governance Project Lifecycle (2 days/5 days)
      b. Government Process Reengineering (GPR)(2/5 days)
      c. Business models and Public Private Partnership for e-Governance Project (2/4 days)
      d. Change Management and Capacity Building for e-Governance (3 days)
      e. Regulatory framework for e-Governance (IT Act and Contract Management)(3 days)
      f. Information Security Management, Enterprise Applications & Open source for e-Governance (5 days)
      a. Project Management (5 days)
      b. Assertiveness, Communication & Presentation Skills (3 Days)

3. Chief Information Officers programme (CIOs programme)

This is a comprehensive programme for officers managing e-Governance projects. Two pilot programmes were conducted covering 46 officers. It is currently being customized for nation-wide

roll out as under:

i. **e-Governance Leadership Programme – Two week programme** for Senior level officials from Central and State Government of the level of Jt. Secretary (Central Govt.) and at the level of Principal Secretary (State Govts.).

ii. **e-Governance Champions Programme** for officers involved in project implementation at the second level. The programme would be clustered under three different domain specific MMPs.

iii. **e-Governance Executives Programme** - Six week programme for the operative level officials.

4. **Orientation training programme for members of the State e-Governance Mission Teams** are being held at regular intervals. These programmes of 1 week duration are meant for familiarizing newly joined SeMT members most of whom are from the open market with the current initiatives in e-Governance and also with Government policies and process. 6 such programmes covering 240 personnel have been held.

5. Long Term Training Programmes- eGPX Training

DeitY, GOI through NISG has conceptualized a one-year full time residential programme in e-Governance for Executives. This programme is aimed to build required manpower that can assume leadership roles in Private and Government organizations in conceptualizing, designing and implementing specific e-Governance projects. NISG collaborated with two of the business schools viz, T.A.Pai Management Institute (TAPMI), Manipal and IIM Indore to conduct the e-Governance Programme (eGPX). Two batches of eGPX (e-Governance Programme for Executives) passed out during from TAPMI Campus, Manipal and the first batch for CPEG (Certificate Programme in e-Governance for Executives) at IIM Indore has been commenced from September 2011. Three terms have already been completed with 50 Govt participants and the participants are undergoing internship of this one year residential programme. The objectives of the programme are:

- Enlarge the pool of professionals available in the country to work in e-Governance domain. Acquire a holistic understanding of designing an e-Governance project.
- Acquire adequate skills in the analysis, design and implementation of an e-Governance project.
- Get exposed to the current trends in hardware, software, communications & networks.
- Appreciate and acquire the desired knowledge for change management and leadership.

राष्ट्रीय इ-गवर्नेंस योजना
National e-Governance Plan

एक कदम आपकी ओर
एक कदम आपके लिए

Public services closer home

Department of Electronics and Information Technology
Ministry of Communications and Information Technology
Government of India

सत्यमेव जयते

Electronics Niketan, 6 CGO Complex, Lodhi Road, New Delhi 110 003, India

www.deity.gov.in   **www.negp.gov.in**