Government of Pakistan

E-Government Strategy and 5-Year Plan for the Federal Government

Electronic Government Directorate
Ministry of IT

May, 2005

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1 Introduction

This document describes the e-government strategy and a detailed 5-year plan for implementing e-government at the Federal Government level. It is formed within the framework of the broader 5-year Development Plan prepared by the Planning and Development Division for the entire IT sector of the country. It provides a brief background on e-government, the work that the Ministry of IT and E-Government Directorate have already completed regarding the implementation of e-government, a forward strategy and an accompanying high-level 5-year activity plan for bringing about e-government transformation in the Federal Government.

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This document builds on and extends the ideas presented in earlier documents prepared by the Ministry of IT, EGD, and the IT Section of the Planning and Development Division. Some of these earlier documents include:

- National IT Policy and Action Plan 2000 (Ministry of IT)
- PC-1 for E-Office at Ministry of IT (EGD)
- PC-1 for Federal Government Data Center and Intranet (EGD)
- Report of the Task Force to Review Policy and Direction - April 2003
- 5-Year IT Sector Plan, 2005 - 2009 (IT Section, Planning and Development Division)
- Proposition for IT Cadre (Pakistan Computer Bureau)
- Review of National IT Policy and Action Plan 2000 (Ministry of IT & EGD)

2 Executive Summary

Background

E-Government has been employed by developed as well as developing countries to be an enabler toward accelerating processes, delivering a higher level of service to citizens and businesses, increasing transparency and accountability while lowering costs. Additionally, in developing countries it has been recognized as an enabler toward catapulting governments in to the 21st century while leapfrogging multiple generations of technology. It is in this light that the Government of Pakistan has established the E-Government Directorate under the Ministry of IT.

Goals

The goals for E-Government for the Government of Pakistan are the following:
- Increase Efficiency and Effectiveness of the Government
- Increase Transparency and Accountability in decision-making
- Enhance delivery of public service to citizens efficiently and cost effectively

Key Success Factors

A study of E-Government programs of different countries, their lessons learned as well as the learning through IT projects of the Government of Pakistan has identified the following to be the key success factors for a fast and successful implementation of E-Government:
- Top-level sponsorship
- Concerted effort of all the Ministries, Ownership and Will to Change
- Capacity to deliver and absorb
- Coherent policy & strategic framework for e-Government projects across the country
- Timely availability of funds
- Strong relationships between Public and Private Sector
- Enabling amendments in laws, rules and procedures
- Ability of citizens to access and use public service offered through E-Government.

Strategy

The strategy proposed for the next 5 years has the following salient features that are to be parallelized wherever possible for an accelerated implementation:

- Basic Infrastructure – Deploy the basic infrastructure to all government agencies. This includes PCs, Intra-Ministry network, office automation software, intra-ministerial communication. To connect all government agencies to the Federal Government Data Center for inter-ministerial communications and Internet and Intranet services.

- Common Applications – A portfolio of applications that are common to many or all Divisions has been identified, namely Internal Communication, Human Resource, Budget, Project Management, Document/File Management, Collaboration. These are to be implemented in the Ministry of IT, stabilized there and then rolled out to all other Divisions.

- Agency-Specific Applications & e-Services for Citizens – Every Division is to identify high-impact processes for the agency and to provide services to citizens electronically. This is then to be implemented through the support of Electronic Government Directorate (EGD), however, with the ownership lying with the respective agency.

- Standards – An EGD Framework is under development and will be made accessible for all E-Government projects so that reference architectures, standard methodology, best practices and lessons learned are leveraged at all projects.

- Enabling Environment –
  - **Federal Government** – Top level leadership is to be provided by the recently notified National Electronic Government Council (NEGC) under the chairmanship of the Prime Minister. NEGC will meet quarterly to review the progress of the implementation of E-Government. Necessary changes in Legislation, Rules and Regulations need to be identified and made.
  - **Agency** – Will take on ownership and implement their E-Government program with the support of EGD. Training will be made mandatory for all employees of and above Grade BPS-5. An Awareness campaign will be started for all employees and citizens.
  - **EGD** – should be made an attached department of the Ministry of IT to grant it organizational and financial autonomy to remove unnecessary procedural delays.

Essential measures for successful implementation of the E-Government strategy

The following measures have been identified as essential to successfully implement the Strategy and 5-Year Plan for E-Government:

i. It is recommended that the Strategy and 5-Year Plan be approved by the Federal Cabinet as an overall framework for the implementation of E-Government in the Federal Government.

ii. Setup a committee to submit on a biannual basis recommendations on required revision of Secretariat Instructions, Rules and Regulations.

iii. Ensure integration and interoperability by making compliance to EGD Framework standards mandatory for all large IT projects within the Federal Government.

iv. Basic IT Training should be made compulsory for all federal government employees of Grade BPS-5 and above. Compliance should be ensured within 12 months while giving cash incentives to successful participants.

v. The Divisions should be given the following targets:

    a. A focal point for E-Government at the level of Joint Secretary should be appointed in every Division for the dedicated coordination, program management and ownership of the E-Government program of the respective agency.

    b. Every Division is to identify with the help of EGD, within 3 months, 3 high impact processes / e-services for citizens for e-enablement.

    c. Ownership is to be established with the focal point to accelerate the implementation within 24 months for:

        i. Federal Government budget application

        ii. PSDP management application

        iii. Human Resource Management

        iv. Electronic Hiring

        v. Electronic Procurement

vi. Increase retention of IT professionals on contracts in the Federal Government through lifting time period constraints for contractual employees

vii. Change the status of EGD to one of an attached department of the Ministry of IT to give EGD organizational and financial autonomy while retaining the patronage of the Ministry of IT.

3 Background - E-Government in Pakistan

E-Government is recognized internationally as an enabler toward achieving good governance while increasing the ability of citizens and businesses to access public services in an effective and cost efficient manner. Maturity and the decrease in cost of technologies has made E-Government an enabler of choice for developing countries to leapfrog across multiple generations of technology. The Federal Ministry of IT has been acutely aware of this growing reality and has included E-Government as a priority area in its first National IT Policy and Action Plan, approved by the Federal Cabinet in 2000.

Empowered by the IT Policy, the Ministry of IT set itself the task of breaking the inertia in the E-government area by implementing and sponsoring projects in those organizations whose will, commitment and ownership towards E-government systems could be won over successfully. Simultaneously, the Ministry of IT strengthened the capacity not only of its own IT Wing by hiring technical experts as Project Managers, but also by establishing the E-Government Directorate, in October 2002, for generating greater focus on e-government. The E-Government Directorate currently stands at professional strength of 19 persons.

Since the year 2000, the Ministry has utilized PSDP funds of Rs. 3.68 billion in the IT sector, of which Rs. 281 million have been specifically utilized for e-government projects. E-Government projects already in the implementation pipeline are worth about Rs. 1.5 billion.

3.1 What is E-Government

E-Government is defined as the usage of Information and Communication Technologies (ICT) to support processes within the government as well as for the delivery of services to its consumers, including other organizations, citizens as well as businesses.

The scope of e-Government in the context of the Federal Government of Pakistan is defined as a combination of internal e-enablement and the external provision of e-Services to stakeholders of the Federal Government. The following figure illustrates the defined scope:
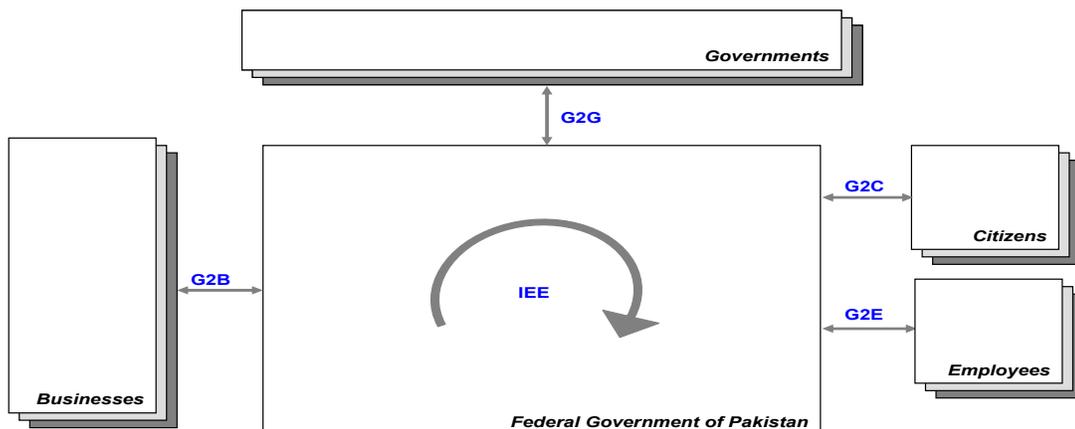
- **G2G: Government-to-Government** includes Federal, Provincial, Local, as well as Governments of other countries and international agencies. To allow for process and IT-system integration as well as the provision of services that support significant administrative savings and improve service delivery to citizens.

- **G2B: Government-to-Business** includes all Suppliers as well as Businesses procuring services from GOP. Reduce the government's burden on businesses by accelerating government processes vis-à-vis businesses, providing services, eliminating redundant collection of data and better leveraging E-business technologies for communication.

- **G2C: Government-to-Citizen** includes all Citizens of Pakistan. Provide easy to find, easy to use, points-of-service while providing higher speed, higher quality, and greater accessibility.

- **G2E: Government-to-Employee** includes all Government Employees. Provide easy to find, easy to use, points-of-service while providing higher speed, higher quality, and greater accessibility.

- **IEE: Internal Efficiency and Effectiveness** includes making good use of modern technology to reduce costs and improve quality of the federal government ministries and departments, by using industry best practices.

3.2 Phases of E-Services to citizens

Phases of e-Services to citizens in E-Government, like any e-business, are generally divided into the following categories:

- **Informational:** This is the first phase and includes the provision of information alone. The quality, usability and currency of the content determine the value of this phase of e-government. This is the least complex of all the phases.

- **Interactive:** In this phase, E-Government provides some degree of online interaction. For instance, citizens can enter complaints or job applications online. This phase does not include secure transactions such as financial or other transactions that require a high degree of authorization and audit.

- **Transactional:** Provides secure transactions with high level of authorization. Citizens can now apply online for passports, NICs and make payments online. This requires a high degree of security and basic infrastructure allowing for secure transactions.

- **Collaborative:** In this phase citizens and businesses collaborate with the government on processes, projects, etc. This is especially important for businesses working together with the government on projects, for public-private partnerships, NGOs, citizen forums, etc. This phase requires a collaboration infrastructure, which brings together suppliers, consumers and the government in a network with the object of increasing value creation.

3.3 Drivers & Benefits of E-Government for Pakistan

Initially, E-Government was more a domain of developed countries. The decreasing cost of ICTs makes their deployment easier for developing countries. The growing maturity of technology ensures that the investment risk is lower. This coupled with the higher and ever growing access to these technologies for citizens are the main drivers for E-Government in developing countries. E-Government today allows countries like Pakistan to leapfrog over multiple generations of technology to deliver efficient and cost effective public services to citizens and businesses.

The following figure shows the drivers of E-Government and the main benefits to be realized.
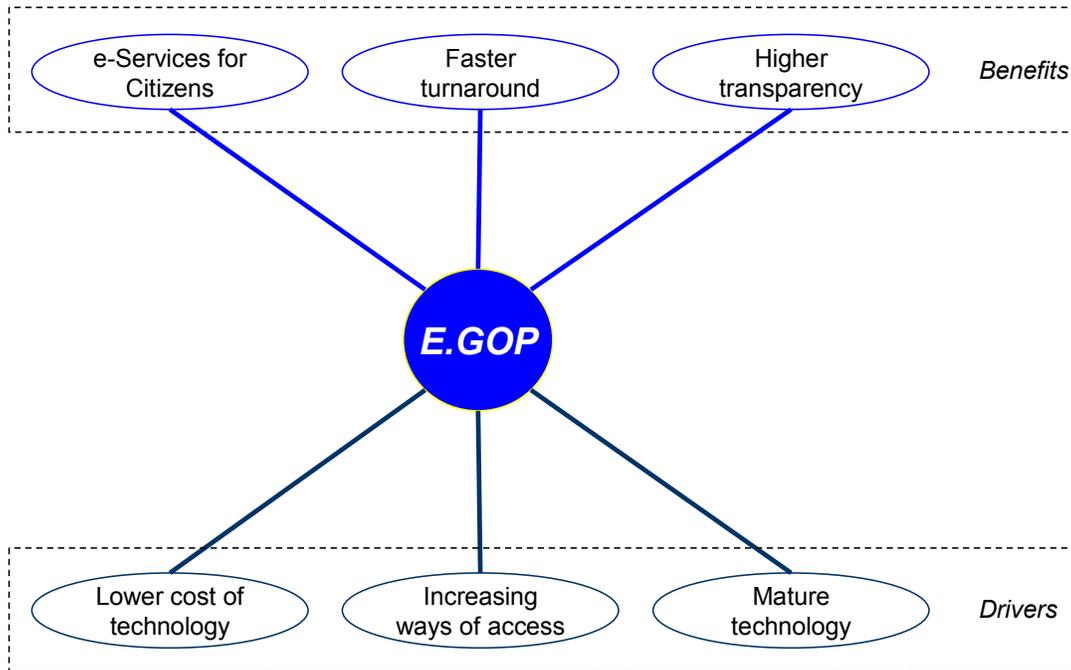
- **Improve Efficiency and Effectiveness:** improve the efficiency in the government by supporting the process through IT systems and applications. Efficiency is also sometimes called doing things right. This means completing the steps of the business process fast, while reducing errors, etc. While effectiveness is also called doing the things right (Business Process Reengineering) and involves changing the business process to exclude non-value-add steps and reducing the load of administrative work required.

- **Increase Transparency and Accountability:** increase the transparency and accountability in the government by standardizing processes, allowing the monitoring the flow of work through the ability to access real time status, pre-defined checkpoints in the workflow and automated escalations in case of delay. Accountability is underpinned through users assigned to roles which in turn are assigned to steps of the business process. Every step of a process is captured including audit information through a secure system of the person involved. Periodic reports against Key Performance Indicators (KPIs) as well as real time reports for exceptions increase the accountability of employees.

- **Deliver public services to citizens efficiently and cost effectively:** The ultimate goal of the E-Government strategy is to be able to offer an increased portfolio of public services to citizens in an efficient and cost effective manner. The efficiency comes through a good

alignment of efficient internal government processes with the points of truth (interfaces) with citizens. Cost effectiveness in the case of Pakistan not only includes the cost of initiating the process but also the ability to access the services provided electronically. This may be done by deploying cheaper computing resources while increasing the multiplication factor of citizens per computing resource by introducing points of shared computing (e.g., through kiosks, thin clients in computer pools, etc.). Access must also be expanded to the non-English speaking part of the population by introducing Urdu as the first phase of deploying information and services in a multi-lingual context.

4 Current Status of E-Government in Pakistan

In the last few years, Ministry of IT and E-Government Directorate have undertaken multiple E-Government projects and currently have many in the pipeline. This section takes stock of the current status of E-Government, including the legislation, policies and actions taken. It also includes a list of projects completed by EGD and Ministry of IT in the Federal Government and specifically the Ministry of IT.

4.1 E-Government and the National IT Policy and Action Plan 2000

Even though the Telecom Wing existed under the Ministry of communication, there was no Federal Division for IT prior to the year 2000. In March 2000 the IT & Telecom Division was formed within the Ministry of Science and Technology. As the widespread utility of IT has become more and more dependent on Telecom Infrastructure, combining IT with Telecommunication was a significant strategic step. To further enhance the focus on this sector, a separate Ministry of IT was established in the year 2002. The first IT Policy and Action Plan of Pakistan was approved by the Federal Cabinet in the year 2000. The IT Policy paid particular attention to the use of IT in Government. Some of the relevant sections of the IT Policy pertaining to E-Government are presented in Annexure IV.

4.2 Electronic Government Directorate (EGD)

Prior to the formation of the IT Division an IT Commission existed, which had only one paid member and a small secretariat. All other members, primarily from the private sector and academia, were honorary. As a concrete follow-up step to the IT Policy, in October 2002, the Federal Cabinet approved the conversion of the IT Commission into the E-Government Directorate (EGD). EGD was set up as a cell within the Ministry of IT to focus specifically on E-Government with the following Terms of References (TORs):

- Lead the E-Government Effort in Pakistan
- Plan and Implement projects under E-Government program
- Provide technical support to Federal, Provincial & District agencies
- Preparation of standards for software and infrastructure in the field of Electronic Government

The E-government Directorate has the primary responsibility for bringing about the e-government transformation within the Federal Government, with strong cooperation and commitment, necessarily, from the various Federal Government organizations. Subsequently, EGD was further strengthened with the sanction of 4 Business Analysts, a Director (Training), and an Executive Director. The current organizational structure of E-Government Directorate is given in the Appendix V.

4.3 Legislation

Legislation is a key component in the overall IT Program. The introduction of online transactions and the reengineering of processes require legislation and changes to the rules and regulations. The information society has also created a new set of legal challenges that have to be dealt with by either bringing new legislation or amending the existing laws.

The most fundamental legislation is the recognition of electronic transactions. The Government of Pakistan has promulgated the Electronic Transaction Ordinance (ETO) in the year 2002. With the cover of this ordinance the legal system recognizes electronic transactions and information stored in electronic form. The Ministry of IT has also completed broad based consultations on the draft of the Electronic Crimes Act, which is to be submitted to the Cabinet later this year. Work is also underway on the Data Protection Act and Electronic Signature Law.

Under the ETO the government has already established anAccreditation Council to accredit the certification authorities that provide security authentication services. For example those authorities that issue Digital Certificates. This Accreditation Council has been notified and the Secretariat has been formed under the National Telecommunication Corporation. The Accreditation Council is in the process of framing its rules and other modalities of operation.

4.4 Projects at the Federal Government of Pakistan

Since the creation of the Ministry of IT in the year 2000, IT has been brought in the forefront through Human Resource development, opening a number of IT universities and IT departments in the existing institutions, strengthening and promoting the domestic IT industry through the Pakistan Software Export Board, through the provision of basic IT training to federal and provincial government employees through the Pakistan Computer Bureau and through automating various federal and provincial government organizations. A complete list of the projects initiated by the Ministry of IT including its current status is enclosed in Appendix I.

To date, the Ministry of IT has sponsored several e-government projects. Some of the projects have been implemented by the Ministry of IT or its attached departments, while others have been implemented directly by the target organizations. It is important to note that the Ministry of IT has not only sponsored e-government projects at the Federal level, but also at the Provincial level.

From the start of the fiscal year 2000-2001 through the end of 2003-2004, the Ministry of IT has utilized a PSDP budget of Rs. 4.82 billion out of which a total amount of Rs. 370 million has been utilized for e-government projects. The reason for this low utilization of development funds in the e-government domain has been the lack of adequate capacity on both the "push" and the "pull" side of the technology equation. Since early 2004, the human resources capacity at EGD has been increased steadily, and a definite positive correlation has been observed in the form of increase in the

number and total value of projects being planned and implemented by EGD. The current status of E-Government projects at the Federal Government of Pakistan is as follows:

Category	Federal Agency	Description	Allocated Funds (PKR m)	Completion Date
Basic Infrastructure				
Federal Government Data Center (Part I)	28 Divisions	941 Desktop PCs	113	09/2005
		Office Productivity Suites, including word processor, presentation, spreadsheet calculation, email and other applications		
		Local Area Network for intra-divisional communications, including directory services, email, etc.		
Federal Government Data Center (Part II)	Federal Government	Data Center for the hosting of all Internet and Intranet applications for all Divisions	191	05/2006
		Backup and Archiving for all data in the Data Center		
		WAN through fiber-optic connection for Inter-Divisional communications		
Common Applications				
Electronic Office	MOIT	Human Resource Management Finance & Budgeting Project Management Inventory & Procurement Internal Communication, Document / File Management Employee Portal	37	10/2006
Agency-Specific Applications				
e-Recruitment	FPSC	Online application and the e-enablement of the entire process of recruitment	39	06/2006
e-Services	Bar Associations & Press Clubs	Online access to statutory laws and other legal documents for 19 Bar Associations & Press Clubs across the country	31	02/2006
e-Enablement	PM Secretariat	Development of LAN for intra-Secretariat communication. Desktop PCs, including Office Productivity Suites for word processing, spreadsheet	37	06/2006

		calculations, email, etc.		
		Agency-specific applications, including, goals and targets, monitoring, etc., for PM Secretariat		
e-Enablement	National Assembly	Development of agency-specific application, including access to debates, question answers and automation of legislative process, etc. for the National Assembly,	35	10/2005
e-Enablement	Senate	Development of agency-specific application on the lines of National Assembly	31	10/2005
e-Enablement	SECP	Development of agency-specific application, including complaint management system, online registration and submission of returns, etc., for SECP	38	01/2006
e-Services	MoRA	Application, including online submission of Hajj applications, automation of application processing, automation of notification, travel planning and	29	02/2007
e-Enablement	MINFAL	Online access market rates for farmers, forecast of possible pest attacks, etc.	155	02/2008
e-Services	CDA	Automation of multiple processes of CDA, including land records, complaint management, etc.	175	10/2007
e-Enablement	PIMS	Provision of hardware, networking to run the existing Hospital Management System.	37	05/2007
e-Enablement	Islamabad Police	Automation of Islamabad Police, including provision of basic IT infrastructure at 19 locations, agency-specific applications including FIR registration and internal registers, etc.	110	09/2007
e-Enablement	CDA Hospital	Provision of hardware, networking and the implementation of the Hospital Management Systems.	30	02/2007
e-Services	Chief / Deputy Commissioners Office	Office Automation, including ERP, online domicile certificates, international driving permits, supply management, etc.	30	02/2007

e-Services	Estate Office	Automation of application, processing and allotment of government-owned housing units to federal government employees residing in Islamabad.	8	12/2006
e-Enablement	Patent Office	Automation of the registration process of patents.	12	05/2007
e-Services	Establishment Division	Multiple Applications under preparation.		Under Preparation
	Planning Division	Multiple Applications under preparation.		Under Preparation
	Interior Division	Multiple Applications under preparation.		Under Preparation
Local Langauge enablement	Lexicon	An Urdu-English Dictionary	39	06/2006
	Machine Translation	A web-based tool that allows the translation of websites from English to Urdu with an international accuracy rate of > 60%		
	Text-2-Speech	A web-based tool that converts Urdu text to speech.		

4.5 Ministry of IT

The Ministry of IT does not only see itself as the champion for implementing E-Government successfully within the Federal Government of Pakistan, but is also driving to be the pioneer of usage of E-Government within the ministry and its departments and companies. Currently, the Ministry has successfully employed the following usage of E-Government:

e-Hiring	MOIT	The Ministry of IT and its departments and companies are using e-Hiring for all their recruitment needs. Advertisements in newspapers have a minimal length and refer to details of the position provided on the portal. The processing, short listing and archiving of positions is done electronically and is accessible through the portal.	Adopted
Email	MOIT	The use of email has been employed for all normal internal communications, including the scheduling of meetings, distribution of preparatory material and presentations,	Adopted

		distribution of minutes, etc.	
File Movement	MOIT	The movement of files, including their current locations is recorded electronically and is searchable. This not only makes it easier to track and locate files, but also makes transparent how long files are in a certain location to be processed.	Adopted
Intranet Knowledge Base	MOIT	All policies, rules, project reports and other important information has been made electronically available on the Intranet of the Ministry of IT. This is the first step toward establishing a full fledged Knowledge Base.	Adopted

5 Key Success Factors for E-Government

In the process of implementing E-Government in Pakistan it is essential that we learn from the lessons learned in other countries that have more advanced E-Government programs. An essential part of this learning is to identify the Key Success Factors involved in successfully implementing E-Government and to make any necessary changes in their light.

Among many different countries, this document takes particular note of the following countries:

- USA and Singapore for having successful E-Government programs
- South Korea for its successful E-Government program with special interest on account of the existing MoU with Pakistan in the arena of E-Government

Overviews of the programs, the main services provided and the main challenges faced by various countries are given in Appendix III

An analysis of different programs and specifically of the countries mentioned above has led to the identification of the following Key Success Factors for a successful implementation of E-Government:

- **Top-level sponsorship:** Most countries have experienced this as a very important factor toward overcoming the unwillingness to change. For most countries, this was required from the top leadership of the respective Federal Governments as well as the inclusion of E-Government as a top priority on the agenda of the government.

- **Willingness to Change:** The most quoted Key Success Factor has been the willingness to change. It is not the technology but culture change that is the problem, is a quote heard very often in the E-Government programs of the countries. Ownership is an important enabler for the willingness to change.

- **Capacity to deliver and absorb:** The capacity to deliver E-Government projects identifies the lack of skilled resources required for a successful rollout of E-Government projects. The capacity to absorb, on the other hand, is the ability for trained employees to transition to the new way of doing things under E-Government.

- **Coherent policy & strategic framework:** To ensure that E-Government does not result in silos lacking integration, interoperability and unable to realize cost benefits of replication, a coherent policy and strategic framework for E-Government projects is required. This very often is underpinned by an Enterprise Architecture for E-Government.

- **Timely availability of funds:** The availability of funds is an important factor for a quick implementation of E-Government projects and realization of their benefits.

- **Strong relationships between Public and Private Sector:** A strong partnership between the public and private sector for the successful deployment of technology is required. E-Government has often helped strengthen the ability of the private sector to deliver projects through a strategic partnership between the two.

- **Enabling amendments in laws, rules and procedures:** All countries scrutinized in this analysis have mentioned legal inertia as a great challenge toward a fast implementation of E-

Government. Often, new technology and ways to do business could not be utilized due to the necessity of changing old legal practices and policies.

6 E-Government Strategy in Pakistan

This section lays out the proposed strategy for E-Government in Pakistan taking into consideration the current status and the Key Success Factors that have been identified.

6.1 Underlying Principles

In a first step toward defining the strategy for E-Government in Pakistan, certain underlying principles have been defined as guiding principles for the formulation of the E-Government strategy. These underlying principles are as follows:

Top-level Ownership: As identified by the Key Success Factors for E-Government as well as through the lessons learned in projects, top-level ownership is required for an accelerated and successful implementation of E-Government.

Toward achieving this, the **NEGC (National E-Government Council)** has been set up under the chairmanship of the Prime Minister of Pakistan. The first meeting of the NEGC was held on April 28, 2005.

Comprehensive plan instead of piece-meal projects: A comprehensive plan is required that defines the different areas of E-Government to be implemented and their priorities and integration. This is aimed toward implementing projects as part of an integrated approach rather than as silos.

Priority on High-Impact Agency-specific application: The E-Government program should focus its resources on high-impact agency-specific applications. This should be gauged in a case for change that identifies the impact on the respective division in the light of increase in efficiency and effectiveness as well as the impact on the citizens accessing the respective public services.

Interoperability of Applications: The E-Government portfolio must result in a set of interoperable applications that have standardized interfaces and similar architecture for similar functionality. Wherever possible, applications should be replicated.

Outsourcing of project execution: In light of resource constraints and the large pipeline of projects in the E-Government program, the outsourcing of project execution with clear deliverables will help toward achieving the benefits of E-Government faster, while strengthening the public-private partnership.

Ongoing process of learning from best international practices: Continuation of the process of learning from best international practices, which is already underpinned by multiple MoUs with South Korea, Malaysia and China. This is to ensure that we benefit from the learning in other countries.

6.2 Strategic Framework

In a second step a strategic framework was developed to divide the implementation of E-Government in the Federal Government into building blocks given in the figure below:
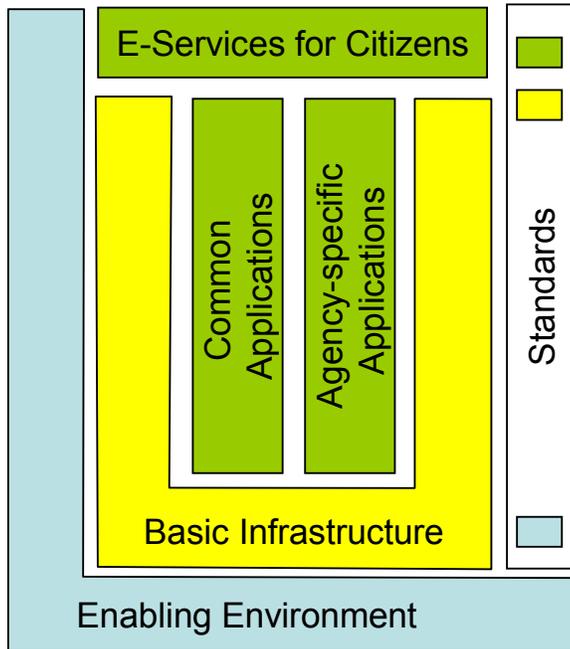
Legend:
- Business (blue)
- Technology (yellow)
- Applications (green)

Parallelization of Subsections

One method to move forward in E-Government is to take the building   blocks one by one, i.e., first to ensure an enabling environment, then to build up the basic infrastructure. After this, the development of common and agency-specific applications could be undertaken and so on. However, due to multiple interdependencies between the building blocks as well as the necessity to implement and realize benefits in an accelerated manner, the strategy presented in this document revolves around the parallelization of the different subsections. This is analogous to the employment of agile methods, which bring speed and flexibility into the strategic approach.

6.3 Basic Infrastructure

Components

This is the main building block for the usage of E-Government in the Federal Government of Pakistan.   This building block consists of the following components:

- Personal Computers or equivalent computing resource
- Office Productivity Suite, including word processing, spreadsheet and presentation software

- Email, system management and security clients

- Departmental servers for print sharing

- Local Area Networking to enable electronic communication between users of the Ministry as well as directory services to ensure authentication and authorization for users.

- Networking between the Divisions for inter-ministerial communications.

Strategy

The strategy for this building block is to build the basic infrastructure in all the Divisions, their affiliated departments and companies wherever necessary. Fifteen Divisions of the Federal Government are already equipped with the basic infrastructure. The remaining Divisions are being equipped with this building block under the Federal Government Data Center Project expected to be completed by 4QFY2005/06. After this, in the second phase of the project, a Data Center with fiber-optic connections to the Divisions is being setup that will host all Internet and Intranet applications as well as give Internet access to all users in the LANs of the Divisions. This infrastructure will facilitate the integration of different workflows and communication between Ministries as well as give the Divisions services like Internet access, etc.

Future Considerations

For a further deepening of the basic infrastructure in a cost effective manner, the following options are being studied for feasibility:

Electronic Transactions – This includes the basic infrastructure that allows for secure electronic transactions that are recognized by law for businesses and citizens. This will enable citizens and businesses to carry out transactions with the government that require a high level of security, authentication and authorization, e.g., electronic payments, applications for passports, etc.

Virtualization – this encompasses the sharing of computing resources through virtualization of the physical dedicated resource of the PC by placing most of the computing power at a centralized point. This decreases the cost and security threat of the basic infrastructure. Concepts such as telecenters can be built for citizens in remote and underserved areas around virtualization.

Wireless LAN – this encompasses replacing wired networks close to the point of access, e.g., building, by wireless access points. This reduces the cost and time required for installing and maintaining physical infrastructure while increasing flexibility in movement.

Licensing – Open Source and other avenues are being looked at for the operating system, office productivity suite and other software layers to reduce the cost of rollout.

6.4 Common Applications

Components

Common Applications are applications that are common to many or all Divisions of the Federal Government. Therefore, these applications can be implemented once and replicated across multiple Divisions. In the year 2002, the Ministry of IT carried out a study to identify common

software applications across various government organizations. The identified common applications include the following modules:

- Finance & Budgeting
- Inventory & Procurement
- Human Resources
- Project Management
- Document/file Management
- E-mail, messaging, & Collaboration

Strategy

The strategy for the implementation and rollout of common applications is the following:

- Break the common applications into releases that group together modules
- Implement the first release in one Division
- Stabilize the implemented modules
- Use further Business Process Reengineering to fine tune the module
- Rollout the stabilized modules with efficient and effective processes across all Divisions
- Repeat the process in parallel for the next release of modules after stabilization of the first release

For this process, the first release of modules chosen includes the high-impact areas of Document / File Management and Project Management. This release is scheduled to be rolled out in Ministry of IT by the end of the FY2005/06. These modules will then be stabilized and the processes will be reengineered to fine tune the process. After this, these modules will be rolled out to all the Divisions in a period of two to three years. At the same time, the implementation of the rest of the common applications will start, the completion of which is scheduled for 2Q2006.

Future Considerations

Attached departments, corporations and autonomous bodies working under the, Ministries should avail the usage of the defined common applications to realize maximum benefit of the implementation. Further, though not directly within the scope of EGD, the project may also be replicated at Provincial and District government levels. This replication will allow a common environment across the government, smooth integration and interoperability, easier maintenance and support, and consistent upgrade path.

6.5 Agency-Specific Applications

Components

Agency-specific applications are all applications that e-enable agency-specific services and processes. These applications have very limited or no potential for replication in other organizations..

Strategy

The implementation and rollout of Agency-Specific Applications building block should be run in parallel with common applications. This allows a faster implementation time and maximizes the benefits of e-enabling high impact processes and services in Divisions. The strategy, in essence, shall require all the Ministries and agencies working under the Ministries to identify high-impact processes / services, which could be delivered electronically. The criteria for selecting the services shall be their coverage and potential for saving cost and time for the citizens, apart from adding transparency and accountability in the process.

Such prioritized high-impact applications shall form the core of the 5-Year Plan for E-Government in the country.

Future Considerations

As mentioned in the key success factors, ownership from within the stakeholder government agency is critical to the buy-in and success of the application. Therefore, ownership of the e-enablement program within a Division must lie with the respective agency. Dedicated focal points for E-Government may be established within the Divisions and attached departments.

6.6 e-Services for Citizens

Components

E-Services includes the use of electronic means for all interaction between citizens and government agencies, including availing services from the government, understanding the status of work in progress and accessing results of the process.

Strategy

Along with agency-specific applications, parts of processes will be identified that can potentially reengineer the way the agency interacts with citizens. Especially in the high-impact process areas, the impact on citizens will also be taken into consideration for the prioritization of the E-Government implementation.

An awareness campaign for citizens will also be rolled out. This will focus on the following:

- Information – How and what information citizens can access through E-Government portals.
- Interaction – How and in what e-enabled processes can citizen now use E-Government to interact with government agencies.

- Feedback – How citizens can through their feedback help the government improve its E-Government implementation and effectively use its investment.

As the larger part of the Pakistani population requires the use of Urdu, multiple activities are underway to achieve a higher content base and interaction in Urdu:

Lexicon – This project is developing an online Urdu dictionary as well as an online translator for English content to be translated into Urdu.

Multilingual Portal – A feasibility to introduce Urdu to the Citizens Online portal is being carried out, so as to make the content provided accessible to a larger part of the Pakistani population.

6.7 Standards

Components

A lack of standards reduces the ability to leverage lessons learned and implementing best practice. In IT, it also reduces the ability to integrate and interoperate. The standards for E-Government in Pakistan consist of the following components:

- **Methodology** – this includes the standard way of doing things. The process steps toward e-enabling a process is defined here along with the deliverables in each step. The notation and information required is documented here to ensure quality and ability to extend, operate and maintain.
- **Enterprise Architecture** – This encompasses the E-Government blueprint for the entire Federal Government. It divides the architecture blueprint into sections and defines these sections as standard architectures.
- **Policies and Guidelines** – This encompasses all policies and guidelines that are used for E-Government in Pakistan.

Strategy

EGD has started preparing the EGD Framework that includes all the above mentioned components. The strategy for the development is as follows:

The development of the EGD Framework is done on a need first basis, i.e., the portions of the framework are developed first that are required most urgently. Certain parts of the framework in cooperation with projects and then utilized for all future projects.

Best Practices and architectures are identified nationally and internationally in the field of E-Government. The strategy is not to be the leader but a fast adopter to ensure the best use of mature and stable technologies.

Ensure use of the EGD Framework by making its usage and compliance to the standards defined in it mandatory for all E-Government projects

Future Considerations

The EGD Method can be made available to practitioners, suppliers and provincial and local governments to use through a web-based tool. This will allow the maximum benefit to be realized from the EGD Framework.

6.8 Enabling Environment

Components

The enabling environment includes the necessary environment to ensure a successful implementation of E-Government. This building block has been further divided into the following sections:
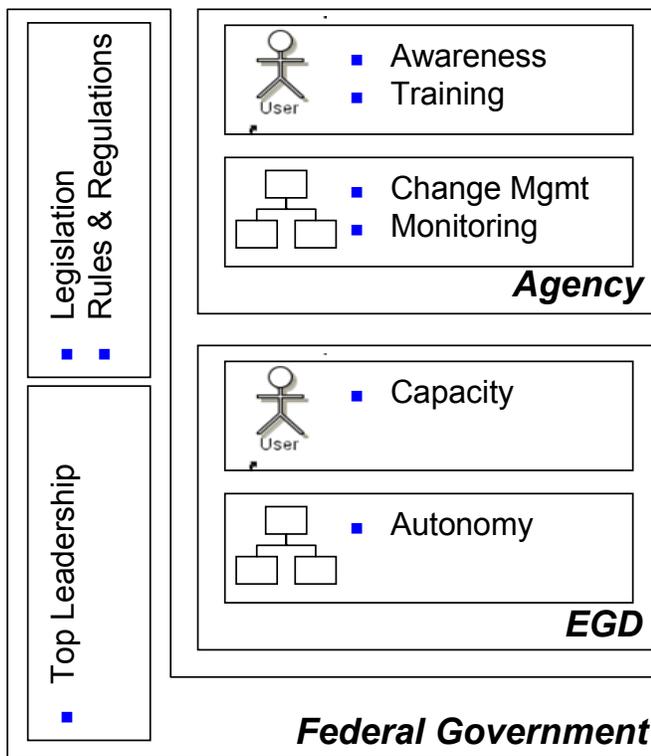
6.8.1 Federal Government

Components

The components of the enabling environment at the Federal Government level are the following:

- Top Leadership – as identified in the key success factors, top level leadership is required to ensure the sense of urgency, buy-in and accelerate the successful implementation of E-Government

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- Legislation, Rules & Regulations – this includes the necessary changes in legislation, rules and regulations to accommodate the usage of E-Government, e.g., the use of electronic documents, electronic transactions, etc.

Strategy

Top Leadership

For top leadership, the National Electronic Government Council (NEGC) has been setup under the chairmanship of the Prime Minister. NEGC is going to meet quarterly to review the progress of the implementation of E-Government in the Federal Government and take any action required to accelerate the implementation and resolve any issues. EGD will submit Key Performance Indicators (KPIs) and project status reports for review to NEGC. NEGC will drive any decisions requiring the support of the top leadership.

Legislation, Rules & Regulations

As E-Government is adopted by government agencies, changes in legislation, rules and regulations will be required to lend legitimacy to the automated systems. Additionally, new laws may be required to ensure that E-Government systems and all stakeholders affected can function properly. For this a committee is to be setup that will review and suggest necessary changes to legislation and rules and regulations on a biannual basis.

The following list may be used as a starting point for the review of necessary legislative changes and/or amendments:

- Electronic transactions ordinance
- Electronic Crimes Act
- Data Protection Act
- Internet Banking/e-commerce
- Consumer Protection
- Electronic Transactions Dispute Resolution
- Electronic signature Law

6.8.2 Agency

Components

The components of the enabling environment at the Government Agency level are the following:

- Organization: Change Management – this includes introducing a culture change in the way the agency does business and interacts with businesses and citizens.
- Organization: Monitoring – this includes the monitoring of the usage of E-Government in the agency and by businesses and citizens.
- User: Awareness – this includes the awareness of the user at the agency regarding E-Government and its benefits.

- User: Training – this includes the training of the user at the agency in the usage of E-Government systems

Strategy

Change Management

Change Management must be lead by a focal point for the E-Government program at an agency. This should be lead by a person of at least Joint Secretary level. The person dedicated to this task must come from within the agency and enjoy a high degree of respect, while being incentivized to own and implement the E-Government program successfully with the support of EGD.

Monitoring

KPIs are to be defined for every E-Government system that is rolled out. These KPIs should encompass the usage of the system, the number of transactions, including ones completed within a predefined time period, etc. These KPIs should be monitored and published periodically.

Awareness

Awareness is necessary for employees of agencies as well as for the citizen to make the achievements and benefits of E-Government transparent. Also, this should be aimed at encouraging people to use the new E-Government systems. For this an awareness campaign is to be launched. Details of this will be worked out and presented in the holistic plan of the entire E-Government program as well while addressing specific applications and services.

Training

Training of the user at agencies is the single most important thing to ensure the ability to use the new system. For this two types of trainings will be offered. The first training for all staff Grade BPS-5 and above will focus on general IT training on the usage of PCs and will be made mandatory. For this, a cash incentive will also be offered to all trainees successfully completing the training. Special awards will be given to outstanding trainees.

At the same time, training for specific applications will be given as these are rolled out to agencies

6.8.3 EGD

Components
The components of the enabling environment at the EGD level are the following:

- Autonomy – this includes the organizational and financial autonomy of EGD
- Capacity – this includes the capacity of EGD to manage and execute projects

Autonomy

The current organizational structure of EGD, necessitates the routine decisions and approvals to be routed to the Ministry of IT. This increases the time required while putting an added administrative burden on both entities. Therefore, it is recommended that EGD be made an attached department

of the Ministry of IT to ensure organizational and financial autonomy while keeping EGD in the patronage of the Ministry of IT.

Capacity

The current staff strength of EGD does not allow it to take on more than 20 projects simultaneously (the organization structure of EGD is provided in the Appendix). However, this strategy document is focused around an accelerated implementation of E-Government that requires a higher capacity to execute. Multiple actions are being taken to address this issue:

Tendering of projects on a turnkey basis

Feasibility study of outsourcing project management for certain projects or project portfolios
Growth in EGD resources

Future Consideration

Since Provinces and Districts are currently short of capacity (technical and financial) for executing on a strong e-government program, the Federal Government through the Ministry of IT, may support and assist them in critical areas. As the Provinces and Districts build-up their own capacities, the Federal support may be reduced accordingly.

7 Risk Catalog

In this section all currently known potential risks for the timely and successful implementation of E-Government in the Federal Government are listed, including recommended ways to mitigate the respective risks.

7.1 Ownership by Agency

Content	Description
Risk identification	Ownership by Agency
Risk Probability	High
Risk Impact	High
Status	Open
Risk description	Currently, there is little or no ownership within the government agencies during the execution of the process.
Risk Consequences	The understanding of the agency users and their processes is not well integrated in the project. The buy-in and acceptability of the system to be developed is lower. The realization of benefits through business process reengineering is lower.
Risk Mitigation	Name a focal point for E-Government in the respective agencies at the level of Joint Secretary for ownership of the E-Government program in their agencies. Employ and publish KPIs for e-enablement of agencies and the usage by citizens of e-Services provided.

7.2 IT-literacy in Federal Government

Content	Description
Risk identification	IT-literacy in Federal Government
Risk Probability	High
Risk Impact	High
Status	Open
Risk description	Currently, few persons at the Federal Government are IT literate.
Risk Consequences	The usage of deployed systems and basic infrastructure and the adoption of new e-enabled processes will be very low.
Risk Mitigation	Basic computer training be made mandatory for all Federal Government employees of Grade BPS-5 and above. Additionally, Ministry and role specific training should be imparted to ensure maximum usage and benefit realization from E-Government programs.

7.3 Project Execution Resources

Content	Description
Risk identification	Project Execution Resources
Risk Probability	High
Risk Impact	High
Status	Open
Risk description	EGD only has limited resources to execute projects. The current maximum number of projects that may be executed simultaneously is 20. However, given the speed at which large projects are envisioned to be executed, these cannot be serviced by the currently available resources.
Risk Consequences	Either the number of projects envisioned in the strategy will need to be reduced or the quality of the project execution will go down.

Content	Description
Risk Mitigation	Look into the possibility of outsourcing project management to external companies while retaining the program management role of EGD in projects.

7.4 Integration and Interoperability

Content	Description
Risk identification	Integration and Interoperability
Risk Probability	High
Risk Impact	High
Status	Open
Risk description	Many mega IT projects are being executed at different agencies of the government and their attached departments and companies. There is no compliance process to ensure that these applications and systems will be able to integrate and interoperate while adhering to security and other standards. This will also increase the cost of operations and maintenance
Risk Consequences	Silos will be developed without the ability to integrate and interoperate. The systems will not be able to speak to each other lowering the overall value of E-Government.
Risk Mitigation	Build up an Enterprise Architecture and Methodology to be adhered to in all large IT projects in the government. Put in place a compliance process at different milestones of every such project.

7.5 Turnkey Projects

Content	Description
Risk identification	Turnkey Projects
Risk Probability	High
Risk Impact	High
Status	Open
Risk description	Currently, projects are being subdivided into different tasks, e.g., System Requirements Specifications, Implementation, etc. Since these are being carried out by different companies, the last is validated by the next company and the administrative process of issuing RFPs and evaluating the same is producing unnecessary dual work as well as a time and administrative overhead.
Risk Consequences	Longer time required for the implementation of projects as well as unnecessary validation tasks.
Risk Mitigation	Award contracts for large projects on a turnkey basis with milestones and checks built into the projects plan and payment schedule.

8 Summary 5-Year Implementation Plan
8.1 5-Year Implementation Plan

The following plan gives a high level implementation timeline for the strategy described in the previous section.

	FY2005/06				FY2006/07				FY2006/07				FY2006/07				FY2006/07			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Basic Infrastructure																				
Phase I - PCs, Office Productivity Suites, Email - Intra-divisional networking	X																			
Phase II - Data Center, Internet, Intranet hosting - Inter-divisional networking	X	X	X	X																
Common Applications																				
Phase I (Implementation at MOIT) - Internal Communications - Project Management - Human Resource Management - Finance & Budget - Procurement & Inventory - Document/File Management	X	X	X																	
Phase II (Replication at other Divisions)					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Agency-Specific Applications & e-Scervices for Citizens																				
Phase I - Identification of 3 High-Impact Applications per Division	X	X																		
Phase II Implementation of identified Applications			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Standards																				
Phase I - Definition of EGD Framework	X																			
Phase II - EGD Framework as web-based asset - Enrich on ongoing basis		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Enabling Environment																				
Federal Government																				
Top Leadership - Progress & Review Meeting (M)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Legislation, Rules & Regulations - Setup Committee (S) - Make Recommendations (R)	S	R		R		R		R		R		R		R		R		R		R
Agency																				
Manage Change & Monitor - Identify Focal Point for e-Government (I) - Start Change Management (C)	I	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Awareness & Training - Start awareness campaign (A) - Make training mandatory (M) - Train all employees BPS-5 and above (T)	A,M	T	T	T																
EGD																				
Autonomy - Make EGD an attached department of MOIT	X	X																		
Capacity - Projects on turnkey basis - Grow internal capacity - Outsouce project management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

The above plan is geared toward achieving a high degree of parallelization leading to an early realization of the benefits of E-Government. Therefore, the activities of building the basic infrastructure run in parallel to the identification and implementation of high-impact agency-specific applications and e-Services for citizens. At the same time, the implementation and deployment of common applications at Ministry of IT, stabilization of these applications and their replication to all other Divisions is executed in a project running in parallel. The Standards section is developed keeping the projects and their necessities in mind, while harvesting their deliverables for rollout to all other projects. The Enabling Environment being the single most important

business prerequisite for a successful implementation have essential setup activities defined in the beginning and normal ownership, review and monitoring activities throughout the program.

8.2 Policy Directives of National Electronic Government Council

In the first meeting of the National Electronic Government Council (NEGC) held on April 27, 2005 the following decisions have already been taken to support the E-Government program:

(i)   NEGC approved that the E-Government strategy and 5-year Plan document may be submitted to the Cabinet for approval.

(ii)   All mega IT projects undertaken by all the agencies of the Federal Government, such as PIFRA, CBR, etc. should coordinate with the Ministry of IT before finalization of Hardware and Software specifications, to ensure integration and inter-operability across the Federal Government

(iii)   It was decided that a special unit under the Additional Secretary MS Wing, Establishment Division shall be set up with a Business Process Analyst and an IT professional as members of this Unit. This unit will review the Secretariat Instructions, Rules, Regulations and Procedures to suggest amendments for the IT enablement of the business processes for the Federal Government. These recommendations shall be duly examined by a committee comprising Secretary, Cabinet Division, Secretary Establishment Division and Secretary IT & Telecom Division before their submission to the NEGC, for approval.

(iv)   The Ministry of IT would arrange a presentation for all the Federal Secretaries on the 5-years strategy and plan of the E-Government Program to enlist commitment and support at the highest level in all the Ministries.

(v)   The Ministry of IT, in consultation with the target Ministries, would identify three services in each Ministry within the next three months for their IT enablement and present these in the next NEGC meeting for approval. All the Ministries will need to arrange for electronic delivery of services provided by them.

(vi)   In order to drive implementation of the e-government, each Ministry should nominate an officer, of the level of a Joint Secretary, who should be exclusively dedicated to the cause of the IT enablement of the concerned Ministry. The officer should report directly to the Secretary to ensure e-government implementation expeditiously. The Ministry of IT would organize special courses for these officers.

(vii)   The concerned Ministries would take ownership of the projects planned for implementation within the next 24 months. This includes Federal Government budget application, PSDP management application, Human Resource Management, Electronic Hiring and Electronic Procurements.

(viii)   The Prime Minister appreciated the strategy of the Ministry of IT for the implementation of IT applications in the Ministry and desired that the same be introduced in other Ministries in the shortest possible time. The Prime Minister further directed that the Ministry of IT should introduce procedures for having a paperless environment in all the Government Offices.

(ix)   The Prime Minister approved the proposal for the IT Training of all the Federal Government Employees in grade 5 and above in the Federal Ministries. The Prime Minister directed that extensive training should be arranged for all the Federal Government Employees on priority basis. Based on their performance, employees should be given a one-time incentive. In addition to this, the top three performers of the training course should be awarded special prizes. The amount for the awards shall be determined jointly PSPM, Secretary Finance and Secretary IT separately. Prime Minister also directed that training to the Federal Government Employees should be arranged at convenient places, preferably within the Ministries or at locations which are closer to the Federal Secretariat. Successful completion of the IT training would be made mandatory for promotion of the employees.

(x)   In order to ensure the continuity of IT Professionals in the Government, amendments in the rules governing contract employees providing for longer contract duration should be taken up separately by the Establishment Division.

(xi)   All the Ministries should ensure that non-classified Inter and Intra ministerial communication will be done electronically within 12 months.

(xii)   All Ministries will ensure that their websites contain essential content as per guidelines provided by the Ministry of IT and are updated regularly. Ministry of IT would review the quality of content of the websites and prepare a monthly report which would be submitted to the PM Secretariat/Cabinet Division.

(xiii)   The Progress on the E-Government Program of the Federal Government will be reviewed by the NEGC on a quarterly basis.

8.3 Budgetary Provisions for E-Government Program

Based on the strategy outlined above for electronic delivery of various services to citizens, the following table details the anticipated level of budgetary provision over the next five years:

Budgetary Provision for Electronic Government Program (Rupees in millions)							
No.	Activity for Fiscal Year	2005-06	2006-07	2007-08	2008-09	2010-11	Total

1.	Basic Infrastructure in Federal Ministries	195.31	153.46	65.10	65.10	65.10	544.07
2.	Baseline Applications in Federal Ministries	10.00	81.33	81.33	71.33	38.00	281.99
3.	Basic Infrastructure in Attached Departments of the Federal Ministries	200.00	800.00	280.00	128.00	128.00	1,536.00
4.	Baseline Applications in Attached Departments of the Federal Ministries			203.33	203.33	203.33	609.99
5.	Agency Specific Applications including high impact applications and citizen services	540.00	500.00	500.00	500.00	500.00	2,540.00
6.	Capacity Building and creating an Enabling Environment	50.00	50.00	50.00	50.00	50.00	250.00
	Total e-Government Spending	995.31	1,584.79	1,179.76	1,017.76	984.43	5,762.05

9   Benefits of the E-Government Program

The implementation of the Strategy presented here over a period of 5 years according to the included 5-Year Plan will help in achieving multiple goals. At a higher level, it will change the way the government interacts with its citizens, the capacity and usage of e-business in the private sector will be underpinned, while increasing the productivity of the Government of Pakistan. The next few paragraphs present a summary of the expected results of the E-Government program in the coming 5 years.

9.1   Increased Efficiency and Transparency

All Federal Divisions, and many of the attached departments will be connected to a common network, enabling them to share information. Federal Government organizations will have common applications, automated high-impact core processes and e-Services for citizens. Their internal efficiency and effectiveness and ability to provide services to citizens/businesses will have increased significantly. Transparency and accountability in government's dealings with its citizens will undergo a significant improvement.

9.2   Reduced costs for Citizens

Citizens will have electronic access to at least 100 services, while others would be available more conveniently at the respective government offices. Citizens will save on unnecessary time, effort, and resources in accessing public services. Transparency and accountability will help increase the level of trust and confidence between citizens and the government.

9.3   Reduced costs on communication and documentation

Additional to the qualitative benefits to the Government and Civil society, there are also some quantitative estimates that are described in the following.

9.3.1   Financial Benefits to the Federal Government

The successful implementation of baseline E-Government and e-Services for Citizens have shown typical increases in efficiency of between 5% and 20%.

9.3.1.1   Cost reduction

It must be noted that electronic documentation generates savings where multiple copies of the same document are produced or photocopied. A general estimate for government business is that each document on an average is copied six times. The savings of electronic documentation are significant under such circumstances. In addition, paper files and documents require physical

storage floor space. Electronic documents enable savings of physical floor space in offices. Availability of electronic copies of books, periodicals and manuals etc. further reduce costs incurred on purchase of publications. By conservative estimates, it is possible to reduce stationary costs by at least 15% and that of printing/publication costs by 7.5%.

9.3.1.2 Productivity improvement

A Significant amount of time of government officials is spent on routine administrative matters and manual retrieval of information from paper files and documents. Electronic search and retrieval will not only result in enhancing productivity of the government employees' but will also significantly contribute toward a reduction in expenditure.

It is difficult to attach a monetary figure to the value of using ICT in increasing the productivity of government employees. Many studies have established the fact that implementation of E-Government systems do ensure that government functionaries spend less time on routine administrative matter and more on high value-add functions like strategic thinking and streamlining the service delivery capability and reach of the government.

Appendix I: Projects Initiated by the Ministry of IT

S. No	Name of the Project	Cost (in PKR m)	Completed	Expected Completion Date
	Agency Specific Applications and Services			
1	Citizen Online	37.272	Jun-2003	
2	Payment of salary to Federal Government employee through ATM.	33.571	Jun-2003	
3	Setting up an IT infrastructure for City District Governments Karachi.	33.571		Jun-2005
4	Computerization of Arm Licenses	18.51		Jun-2005
5	Sialkot Model IT District	12.925		Jun-2005
6	Computerization of Registration Deeds.	17.274		Jun-2005
7	Automation of EPB: (Online Internet/Intranet Office Connectivity and with major stake holders including Foreign Missions abroad).	30.654		Jun-2005
8	Automation/ computerization of the Monopoly Control Authority.	11.02		Jun-2005
9	Hospital Management Infromation System (HMIS) & Networking Facilities at the New Premises of SIUT	21.332		Jun-2005
10	Automation of District Bar Courts.	31		Feb-2006
11	E-Enablement Of Senate Of Pakistan For Facilitation Of Parliamentarians & Enhanced Citizen Participation	31.84		Oct-2005
12	E-Enablement Of National Assembly Of Pakistan For Facilitation Of Parliamentarians & Enhanced Citizen Participation	35.88		Oct-2005
13	Online recruitment system for Federal Public Service Commission (FPSC).	39.18		Jun-2006
14	E-Services for Securities and Exchange Commission of Pakistan.	38.53		Jan-2006
15	Geographical Information Systems to Facilitate the investors for mineral exploration/mining in NWFP	27.461		Jun-2006
16	IT Support to National Health Information Progress towards a decentralized Health System.	32.7		Jun-2006

S. No	Name of the Project	Cost (in PKR m)	Completed	Expected Completion Date
17	Online Processing of Hajj Applications & Status Tracking of Arrangements for Hujjaj.	29.623		Feb-2007
18	Lexicon, Machine Translation & Text to Speech Software for Urdu.	38.996		Jun-2006
19	Sindh Government Portal	29.156		Sep-2006
20	Establishment of Data Processing Center at Balochistan Board of Intermediate and Secondary Education	19.328		Oct-2006
21	E-enablement of Press clubs.	30.1		Feb-2006
22	Websites of Pakistani Missions working abroad	38.833		Nov-2006
23	Industrial Information Network (IIN) For Small & Medium Entrepreneurs.	39.6		Dec-2006
24	Hospital Management Information System and networking facilities at Islamabad Hospital, PIMS.	37.807		May-2007
25	Hospital Management Information System and networking facilities at Capital Hospital Islamabad.	30.169		Feb-2007
26	Automation of Patent Office.	12.227		May-2007
27	Balochistan Government Web Portal	9.469		Apr-2007
28	E-Services At Chief/Deputy Commissioner's Office, Islamabad Capital Territory.	30		Feb-2007
29	E-Services for Citizen in Food, Agriculture and Livestock.	155.332		Feb-2008
30	E-Services At Islamabad Police.	110.9		Sep-2007
31	E-Services At CDA, Islamabad.	175.6		Oct-2007
	Sub Total:	**1239.86**		
	Capacity Building in Government			
1	Capacity Building for IMS Personnel (Training of Officers and Staff handling Information Management System at NAB)	0.5	Feb-2002	

S. No	Name of the Project	Cost (in PKR m)	Completed	Expected Completion Date
2	Margalla Training Institute of IT & Pilot Project (Heavy Industries Taxila)	2.295	Aug-2002	
3	IT Skill Enablement Of Probationary Officers Of Civil Services.	37.276	Jun-2003	
4	IT Training for Federal Government Employees	30.0	Jun-2003	
5	IT Training for Provincial Government Employees	32.0	Jun-2003	
6	Establishment of Center of IT Inoculation for Security Strategists at National Defence College.	33.151		Apr-2005
7	Setting up of a Campus-wide network and up-gradation of I.T. Training facilities at Pakistan Administrative Staff College, Lahore.	13.12		Jun-2005
8	Setting up of campus-wide network and up-gradation of I.T. training facilities at National Institute of Public Administration (NIPA), Quetta.	4.8675		Jun-2005
9	Setting up of campus-wide network and up-gradation of I.T. training facilities at National Institute of Public Administration (NIPA), Lahore	5.411		Jun-2005
10	Setting up of campus-wide network and up-gradation of I.T. training facilities at National Institute of Public Administration (NIPA), Peshawar	8.24		Jun-2005
11	Establishment of 2 Computer labs in Staff Training Institute of the Establishment Department Govt. of NWFP	4.049		Jun-2005
12	Technical Support To IT Departments Of Provinces & AJK	7.063		Sep-2005
13	Strengthening of IT Department, IT Department Balochistan.	22.13		Oct-2005
14	Establishment of Information Technology Center at Akhtar Hameed Khan National Center (AHKNC) for Rural Development & Municipal Administration, Islamabad.	12.139		Dec-2005
15	Pilot Project for the End Users and Systems Administrators Training on Open Source Softwares	37.121		Jun-2006
16	IT Human Support to Ministries/Departments.	6.91		Oct-2006
17	IT Training for the Employees of Federal Government, Provinces and AJK	32.709		Oct-2006
18	Up gradation of IT Infrastructure (Pakistan Military Academy, Kakul)	37.416		Dec-2006

S. No	Name of the Project	Cost (in PKR m)	Completed	Expected Completion Date
19	Institutional Strengthening of Pakistan Computer Bureau	11.786		Dec-2006
	Sub Total:	**338.1835**		
	Infrastructure and Internal Efficiency			
1	Process Mapping & Essential Re-engineering At MOST	3.795	Jun-2003	
2	Development Of Project Management Systems. NWFP	4.607	Jun-2004	
3	Modernization & Expansion of In-House Publishing facility under Quaid-e-Azam Paper Project.	2.086	Jun-2004	
4	Project For Development Of Inter agency Flow Of information systems. NWFP	8.514	Jun-2004	
5	Establishment of Intranet dial up between Finance & Planning departments (NWFP)	7.326	Jun-2004	
6	Punjab IntraNet	1.0494	Jun-2004	
7	Secure Electronic Communications & Office Automation at Prime Ministers Secretariat.	37		Jun-2006
8	E-Government Pilot Project For Sind Government.	39.958		Dec-2005
9	Automation of the Administrative Functions of the Ministry of Defense	21.945		May-2006
10	Networking in Govt Offices of Ministry of Defense.	110		Jun-2006
11	HRM System of Ministry of Defense.	153.861		Jun-2006
12	Electronic Office at Ministry of Information Technology	37.361		Oct-2006
13	Pakistan health Information Online (Health Information Resource Center).	9.467		Sep-2006
14	Federal Government Data Center	304		May-2006
	Sub Total:	**740.969**		
	Grand Total:	**2319.013**		

Appendix II: Indicative list of Services by Federal Ministries

S. No.	Division	Service
1.	Cabinet	Management of movable and immovable properties left by the Bengalis in Pakistan and matters relating to abandoned properties
2.		NEPRA: Providing information and regulatory mechanism for the electricity sector
3.		OGRA: Providing information and regulatory mechanism for the Oil & Gas sector
4.		PTA: Providing information and regulatory mechanism for the telecom sector
5.	Commerce	Treaties, agreements, protocols and conventions with other countries and international agencies bearing on trade and commerce.
6.		Standards of quality of goods to be imported and exported.
7.		Promotion of foreign trade including trade offices abroad, trade delegations to and from abroad, overseas trade exhibitions and conferences and committees connected with foreign trade.
8.		Transit trade, border trade and State trading
9.		Management of Trade marks
10.		Organization and Control of chambers and associations of commerce and industry
11.		Law of insurance; control of insurance companies; actual work; insurance of war, riot and civil commotion risks and life insurance but excluding hearth and unemployment insurance for industrial labor and post office insurance
12.		Inspection, handling, storage and shipment of rice for export.
13.	Communications	Post Office: Postal services relating to distribution and tracking of mail
14.		Post Office: Issue and renewal of various licenses

S. No.	Division	Service
15.		Post Office: Distribution of military pensions etc.
16.		Post Office: Saving bank and post office insurance agency functions
17.		KPT: Port Operations, Cargo Handling, Container Handling etc.
18.		NHA: Collection of tolls on national highways
19.	Culture, Sports and Youth Affairs	Conservation and preservation of national heritage of Pakistan
20.		Promotion and development of tourism in Pakistan
21.	Education	Identification of major issues, problems and requirements of the education sector
22.		Processing and implementation of GOP and foreign-sponsored scholarship schemes
23.	Establishment	Career management of federal government officers
24.		Recruitment in the federal government through the Federal Public Service Commission
25.	Economic Affairs	Negotiations and Coordination activities etc., pertaining to economic co-operation with other countries (excluding RCD and IPECC).
26.		Assessment of requirements, programming and negotiations for securing technical assistance to Pakistan from foreign Governments organizations including nominations for EDI courses
27.		External debt management, including authorization of remittances for all external debt services, compilation and accounting and analysis of economic assistance from all foreign governments and organizations
28.		Management of training programmes for government officials
29.	Environment	Formulation of Acts, Ordinances, Rules and Regulations related to environmental issues of Pakistan
30.		Financial Assistance to NGO's

S. No.	Division	Service
31.	Finance	Preparation of annual budget statements and supplementary/excess budget statements for the consideration of the parliament accounts and audits of the Federal Government Organization
32.		Maintaining financial discipline within the government
33.		Regulating the corporate sector through Securities & Exchange Commission
34.	Foreign Affairs	Issuance of Passports to overseas Pakistanis and foreigners.
35.		Issuance of Visas to overseas Pakistanis and foreigners.
36.	Food, Agriculture & Livestock	Provision of information relating to crops sowing, best practices, weather patterns, pest infestation and marketing of agriculture produce
37.		Licenses relating to import and export of livestock and agriculture produce
38.	Health	Planning and coordination in the field of health including collection and dissemination of vital Health Statistics
39.		Scholarships/fellowships/ training courses for Medical, Nursing, Dental, Pharmaceutical and Para Medical practitioners
40.		Implementation of the national programme for family planning and primary health care
41.	Housing & Works	Matters relating to the federal government lands and licenses to various co-operative housing societies in Karachi
42.		Allocation of housing units to officers of the Federal Government. Administering the General Waiting List and Vacant House List
43.	Industries & Production	Licenses and permits relating to the industrial sector
44.	Information & Broadcasting	PEMRA: Providing information and regulatory mechanism for the media sector
45.		Licenses etc. for newspapers and periodicals
46.	Interior Division	Issuance of passports
47.		Issuance of visas
48.		dual nationality and renunciation of Pakistan citizenship to Pakistani citizens born abroad

S. No.	Division	Service
49.		Registration of birth of children of Pakistan citizens born abroad
50,		Annual registration of citizens of Pakistan residing abroad
51.		Providing local government related services to residents of Islamabad.
52.	Information Technology	Human resource development in the field of information technology
53.		Incentives to the Pakistani IT companies
54.		Planning, policy making and legislation relating to IT & Telecommunications
55.	Kashmir Affairs & Northern Areas	Policy administration and development in the Northern Areas
56.	Local Government & Rural Development	Provision and monitoring of funds for development schemes of Parliamentarians
57.	Labour, Manpower & Overseas Pakistanis	Policy formulation and administration regarding labor administration, manpower planning and employment promotion
58.	Law, Justice & Human Rights	Advice to all the Federal Government on legal and constitutional questions as well as the provincial Government on legal and legislative matters
59.	Narcotics Control	Report submission against suspected drug dealers
60.	Petroleum	Policy, legislation, planning regarding exploration, development and production including policy guidelines to regulatory bodies in oil and gas sectors.
61.		Policy guidelines and facilitation of import, export, refining, distribution, marketing, transportation and pricing of all kinds of petroleum and petroleum products
62.		Administration and regulation of mines and oil fields and Mineral Development (Federal Control) Act, 1948, and rules made there under, in so far as the same relate to exploration and production of petroleum, transmission, distribution of natural gas, Compressed Natural Gas and Liquefied Natural Gas

S. No.	Division	Service
63.		Administration of Marketing of Petroleum Products (Federal Control) Act 1974 and the rules made there-under
64.		The Petroleum Products (Development Surcharges) Ordinance, 1961, and the rules made there-under
65.		The Natural Gas (Development Surcharges) Ordinance 1967, and the rules made there-under
66.		Facilitate the development and coordination of energy and mineral policies
67.		Research, development, deployment and demonstration of hydrocarbon energy resources Research, development, deployment and demonstration of hydrocarbon energy resources
68.	Planning	Formulation, within the framework of the National Plan/Programme of an annual investment programme/plan and annual public sector development programme; and its review and evaluation
69.	Privatization & Investment	Provision of information relating to state-owned entities that are being privatized
70.	Railways	Passenger ticketing
71.		Freight movement
72.	Religious Affairs	Hajj applications processing
73.		Zakat distribution
74.	Revenue	Issuance of NTN and Sales Tax numbers
75.		Collection of sales tax, income tax, property tax & other taxes
76.		Administration and collection of Customs Duties and taxes
77.	Statistics	Collection, processing and dissemination of data on socio-economic characteristics of the country
78.		Planning and execution of decennial Population & Housing Census
79.	Scientific & Technological Research	Establishment of Science universities, Institutes and Laboratories for Research and Development in the Scientific and Technological Fields
80		Promotion of Technology, Standards, Testing and Quality Assurance System
81.	Women	Education and training of women

S. No.	Division	Service
82.	Development	Institutional mechanisms for the advancement of women
83.	Water & Power	Providing electricity connection and billing to consumers
84.		Licenses etc. relating to electricity generation

Appendix III: E-Government in Other Countries

E-government in India

Entity: Government of INDIA		
Vision, Objectives: •*Citizen-Centric Government (G2C)* •*Increase internal efficiency of the Government Departments (IEE)* •*Improvement in Government to Government Interfaces (G2G)*		
Focus Areas: • Convenient anytime, anywhere citizen services • Support for e-commerce initiatives (e.g., online payments) • Improvement in Government to Citizen (G2C) and Government to Government (G2G) Interfaces	Main Services Provided: •Payments •Issuance & Registration of birth & death certificates •land records •Reservation of Tickets •Online applications •Inquiries to Government departments by citizens	Main Challenges faced: •Lack of Infrastructure •Access to technology •Multiple language content •Security •Lack of G2G Interfaces •Resistance to Change •Legislative Inertia
Source: • www.ap-it.com • Public Sector Technology & Management (*March/April 2005*)		

E-government in USA

Entity: Government of USA		
Vision, Objectives: •*Citizen-Centered, not bureaucracy or agency-centered* •*Results-oriented, producing measurable improvements for citizens* •*Market-based, actively promoting innovation*		
Focus Areas: •G2C- Build easy to find, easy to use, one-stop points-of-service that make it easy for citizens to access high-quality government services. •G2B- Reduce government's burden on businesses by eliminating redundant collection of data and better leveraging E-business technologies for communication. •G2G-Share & integrate federal, state & local data •IEE-Internal efficiency and effectiveness of federal government agencies	Main Services Provided: •electronic Tax filing •Online access to loans •Online access in making quality and efficient rulemaking •Renewal of driving license •Online application for social security •Easy access for SMEs to documents and information needed to conduct business •One-stop business laws compliance •Online Issuance of business and export licenses •Electronic processing of birth and death record information •Single point of online training for federal employees	Main Challenges faced: •Program Performance Value •Inter-operability •Resistance to Change •Lack of Federal Architecture •Lack of Skills •Security and Privacy •Leadership support •Funding
Source: • www.whitehouse.gov/omb/inforeg		

E-government in Singapore

Entity: Government of Singapore		
Vision, Objectives: •*Delighted Customers* •*Connected Citizens* •*Networked Government*		
<u>Focus Areas:</u> •To provide convenient and easy to use services •Citizens as Stakeholders •Trust & Privacy •Improvement in Government to Government (G2G) Interfaces	<u>Main Services Provided</u>: •Payments •Online enquiry of taxes and bills •Online electronic processing of passports •Online buying and selling of properties •Online Business Registration, Licenses and permits •Electronic filing, hearing and case management of judiciary system •Online medical claims for public service employees	<u>Main Challenges faced</u>: •Access to needed information •Security and Privacy •Integration of legacy systems •Resistance to Change •Transforming the culture •Lack of G2G Interfaces •Legislative Inertia
Source: • www.egov.gov.sg • www.ecitizen.gov.sg		

E-government in Korea

Entity: Government of Korea

Vision, Objectives:
•*G2C- Offering government-wide service that meets citizen needs*
•*G2B- A market-based government that meets private business needs*
•*G2G-A government that is effective , transparent, and based on democratic processes*

Focus Areas:	Main Services Provided:	Main Challenges faced:

•(G2C,G2B)
    •Enhancement of Civil service
    •Enhancement of business service
 	
•G2G
    •Establishing electronic procedures
    •Expanding common use of public info.
    •Service oriented BPR
 	
•G2E
    •Specialization of IT manpower and organization
	•Payments
	•Online Business registration
	•Social insurance related civil services
	•Online Real-estate registration
	•Information knowledge services
	•Information sharing of educational administrative information
	
	•Real-time management of finance & Budget
	•e-documents exchange and e-approval system
	•e-signatures using document exchange system
	
	•National e-Procurement system
	•Legislative information service
		•Resistance to Change
		
		•Integrated Services
		
		•Lack of Skills
		
		•Security and Privacy
		
		•Legislative Inertia
		
		•e-Government usage rate
		
		•Multiple language content

Source:
• http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN016387.pdf

Appendix IV: Sections from the IT Policy and Action Plan 2000 pertaining to e-Government

IT in Government

- To embark on an aggressive program to improve efficiency and provide quality services to the citizens of Pakistan, information technology must be inducted at all levels of government. This induction and its effective utilization will also help in motivating others to follow suit, since the government has a large bearing on all segments of the society.

- The e-government model for Pakistan is a gigantic task. It may take 5-7 years because of financial constraints as well as inadequate professional know-how to undertake system re-engineering of different government departments and use of I.T. so that use of paper is minimized. Therefore, a modular approach will be adopted to achieve the goal of e-government.

- In the government sector, knowledge of IT is limited. The different departments and agencies are, therefore, technically at a disadvantageous position to take sound decisions in acquiring IT hardware, software applications, HR development program and operational support for their system. Therefore, the government agencies will be requested to consult IT & TC Division in matters relating to IT.

- The main features of e-government would include the following:

- On the pattern of the IT Division, each provincial government shall create an IT Department/Board to plan, co-ordinate, and implement government IT projects. The Departments shall be staffed with IT professionals. Special pay scales/contracts shall be introduced for IT professionals.

- A minimum of 2% of the budget shall be allocated for IT Services and Provincial as well as Federal IT departments will allocate a substantial sum annually for developing IT infrastructure and conducting training at all levels in the government.

- Working Groups shall be formed to create awareness in all Government organizations about the utility of computers and IT. For recommendation of these items, consent of the Establishment Division at the Federal level and S&GAD departments of the Provincial Governments will be obtained.

- IT literacy shall be made mandatory for all future government employment, and a column shall be introduced in the ACR form for assessment of IT knowledge and utilization by government employees.

- The Internet and Intranet e-mail shall be utilized for inter-office communication (necessary security, digital authentication and legal cover shall be provided to secure the validity of such communications) and the establishment should replace physical file system to computer base file system.

- The IT departments shall pre-qualify private firms to provide IT consultancy services, software development and products to the government. Computer and office automation training for all

management and secretarial staff shall be taken up on a priority basis. Selection of networking operators for government projects will be done on a competitive basis.

- National databases of economic activities shall be prepared to provide facts for different policies framed by the government. These databases shall be made accessible to the public through the Internet, in accordance with the Laws of Pakistan. This will lead to transparency in Government transactions and various bidding processes.

- Representation from the private sector and the provincial governments shall continue in the IT Commission for generating new concepts, solving IT related problems, and ensuring due participation of all stakeholders in ongoing as well as future efforts towards IT implementation. The IT Commission will provide inputs on a continuous basis. The existing composition of the IT Commission shall be expanded and the groups formed for formulation of the IT Policy shall continue to work as associate members of the IT Commission.

Appendix V: Organizational Structure of EGD

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                        ┌──────────────────┐
                        │  IT & Telecom    │
                        │  Division        │
                        └──────────────────┘
                                 │
                        ┌──────────────────┐
                        │ Programme        │
                        │ Coordinator      │
                        └──────────────────┘
                                 │
        ┌────────────────────────┼────────────────────────┐
┌──────────────┐        ┌──────────────────┐      ┌──────────────────┐
│ Director     │        │ Finance &        │      │ Director General │
│ General      │        │ Administration   │      │ ( Strategic      │
│ (Projects)   │        │ Officer          │      │ Planning &       │
│              │        │                  │      │ Architecture )   │
└──────────────┘        └──────────────────┘      └──────────────────┘
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Deputy Director (Web)	Director (Systems)	Business Analyst
Deputy Director (Research)	Director (Networks)	Business Analyst
Assistant Director (Systems)	Director (Communication)	Business Analyst
Assistant Director (Web-I)	Director (Web)	Business Analyst
Assistant Director (Web-II)	Director (Database)	Business Analyst
Assistant Director (Web-III)	Director (Training)	
Assistant Director (Contents)		