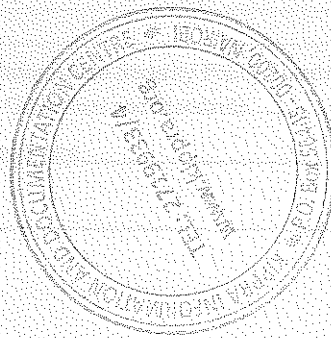


# **E-GOVERNMENT STRATEGY**

**The Strategic Framework, Administrative Structure,  
Training Requirements  
and  
Standardization Framework**



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## FOREWORD

The achievement of e-Government is one of the main priorities of the Government towards the realisation of national development goals and objectives for Wealth and Employment Creation. Effective and operational e-Government will facilitate better and efficient delivery of information and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government and empower all Kenyans. To this end, the Government is committed to establishing e-Government by June 2004.

The e-Government Strategy outlines the objectives and processes for the modernization of Government, as a means towards: enhancement of transparency, accountability and good governance; making the Government more result oriented, efficient and citizen centred; and enabling citizens and business to access Government Services and Information as efficiently and as effectively as possible through the use of internet and other channels of communication.

The effective and efficient realisation of e-Government objectives depends on the availability of skills and the right attitudes across Government. The Government personnel at all levels will be adequately equipped through relevant training to effectively carry out this initiative. This calls for a change in the way Government carries out its operations and requires training in change management. In order to ensure a continued pool of IT knowledge within Government, all training programmes will have an IT component.

An institutional framework and structure has been put in place to oversee and coordinate the implementation of the e-Government Strategy. At the apex is the Cabinet Committee on ICT which will oversee the implementation of the Strategy; the Permanent Secretaries ICT Committee will coordinate the implementation of the e-Government initiative; and e-Government Committees in the Ministries will review the various ICT projects in the Ministries, undertake audit of the IT capacity, establish support to the ministry's policy mandate, identify gaps and inadequacies both technical and institutional and make appropriate recommendations on the way forward.

Finally, a Directorate of e-Government has been constituted to coordinate and prepare e-Government Strategy including the implementation plan and monitoring and evaluation of the process. This demonstrates the commitment of the Government to make e-Government a reality by June 2004 and to ensure that it provide better service to Kenyans.



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## CHAPTER 1

### E-GOVERNMENT STRATEGY

#### 1.1. INTRODUCTION

##### 1.1.1 What is e-Government?

E-Government is the use of a range of information technologies, such as the Wide Area Networks, Internet, and Mobile Computing, by government agencies to transform government operations in order to improve effectiveness, efficiency, service delivery and to promote democracy. It is the use of information technology to support government operations, provide investments that are needed in people, tools, policies, processes, engage citizens, and provide government services.

##### 1.1.2 Why e-Government?

E-Government is a fundamental element in the modernization of Government. It provides a common framework and direction across the public sector and enhances collaboration within and among public sector organizations and institutions, between Government and the business community, and between Government and the citizens that it serves in the implementation of Government Policies. It also identifies ways of developing the skills needed by public servants to realize the new opportunities offered by ICT advancement such as the internet.

The e-Government Strategy presented in this document is designed to achieve pre-determined set of goals and objectives, which are: better and efficient delivery of Government information and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government and empower all Kenyans in line with development priorities outlined in the Economic Recovery Strategy for Wealth and Employment Creation (2003-2007).

#### 1.2. OBJECTIVES OF E-GOVERNMENT IN KENYA

The overall goal of e-Government is to make the Government more result oriented, efficient and citizen centred. E-Government should enable citizens to access Government Services and Information as efficiently and as effectively as possible through the use of internet and other channels of communication. The specific objectives of e-Government are to:-

- (i) Improve collaboration between government agencies through reduction in the duplication of efforts, and enhance efficiency and effectiveness of resource utilization;
- (ii) Improve Kenya's competitiveness by providing timely information and delivery of government services;
- (iii) Reduce transaction costs for the government, citizens and the private sector through the provision of products and services electronically; and
- (iv) Provide a forum for citizens' participation in Government activities.

### 1.3. BEST PRACTICES IN E-GOVERNMENT FOR BENCHMARKING IN KENYA

The successes of Singapore, Malaysia, New Zealand, Australia, South Africa and the United Kingdom will be used as benchmarks in Kenya.

#### 1.3.1. Best Practices for Communication within Government

A functional **Communication within Government** service is proof of effective back-office services for the achievement of the overall e-Government objective. The Government recognizes that efficient **Communication within Government** is a technology, reform and change management challenge for Kenya. Best practices for **Communication within Government** will be benchmarked upon:-

- Coherent and compatible information processing and management policies and business processes;
- Proper and adequate skills, knowledge and attitudes necessary for operationalisation and sustainability of **Communication within Government**;
- Conducive legal environment and adequate information infrastructure;
- Software for budget planning, impact analysis, financial projections;
- Web-sites containing information about ministries;
- Searchable database of contractors and their qualifications;
- Searchable database of tenderers;
- Project Monitoring System;

- File sharing facilities through LAN;
- Video Conferencing;
- Electronic Notice Board;
- Messaging; and
- Performance Scorecard Card.

#### 1.3.2. Best Practices for Communication with Business

Best practice in **Communication with Business** will benchmark:

- Networked readiness by exploiting the literate population, innovative private sector and efficient government to stimulate economic growth;
- A single Government Portal providing government services via website;
- E-Procurement to enable suppliers to do transactions with the government over the Web;
- E-registration of suppliers; and
- New policies and regulations

#### 1.3.3. Best Practices for Communication with Citizens

The focus of present day economy is about the customer on one hand and service provision on the other. Naturally, to provide service efficiently, a good understanding of the customer and service offering entities is critical. In **Communication with Citizens**, the general approach is to start with simple publishing services, followed by interactivity and finally adding transaction capabilities based on the principle of "*Think big, start small and scale fast*". At the same time, there should be integration of government services to enable a single point of access – government portal. The Government will therefore benchmark:

- The use of internet to ensure that e-Government services reach every citizen, business and institutions in Kenya;
- Access of information readily by police; and
- Access of information by citizens.

## 1.4. E-GOVERNMENT PRIORITIES AND IMPLEMENTATION FRAMEWORK

The Government will implement initiatives that will lead to the full achievement of e-Government. This will be done in recognition of the achievements made to date and the gaps identified. The actions will be operationalised in the short term (by June 2004), medium term (three years) and long term (over three years) based on improving **Communication within Government, between Government and Business, and between Government and Citizens.**

### 1.4.1 Communication within Government

Communication within Government entails Government agencies conducting business electronically among themselves in the electronic management and exchange of Government information through such channels as the internet and intranet.

#### 1.4.1.1 Prerequisites for improved communication within Government

In its commitment to achieve the provision of communication within its agencies, the Government will undertake to accomplish the following:-

##### (i) *Instituting Structure and Operational Reforms*

- Introduce change through training and awareness creation to reform and change approach to communication;
- Undertake organizational re-structuring for enhancement of service delivery and fostering adoption of multi-channel information sharing and communication;
- Review Government operational and business processes in line with the new tools and technologies; and
- Facilitate and enforce inter-agency cooperation, messaging and collaboration.

##### (ii) *Regulatory and Legal Framework*

- Review, enact and enforce laws related to electronic communication;
- Review, enact and enforce laws to establish acceptability of electronic documents and signatures to eliminate legal barriers to electronic services; and
- Review the Code of Regulations to allow for interagency electronic exchange of files.

##### (iii) *Development of Government Secure and reliable Infrastructure*

- Develop and operationalise a secure intranet and portal for Government.

#### 1.4.1.2 Achievements

In an effort to modernize operations to improve efficiency and service delivery, Government ministries and departments have introduced and implemented systems intended to meet their specific objectives. However, these systems remain disparate and unlinked thereby leading to duplication of effort and resource wastages. The various projects include those already active and underway and those that are planned. These include:

- Development of Websites in Ministries and Departments (see annex 1)
- *Development of the Integrated Payroll and Personnel Database (IPPD) system*, intended to increase efficiency in the management of Government human resource. It is at the testing stage.
- *Implementation of the Integrated Financial Management Information System (IFMIS)* which is geared towards enforcing an integrated approach to expenditure management and monitoring across Government. It is intended to institute expenditure controls and ultimately improve the overall operational efficiency of the Government. It is at the testing stage.
- *Development of Information Infrastructure*: The Government through the Government Information Technology Services (GITS) is in the process of creating this infrastructure through installation of Local Area Networks in Government buildings. This will eventually form the basis of a National Information infrastructure that will allow for seamless communication in Government.

Others include:

- (i) The Macro-Fiscal Planning System to assist the Ministry of Finance and the Ministry of Planning and National Development in macro-fiscal planning. These will include the Budget preparation Systems, Monitoring Budget Implementation, Fiscal reporting and budget evaluation, Cash Management, Monitoring of Public Expenditures, Debt Management Systems, Foreign Aid Management, Revenue Management, Administration and Maintenance of non-tax revenue.
- (ii) National Voter Registration System.

### 1.4.1.3 Proposed Activities

To realize improved communication within Government for integrated services delivery and the sharing of information resources in the Government, the following will be undertaken:-

#### 1.4.1.3.1 Short Term Activities (by June 2004)

The short term objective for improved communication within Government is to achieve creation of a firm foundation for the overall e-Government initiative. To this end, the following activities will be implemented:

- (i) *Institute Information and Communication Technology (ICT) policy and E-Government Strategy.*
  - Finalize the e-Government Strategy;
  - Operationalise the implementation of the e-Government Strategy by developing ICT Standards, undertaking audit of ICT capacity in Government, undertaking training needs assessments for e-Government and defining an administrative structure of e-Government.
- (ii) *Expand the Information infrastructure*
  - Complete the implementation of secure Government information infrastructure;
  - Continue installation of local area networks in Government owned and leased offices and extension of the infrastructure to district and divisional offices using appropriate communication media;
  - Implementation of integrated and shared databases within the Government;
  - Improve and enhance the databases and systems to support Internet Protocol (IP) standards to enable access through the Internet by remote sites; and
  - Set-up common access centers in places where there is inadequate infrastructure.
- (iii) *Initiating Integration of internal Government processes*
  - Review processes, procedures and regulation (Code of Regulations);
  - Eliminate duplication of efforts and resource wastage by enforcing high levels of sharing information infrastructure;

- Integrate and harmonize common processes such as finance, accounting, procurement, etc;
- Integrate operating computerized systems;
- Create, strengthen and mandate a body to oversee the e-Government implementation and management processes; and
- Provide equipment and interconnectivity for Government agencies.

#### (iv) *Increasing internal operational efficiency and effectiveness*

- Fully implement such systems as the IFMIS and IPPD systems which are already underway;
- Enforce standards and control processes across Government in areas of human resources management and expenditure management, monitoring and control;
- Initiate other systems geared towards increasing efficiency, transparency and accountability in the public service; and
- Continue with Civil Service Reforms aimed at making the service lean, efficient, effective and productive.

#### (v) *Developing information Websites for ministries*

- Develop websites for all ministries and have them centrally hosted;
- Facilitate connectivity by all Government agencies;
- Continue with implementing Messaging and Collaboration Services which entails exchange of mail among discussion groups and calendaring of events across a common platform; and
- e-filing of documents.

#### (vi) *Capacity Building*

- Create and sustain leadership for implementation of e-Government;
- Train all civil servants on computer literacy and web-based applications and internet use;
- Create awareness at all levels of government on e-Government;
- Provide all civil servants with e-mail addresses;

- Create a directory of all civil servants e-mail addresses; and
- Develop capacity of e-Government team to monitor progress and evaluate results.

### **Medium Term Initiatives (by June 2007)**

#### *(i) Concerted automation and integration of Government information and Records.*

- Implement integrated systems for registration of persons including births and deaths, citizen registration, immigration etc;
- Develop and implement integrated property and assets registration systems including land and motor-vehicles;
- Implement integrated taxation databases and information systems;
- Complete the implementation of Messaging and Collaboration Services which entails exchange of mail among discussion groups and calendaring of events across a common platform.

#### *(ii) Finalize the information infrastructure within Government, including district offices.*

- Complete network infrastructure development.

#### *(iii) Develop and implement web-enabled databases.*

- Implement integrated and centralized information databases in web environment to enable increased and expedited data sharing within Government.

#### *(iv) Other information systems to be operationalised in the medium term include:*

- The Integrated Population Registration System, which integrates other computerization initiatives in the areas of: The Department of Civil Registration (DCR), The National Registration Bureau (NRB), The Immigration Department, Road Transport, Kenya Revenue Authority, Embassies, Electoral Commission of Kenya (ECK), and Personal Identification Number (PIN) by the Kenya Revenue Authority;
- Integrated Management System for Government to use in the area of Disaster and Emergency management;

- Security and Law Enforcement Systems to address the needs of the departments falling under the security area in particular the Kenya Police, Criminal Investigations Department (CID) and General Service Unit (GSU);

- The Physical Assets Management Systems that will maintain a record of each physical asset from its acquisition to its maintenance, rehabilitation and disposal;

- The Integrated Records Management System that will provide directories of government legal and legislative documents and other records of public significance that will be accessible from various Government departments;

- The Agricultural Based Information Systems that will allow easy access to information on agriculture, trade and business opportunities, technologies, markets and market linkage as well as services provided by government agencies and private sector organizations on agriculture;

- The Education Information Systems that will support the Ministry of Education, Science and Technology to collect and process data to improve education policy, plan and monitor progress;

- Trade, Industry and Tourism Information Systems, which will generate, share and process data used for strategic industry planning;

- The Health Information Systems designed to provide computer aided hospital management operations that will facilitate recording of various hospital operations and connect to the Ministry of Health (MOH) to provide a central repository of health data and statistics;

- Prisoner Organization and Experience Management System that will provide information on Prisoner experience and organization management;

- Court Registry Information Management Systems & Library Information Systems;

- The Land and Environment Information System that will improve the functions of sectors that use quality Geographical Information Systems (GIS);

- Strategic Tracking Systems to assist the Government to monitor and evaluate the progress and implementation of major projects and economy-wide reforms; and



- The Executive Networking Technology (EXECNET) to provide an effective forum for Senior Government Executive Officers around the region to interact with each other.

#### 1.4.2 Communication with Business

Communication with Business entails Government providing and receiving services to the corporate world. Communication with Business implementation covers portal and information services, business administration, procurement and financial services, and collaborative services. Example of applications in this category will typically include corporate tax returns by companies to the tax authority and procurement services.

##### 1.4.2.1 Achievements

Notable developments have been achieved mainly in the area of general information publishing with respect to Communication with Business using websites. For a complete list of all Government websites, see annex 1.

##### 1.4.2.2 Proposed Initiatives

Achievement of full e-Government services will also entail realisation of Government to Business based e-Government services. E-Government's Communication with Business initiatives that should be put in place include:

##### Short Term by June 2004

- (i) *Operationalise and optimize a single Government portal i.e. www.gov.ke to include but not limited to:*
  - Functions of ministries and government departments;
  - Structure and management of the ministries and departments;
  - Services offered and requirements on the part of businesses;
  - Various policies;
  - Announcements, alerts and bulletins;
  - Description of Information available from government ministries and departments (metadata);
  - Available Publications;
  - Kenya gazette;
  - Legal Notices;

- Budget Statements, Finance bill, booklet on tariffs and statistical annexes;
- (ii) *Government auctions:*
  - Implement an e-Market for all government ministries to auction assets using a standard format;
  - Make tender documents available electronically.

##### Medium term (three years)

- (i) *Electronic Administration of businesses*
  - Company/business registration
    - Registration of names and name search facilities
    - PIN application
    - Submission of business documents such as memorandum of understanding and articles of association.
  - License and permit applications
- (ii) *Electronic Government returns & claims*
  - Income tax returns completed online
  - Tax claims lodged online
  - Business compliance returns
  - VAT returns
- (iii) *Portal Services – Data warehousing:*
  - Statistical data accessible on-line;
  - Analytical reports accessible on-line.
- (iv) *E-Procurement:*
  - Ordering systems for the government
  - Shipment and Invoicing for businesses
  - linking to internal systems within government ministries and departments
- (v) *Electronic Forums for discussion and feedback*
  - Posting of topical issues
  - Bulletin Boards

## Long term

- (i) *Electronic Government Payments and link to the payments system*
  - Link to banks for payments of Government services, payment of salaries, etc;
  - Link to the Central Bank of Kenya;
  - Link to service providers for bills settlement.
- (ii) *e-Trading of Government Securities*
  - Tendering information on government securities for businesses;
  - payments for securities;
  - Management of securities portfolio.
- (iii) *Government Service management*
  - Service appointments booking and management online e.g. motor vehicle inspection services.

### 1.4.3 Communication with Citizen

As people become used to using the internet to do their shopping and book holidays, they must be able to tell the Government that they have moved, they can apply for a parking permit, book a squash court, etc. We need to redesign and deliver our services to fit the way our citizens want to access and use them. New technology affects all our lives and local government must move with the times. Electronic Service Delivery is not just about websites, although that is an important part of it. It also covers contact centers, information kiosks, digital TV and portable devices such as mobile phones.

Provision of government services in the traditional way will still continue to customers who cannot or do not want to use these new methods of access. E-government changes the way of working with more transactions being carried out over our website and aiming to provide a single point of contact for a range of services.

Communication with Citizen entails e-provision of services to the citizens by the Government. Communication with Citizen Services could range from paying government utility bills by citizens to providing comprehensive information by the government about its obligations to citizens.

### 1.4.3.1 Achievement

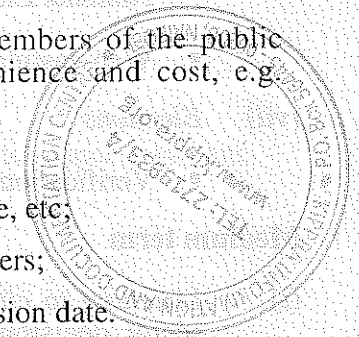
So far only publishing of data via websites such as provided under part 1.4.12. And 1.4.2.1 has been done. However, these all have limited interactivity and ability to process transactions online. These should be possible in the medium term. The success of this depends on the availability of affordable resources e.g. access centres and the awareness of the public in general.

### 1.4.3.2 Proposed Activities

#### Short Term (By June 2004)

Communication with Citizen deals particularly with the relationship between government and citizens: either as voters/stakeholders from whom the public sector should derive its legitimacy, or as customers who consume public services.

- (i) *Talking to citizens*: providing citizens with details of public sector activities and information such as the Kenya Gazette, Laws and Regulations, etc. through websites.
- (ii) *Improving public services* delivered to members of the public along dimensions such as quality, convenience and cost, e.g. enabling citizens to:-
  - Enquire on their driving licence status;
  - Apply for a passport, Visa, driving license, etc;
  - Submit tax returns from major urban centers;
  - Request a reminder of tax returns submission date.
- (iii) *E-policing- using the internet to administer the police operations*:
  - *E-alerts* – Security alerts, traffic alerts can be transmitted by the internet.
- (iv) *Employment*
  - Search for jobs with the government and apply online; this enables more objective search of employees;
  - Find out the latest policies and schemes of service;
  - Employment laws.
- (v) *Education*
  - Apply for primary and secondary school admission in government schools;
  - Find out the availability of places for admission in the schools;



- Find out the latest school information;
- School curriculum on line;
- Exam results, etc.

(vi) *Family*

- Recreation such as Website with list of parks and entertainment;
- Exhibitions and festivals such as advertisements on the On-going and scheduled exhibitions;
- List of Day care facilities countrywide such Public immunization;
- Library such as applying for membership to the Kenya National Library, Browsing/Searching the library catalogue etc.
- Web-casting and streamlining of events.

(vii) *Elections*

- Verification of details on the voting register.

**Medium term**

(i) *Listening to citizens:* increasing the input of citizens into public sector decisions and actions. This could be flagged as either democratisation or participation, e.g.

- Sourcing of opinion polls on the constitutional Review Process;
- Opinion Polls in matters being dealt in Parliament; and
- Suggestion boxes.

(ii) *Property Search*

- Buying a property;
- Selling a property.

(iii) *Law*

- Legal aid and advice;

- Family wills and estates (Free legal clinic on family law, Services and information on family court); and
- Court related information.

**Long Term**

(i) *E-policing- using the internet to administer police operations;* for example a traffic policeman would be able to access the details of a car and the driver when the driver commits an offence

- Update of Personal particulars for access by the government and the police. n.b documentary proof of change of particulars must be produced within 7 days.

(ii) *Elections*

- *E-voting-* voting from the computer would ensure that there was no congestion of polling halls and the counting would be done quicker.
- Application for e-voting.

(iii) *Utilities*

- Link payments of utility bills e.g. link to water payment systems

## THE E-GOVERNMENT STRUCTURE

## 2.1 INTRODUCTION

Benchmarking of initiatives with other equally performing countries is an important strategy to follow rather than reinvent the wheel. Rwanda, Mauritius, Brazil, Norway, New York State, Singapore and other countries have established an e-government in the Cabinet Office. These countries have been able to sensitize political leaders into driving e-Government initiatives. In the case of Rwanda the President chairs ICT meetings. The e-Government has decided that the process should be spearheaded by the Head of Public Service (HOPS) to coordinate the dispersed initiatives that exist in other agencies including the private sector and civil society.

## 2.2 FUNCTIONS

The functions of the e-Government Structure will be to develop, coordinate and define ways so that electronic and information technology business strategies assist government to operate more effectively and efficiently in delivering services to citizens. The structure will provide coordination and advice on issues pertaining to electronic business, telecommunications and technology.

The structure will plan and develop strategies and direct government wide activities to support other agencies, and participate in the development, analysis and evaluation of government wide technology issues, policies and legislation.

## 2.3 STRUCTURE

The institutional framework for e-Government which has been put in place includes:

- The Cabinet Committee on ICT (chaired by the Minister of State for Provincial Administration and National Security and members are the Minister for Finance, the Minister for Tourism and Information, the Minister for Education, Science and Technology, the Minister for Transport and Communication), which will oversee the implementation of the e-Government Strategy;
- The Permanent Secretaries Committee consists of Permanent Secretaries and Accounting Officers. The Committee is charged with coordination of the implementation of the e-Government

initiatives. The Committee is chaired by the Head of the Public Service and provides the institutional support and ownership needed to marshal resources and manpower to expedite the implementation of e-Government. The Committee is expected to meet at least once a month.

- At the level of the Ministries, e-Government Committees have been set up to review the various ICT policy initiatives in the Ministries, undertake audit of the ICT capacity, establish support to the Ministerial Policy Mandate, identify technical and institutional gaps and inadequacies, and make recommendations on the way forward. The Committee is chaired by the Permanent Secretary in the ministry and consists of the Head of the Central Planning Unit, the Chief Finance Officer, Senior Principal Personnel Officer, Deputy Secretary/Administration and Head of ICT Unit. The Ministerial Committee is expected to meet once a month.
- The Directorate of e-Government under the Head of Public Service (currently the Steering Technical Team which serves as the e-Government Secretariat) is charged with the coordination and preparation of the e-Government Strategy including the implementation plan, and monitoring and evaluation of the process. The core members of the Steering Technical Team consist of the Office of the President (Cabinet Office), Office of the President (Provincial Administration and National Security), the Central Bank of Kenya, the Department of Defense, Ministry of Health, Directorate of Personnel Management, the Government Information Technology Service, the Ministry of Transport and Communications, the Ministry of Roads, Public Works, and Housing, Ministry of Planning and National Development and Ministry of Education, Science and Technology.

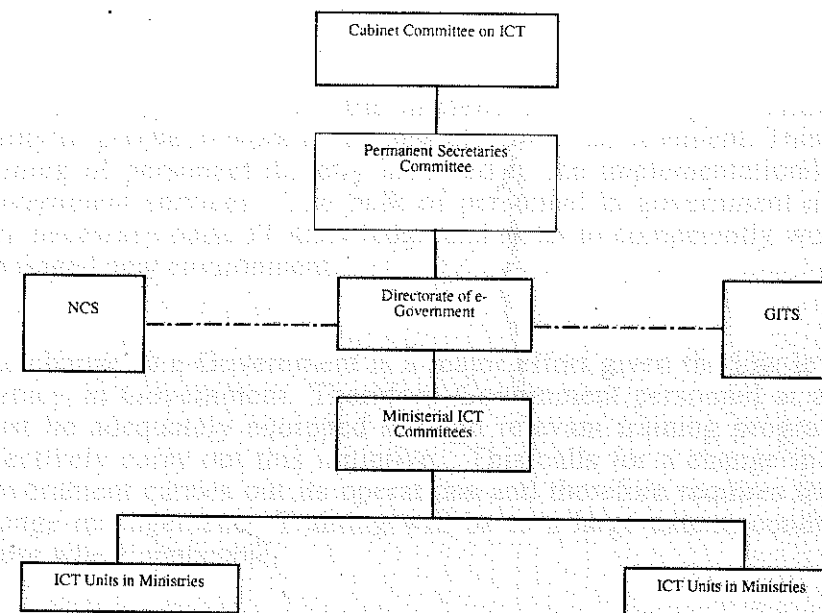
## 2.4 THE DIRECTORATE OF E-GOVERNMENT

The Directorate of e-Government will discharge the following functions:

- Develop, coordinate and define ways so that electronic and information technology business strategies assist government to operate more effectively and efficiently in delivering services to citizens;
- Provide coordination and advice on issues pertaining to electronic business, telecommunications and technology;
- Plan and develop strategies and direct government wide activities to support other agencies; and

- Participate in the development, analysis and evaluation of government wide technology issues, policies and legislation.

### Organogram



**Legend:**

NCS = National Communications Secretariat  
 GITS = Government Information Technology Services  
 ICT = Information and Communications Technology

**E-GOVERNMENT TRAINING REQUIREMENTS**

**3.1. INTRODUCTION**

The basic requirement for the implementation of e-government is the ability of people to work in the new electronic environment. This calls for training of personnel directly involved in the implementation/use of e-Government services. The bulk of personnel in government at present lack necessary basic IT knowledge and skills to competently work in the envisaged new environment.

The change to e-Government is a major effort given the low level of IT literacy in Government. Therefore Government personnel at all levels must be adequately equipped through relevant training programmes to effectively carry out this initiative. This calls for a change in the way Government carries out its operations and therefore requires training in change management. Training will be to a large extent, conducted in-house where applicable.

**3.2. IT TRAINING STRATEGY**

The IT training strategy will include.

- Basic level training for all personnel;
- Operational level training for information maintenance personnel;
- Technical level training for staff such as Systems Analysts, programmers etc. as they will be responsible for designing, developing, implementing and supporting requisite systems; and
- Training for Monitoring and Evaluation.

As part of the training strategy, and in order to ensure a continued pool of IT knowledge base within Government, all training programmes undertaken by Government personnel will have an IT component.

### 3.3 E-GOVERNMENT TRAINING PROGRAMMES

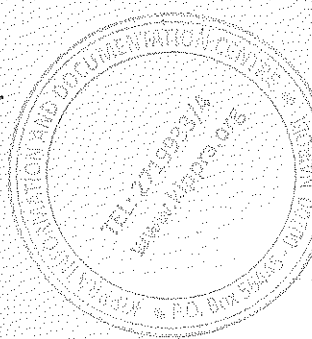
E-Government training will be based on the following training programmes.

Programme Description and content	Basic Level training	Operational level training	Technical level	Completion date
<b>Basic Computer Training:</b> Introduction to Computers including Windows OS, Word Processing, Spread Sheets, Power Point, Email and Internet.	YES			Short term (by June 2004)
<b>e-Government:</b> Sensitizing Government employees in harnessing the potential of Information Systems and New Technologies to improve service provision	YES	YES	YES	Short term (by June 2004)
<b>Electronic Records Management:</b> Records life cycle, basics of records management, records inventory and analysis, filing classification systems, records retention and disposal, file movement etc.		YES		Medium term (By June 2007)
<b>Advanced e-Records Management:</b> Information and knowledge management Records life cycle, Issues in information resources management, Vital records management programmes etc.		YES		Medium term (By June 2007)
<b>Payment Systems:</b> The role of government institutions in payment systems, automated clearing and settlement arrangements.		YES		Long term
<b>e-banking:</b> e-banking evolution, opportunities and challenges, application in the banking industry, security concerns, the future direction, professional ethics.		YES		Long term

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Programme Description and content	Basic Level training	Operational level training	Technical level	Completion date
<b>Training of Trainers:</b> Development of capability to implement relevant training programmes.			YES	Short term (by June 2004)
<b>Advanced Programme on Computer Security:</b> Overview of IT Developments, Security threats, advanced risk assessment methodologies, Advanced issues in Network and Data communication security etc.			YES	Medium term (By June 2007)
<b>Database System Design, Implementation and Management:</b> IT & MIS Database management systems, Database modeling tools and techniques, Data description, manipulation and query languages, Computer networks and Distributed Database processing.			YES	Medium term (By June 2007)
<b>Computer networking:</b> Network Management and Administration.			YES	Medium term (By June 2007)
<b>Programming In various languages:</b> Develop application systems.			YES	Medium term (By June 2006)
<b>Advance Programming courses:</b> Develop application systems.			YES	Medium term (By June 2007)
<b>Computer Hardware Maintenance:</b> Equip with Knowledge and skills necessary to service and repair desktop computers competently and provide effectively skills and attitudes necessary for work in an Office environment.			YES	Medium term (By June 2007)
<b>Planning, Designing and Managing IS Projects:</b> training in ICT Project Management			YES	Long term
<b>Information Systems Development and Implementation:</b> Design and implementation techniques of structured and object oriented programming (OOP) System, Uses of CASE tools; system documentation; software testing techniques; and software maintenance standards.			YES	Long term

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**STANDARDS FOR E-GOVERNMENT**

**4.1 INTRODUCTION**

Standards refer to accepted set-up procedures and measures which form comparison and reference framework against which components, systems and equipment can be measured and evaluated. The enforcement of the standards requires an institutional framework that is well defined and functional with the necessary capacity. Within the e-Government framework, the Government will define the required standards and guidelines and create a Standardizing Body to ensure their enforcement, review and implementation in the context of the changing ICT environment overtime. The required standards, guidelines and the initiatives needed to enforce them are outlined and detailed in the document for short, medium and long term.

Standards may be classified broadly as Official standards (when an officially recognized standards-making organization successfully ballots a candidate document, it becomes an official standard); Industry standard (if an industry consortium develops a standard, the published document becomes an industry standard); and De facto standard (when the industry widely accepts and uses a method, a tool, a hardware implementation, or a protocol, it becomes a de facto standard).

**4.2 OBJECTIVES OF STANDARDIZATION**

The overall goal of standardization is to ensure quality of all ICT components and systems being procured and applied across Government. The specific objectives of Standardization are to:

- Ensure clear statement of high level, government wide directives concerning networking and telecommunications;
- Ensure coordination of networking and telecommunications related standards across agencies of government;
- Assist Ministries and departments in the development, maintenance and administration of electronic services;
- Ease the tasks of support personnel;



- Use the appropriate electronic solutions;
- Minimize long term cost by standardizing decision on ICT acquisition and application;
- Enhance savings through bulk buying centrally for all Government Agencies and departments;
- Identify the equipment needed and the issues at hand before engaging in deploying a solution;
- Define and operationalise the maximum product life cycle of a product;
- Develop plans that are flexible reusable and sustainable.

In the process of enforcing standards, there will be need to take into account the potential risks that may result from Standardization Activities. Such risks may include:

- The mandatory criteria that may not be achievable;
- Technology changes are not incorporated while updating the specification and
- Using the specifications without a firm knowledge of the Ministry's or Agency's requirements.

#### **4.3. CATEGORIES FOR BENCHMARKING IN KENYA**

The broad categories of standardization cover the following areas:

- Hardware (Components and Systems)
- Networks
- Telecommunications
- Databases
- Operating Systems
- Buildings, Rooms and Environment
- The legal environment in relation to ICT

In order to apply e-Government for whole government, there is need to ensure that the acquisition and development of systems comply with specific guidelines (recommended practices) and standards.

The outcomes for e-Government ICT Standards include:-

- Quality Management in relation to hardware;
- Quality assurance in Software Applications in network and telecommunications;
- Package Evaluation Methodologies;
- Information Integrity/Security within databases;
- Data Definition and Exchange within operating systems; and
- Risk as well as configuration management in building, rooms and environment.

#### **4.4. PRE-REQUISITES FOR IMPLEMENTATION OF E-GOVERNMENT STANDARDS AND GUIDELINES**

For the Government of Kenya to successfully apply e-government comprehensively, ICT standards have to be adopted by all government Ministries and departments. A manual on standards and guidelines manual will need to be developed to ensure minimum standard of quality and the ability to communicate easily among systems set. The standards and guidelines documents will cover the following areas:

##### **▪ Data Interoperability**

Exchanging data and building on knowledge must be one of the priorities of the government. This would include what kind of data must be standardized on and who is the owner of this data who will have responsibilities in managing it.

##### **▪ Data Communication**

This must consider the coding of data and the standard fields to be used. It should also mention what levels of sensitivity of the data and what levels

can be accessed by the different agencies in the government and/or outside and to which extent.

#### ▪ **User Interface**

A friendly user interface, web-enabled in most cases, must be adopted that reflects the Kenya government. This interface must be standard in all the government agencies to allow the ease of use and familiarity with the screen. A common look and feel (look, the colours, the buttons, etc.) is a must.

#### ▪ **Telecommunications**

Standards protocols must be recommended for the various telecommunications requirements in interconnecting government systems as well as providing on-line access to Government services to the general public, business communities, and other organizations.

#### ▪ **Security**

Security to data (online and offline), to systems and to the infrastructure must be recommended with all the justification and reasons for the standards recommended.

#### ▪ **Desktop Packages**

A standard criterion in selecting market-available desktop packages must be adopted when selecting desktop packages. This must be uniform throughout the government.

#### ▪ **Operating System**

Open systems must be adopted through the various relevant ICT standards recommendations.

#### ▪ **Software Applications**

Development of new systems or customizing market – available packages must follow the standards guidelines recommended.

#### ▪ **Hardware and Cabling**

Hardware and cabling specifications must follow guidelines recommended by the team.

#### ▪ **Government Domain Name Classification**

With the ever increasing number of government domain names, some order must be brought to its domain name registration practices and clear policies must be created to set the norms and standards for the usage and deployment of directory services across all departments and public institutions.

### **4.5. PROPOSED ACTIVITIES**

The e-government standards and guidelines to be put in place will include the following:

#### **4.5.1 Short-term (June 2004)**

##### **(a) Web-site Guidelines**

Web guidelines and standards will be developed based on the following principles:

Government departments should make information available easily, widely and equitably to the citizens (except where reasons preclude such availability as specified in legislation). This should be as follows:

- All published material or material already in the public domain;
- all policies that could be released publicly;
- all documents that the public may be required to complete;
- corporate documentation in which the public would be interested.

The Cabinet Office will oversee the implementation of the following:-

- Messaging and collaboration,
- Domain Names Classification,
- Networking in all Ministries for rollout of both IPPD and IFMIS systems,
- User Interface.

### (b) Metadata Standards

Metadata is data about data. Search engines use metadata records when they search the web or an intranet looking for information on a particular subject. Metadata will serve to catalogue government's information resources; help used decide if a resource is worth obtaining; stocktaking information resources; and to guide the publishing government resources via the Internet to anyone in the world. The Metadata standard will therefore give descriptions for all resources that someone might search for via the web – whether it is a document, a public service, a web or a statute or any other form of document.

Some of the elements contained in a metadata record are; creator, publisher, contributor, rights, title, subject, description, source, language, relation, coverage, function, date, type, format, identifier, availability, audience and mandate. The standard is expected to conform to the Dublin Core Metadata initiative, which has been adopted by many governments and across many industries.

### (c) Institutional Framework for Standards Setting and Enforcement

The government of Kenya, through the Cabinet Office, with members from selected number of Ministries and Autonomous Agencies, will establish standards and related guidelines for domain name registration and directory services documentation for all of government entities to follow.

### 4.5.2 Medium term (three years) - Information Security Policy Standards

Information Security Standards and Guidelines will be developed to give the framework of controls derived as a result and management process of public information resources.

Service Delivery standards covering matters needed to provide answers to queries from clients, for example what types of services will be provided, when services are to be expected, how directories that define available services will be maintained.

Access standards covering matters needed for obtaining access to information, including security (authentication), expected features of defined access methods including presentation for disabled clients, range

of expected transactions e.g. peer to peer (relying on data integration element)

### 4.5.3 Long-Term - Interoperability Guidelines and Standards

Interoperability guidelines and standards will outline the Government's policy on how public sector organizations should achieve electronic "interoperability" (i.e. the ability to share information and technology by using common policies and standards). The aim is to create a common framework across government for cost-effective delivery of e-government to the public, citizen and business, and between government departments.

In this phase the Business Process Interface guidelines and standards covering matters needed to allow heads of departments to map processes to support inter-departmental business solutions will be developed. These processes will also define the services to be presented based on the business solution.

- Application Software (Systems),
- Desktop Packages,
- Operating Systems (OS)
- Hardware Cabling

The Interoperability standards to be covered in this phase include:

- (a) Information Sharing and Exchange, i.e. data integration covering matters needed to allow for the recognition of data, including codes, recognition methods, interpretation, including formats used (relying on interconnection elements).
- (b) Interconnection: covering matters needed for the exchange of information between a user and an entity of e-government, including transmission mechanisms, transfer mechanisms (interfaces) that link the transfer medium (the Internet in this case) and an end party, security and protocols for managing the connection.

## GOVERNMENT ACTIVE WEBSITES

They are all under a common portal, which is [www.kenya.go.ke](http://www.kenya.go.ke)

Ministry/Department	Website(s)
Agriculture	<a href="http://www.agriculture.go.ke">www.agriculture.go.ke</a>
Cooperative Development and Marketing	<a href="http://www.co-operative.go.ke">www.co-operative.go.ke</a>
Finance	<a href="http://www.treasury.go.ke">www.treasury.go.ke</a>
Planning and National Development	<a href="http://www.planning.go.ke">www.planning.go.ke</a>
Transport and Communications	<a href="http://www.transport.go.ke">www.transport.go.ke</a>
Foreign Affairs	<a href="http://www.mfa.go.ke">www.mfa.go.ke</a> <a href="http://www.foreign.go.ke">www.foreign.go.ke</a>
Education, Science and Technology	<a href="http://www.education.go.ke">www.education.go.ke</a>
Labor and Human Development	<a href="http://www.labour.go.ke">www.labour.go.ke</a>
Justice and Constitutional Affairs	<a href="http://www.justice.go.ke">www.justice.go.ke</a>
Roads, Public Works, and Housing	<a href="http://www.publicworks.go.ke">www.publicworks.go.ke</a>
Regional Development	<a href="http://www.regional.go.ke">www.regional.go.ke</a>
Local Government	<a href="http://www.localgovernment.go.ke">www.localgovernment.go.ke</a>
Livestock and Fisheries Development	<a href="http://www.livestock.go.ke">www.livestock.go.ke</a>
Energy	<a href="http://www.energy.go.ke">www.energy.go.ke</a>
Environment, Natural Resources, and Wildlife	<a href="http://www.environment.go.ke">www.environment.go.ke</a>
Trade and Industry	<a href="http://www.tradeandindustry.go.ke">www.tradeandindustry.go.ke</a>
Water Resources Management and Development	<a href="http://www.water.go.ke">www.water.go.ke</a>
Tourism and Information	<a href="http://www.tourism.go.ke">www.tourism.go.ke</a>
Health	<a href="http://www.health.go.ke">www.health.go.ke</a>
Gender, Sports, Culture, and Social Services	<a href="http://www.culture.go.ke">www.culture.go.ke</a>
Lands and Settlement	<a href="http://www.landsandsettlement.go.ke">www.landsandsettlement.go.ke</a>
Office of the Vice-President and Home Affairs	<a href="http://www.homeaffairs.go.ke">www.homeaffairs.go.ke</a> <a href="http://www.vice-president.go.ke">www.vice-president.go.ke</a>
Office of the President	<a href="http://www.officeofthepresident.go.ke">www.officeofthepresident.go.ke</a>
State House	<a href="http://www.statehousekenya.go.ke">www.statehousekenya.go.ke</a>
Public Service Commission	<a href="http://www.publicservice.go.ke">www.publicservice.go.ke</a>
National Assembly	<a href="http://www.parliament.go.ke">www.parliament.go.ke</a>
Teachers Service Commission	<a href="http://www.tsc.go.ke">www.tsc.go.ke</a>
Electoral Commission	<a href="http://www.E.Commission.go.ke">www.E.Commission.go.ke</a>
State Law Office	<a href="http://www.attorney-general.go.ke">www.attorney-general.go.ke</a>
Exchequer and Audit Department	<a href="http://www.auditor-general.go.ke">www.auditor-general.go.ke</a>
The Judiciary	<a href="http://www.judiciary.go.ke">www.judiciary.go.ke</a>
Central Bureau of Statistics	<a href="http://www.cbs.go.ke">www.cbs.go.ke</a>

## KEY STANDARDS AREAS

## 1. Hardware Standards

These are grouped under the following hierarchy:

- Desktops
- Laptops/Notebooks
- Servers
- Memory
- IO Buses
- Hard Disks
- Storage Management
- RAID Disks
- CD/DVD Drives
- Removable Media
- Backup and Archiving
- Displays
- Printers
- Scanners
- Barcode Scanners and Printers
- Handheld Mobile Computing
- Backup Power Supplies - BPS

Most desktops today include a more-or-less de facto standard set of components, which include the Motherboard. The Mother Board is itself composed of Chipset, CPU slot or socket, VRM (Voltage Regulator Module), Memory slots, Expansion bus slots, and integrated functions. It further incorporates the functionalities of the following systems:



- Processor
- Memory
- Floppy disk drive
- CD-ROM drive
- Hard disk drive
- Video Adapter
- Sound adapter and speakers
- Communications ports
- Case and power supply
- Monitor, Keyboard and mouse

## 2. Network Standards

Network Standards that will need to be benchmarked and enforced across Government within the framework of Government to Citizens, Government to Government and Government to Business should cover Network Design, Communications Protocols, Network Software, Network Technologies, and Network Operations and Management. In the process of benchmarking, the following International Standards will also need to be considered for use in Government:

- IEEE 802.1<sup>1</sup>: Standards related to network management.
- IEEE 802.2: General standard for the data link layer in the OSI Reference Model. The IEEE divides this layer into two sub-layers referred to as the logical link control (LLC) layer and the media access control (MAC) layer. The MAC layer varies for different

<sup>1</sup> IEEE represents Institute of Electrical and Electronics Engineers

network types and is defined by standards IEEE 802.3 through IEEE 802.5.

- IEEE 802.3: Defines the MAC layer for bus networks that use CSMA/CD. This is the basis of the Ethernet standard.
- IEEE 802.4: Defines the MAC layer for bus networks that use a token-passing mechanism (Token bus networks).
- IEEE 802.5: Defines the MAC layer for token-ring networks.
- IEEE 802.6: Standard for Metropolitan Area Networks (MANs).
- IEEE 802.7: Broadband Technical Adv. (BBTAG)
- IEEE 802.8: Fibre Optic Technical Adv. (FOTA)
- IEEE 802.9: Integrated Service LAN (ISLAN)
- IEEE 802.10: Standard for Interoperable LAN Security (SILS)
- IEEE 802.11: Wireless LAN (WLAN)
- IEEE 802.12: Demand Priority
- IEEE 802.14: Cable – TV Based Broadband Communication Network
- IEEE 802.15: Wireless Personal Area Network (WPAN)
- IEEE 802.16: Broadband Wireless Access
- IEEE 802.17: Resilient Packet Ring (RPR)
- IEEE 802.18: Radio Regulatory Technical Advisory
- IEEE 802.19: Coexistence Technical Advisory
- IEEE 802.20: Mobile Wireless Access
- IEEE 803.3: Ethernet
- IEEE 1149.1: JTAG Boundary Scan for digital electronics testing
- IEEE 1149.4: Test Standard - boundary-scan testing standard

- IEEE 1149.4 Architecture's Instruction Set
- IEEE 1284 parallel port standard

Other areas for network standards benchmarking will cover Integrated Service Digital Networks (ISDN) Devices, which include:

- Terminals;
- Terminal adapters (TAs),
- Network-termination devices,
- Line-termination equipment, and
- Exchange-termination equipment.

### 3. Telecommunication Standards

A wide variety of information can be transferred through a telecommunications system, including voice and music, still-frame and full-motion pictures, computer files and applications and telegraphic data. At the same time, guidelines are needed that can be used in the acquisition, installation and maintenance of Telecommunications systems. This enhances cost effective networking and telecommunications services to connect Government Agencies and departments that need to transmit data, voice and video to conduct the business of the government.

The equipment and units that will need to be considered for telecommunications ICT Standards and Guidelines include:

- Wide Area Network (WAN) Technologies
- Analog Dial up
- ISDN
- Frame Relay
- T1
- E1
- Networking Devices & Equipments
- Modems

- Cable Modems
- Bridges Routers & Gateways
- DSU/CSU
- Microwaves and Satellites
- Wireless
- ATM
- DSL
- PSTN
- PABX
- CTI
- Call Centers
- IVR
- ACD
- IP Telephony & VoIP
- Wireless Communications & Cellular
- Video Conferencing

The guidelines that can be used in the acquisition, installation and maintenance of Wide Area Networks and Telecommunications equipment cover:

- *WAN Technologies*: Examines different available WAN technologies and discusses the requirements for each technology and when to use it.
- *WAN Devices and Equipment*: Describes the Telecommunications material needed to implement WAN solutions.
- *Virtual Private Networks*: Examines VPN as a means of providing security to the WAN and draws a roadmap of implementation.

#### 4. Databases Standards

Database systems are information technology solutions built around databases. The basic components of a database system are databases, database management systems and software applications. They make up the largest section of business oriented software applications. The scope of database system standards cover but are not limited to:

- The rules governing the organization of the data within the database
- DBMSs
- Data storage
- Data access and security
- Backup, recovery and contingency planning
- Auditing
- Basic database administration requirements
- Human resources involvement and training
- Selection criteria where applicable
- Programming issues
- Maintenance of databases
- Tuning

Some of the International Database Standards that can be benchmarked in Kenya include the Structured Query Language (SQL), which is a standard language. It may differ from one vendor to the other. It is defined by the American National Standard for Information Systems - Database Language (ANSI) and the ISO Database Language SQL - Part 2: Foundation among others.

#### 5. Operating Systems Standards

Operating systems, which are a collection of control programs running continuously, are an essential part of any computer. They control the

execution of user programs and prevent errors and improper use of computers. In understanding them properly, one must consider their history and evolution to determine how and why these systems developed. The popular Operating Systems, for which standards will be developed include but not limited to:

- DOS
- Unix
- Windows
- Macintosh
- Sun systems/ Solaris
- z/OS
- OS/390,
- TPF,
- VSE/ESA,
- CMS,
- Linux

#### 6. Buildings, Rooms and Environment Standards

One of the strategic guidelines for the ICT infrastructure for an organization is that implementation of new concepts and products do not take place until functional requirements have been established, system specifications are stable and mature products are available that meet those specifications. This is particularly true for the requirements pertaining to the Buildings, Rooms and Environment that houses and contains the various ICT resources of the Kenyan Government.

System specifications are to be updated and expanded as required to cater to the rapid evolution of new concepts and technologies within the ICT Data Center. Data Center within the context of this segment pertains not only to newly constructed data facilities, but also to existing facilities and rooms which are modified to accommodate and support computer systems and operations. The scope of standard to be adopted covers but is not limited to the following areas:

- Data Center Infrastructure and Physical Considerations
- Building Layout
- Environmental Control
- Power Source
- Fire Retardation
- Grounding and Lightning Protection
- Documentation

The enforcement of Standardization for Buildings, Rooms and Environment can lead to the following benefits:

- Reduce costs when bulk purchasing is followed
- Reduced training
- Increased experience when similar equipment is acquired
- Maintaining up to date specifications
- The private sector providing such equipment would gear its supplies accordingly and would hence improve its experience, availability, support and pricing.
- Experience can be shared regarding the acquisition and use of such equipment

## 7. The Legal Environment in Relation to Standards

The Kenyan general laws, has no specific legal or regulatory text defining or dealing directly with ICT related matters. Accordingly electronic legal transactions, electronic contracts, electronic evidence or crime issues are not subject to any specific legislation until this date.

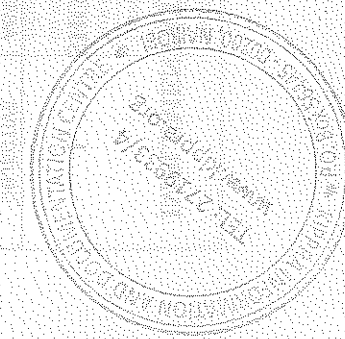
Notwithstanding the absence of general legislation, there is within the present Kenyan legal platform a limited number of laws and regulations that deal with certain aspects of ICT, or are related to the use of ICT in some Governmental Agencies or Public Administrations - such as the creation of Commission Communications of Kenya and/or units.

The success in introducing and implementing ICT Standards and Guidelines in Kenya, it highly depends on the existing legal framework related to, or in a way affecting ICT. The general legal structure that is affecting ICT is enumerated as follows:-

- The legal environment relative to ICT matters shall be examined together with the related opportunities and constraints.
- Legal steps needed to help the introduction of ICT Standards and Guidelines shall then be suggested. These will facilitate the implementation of the Standards and Guidelines.
- The introduction of ICT Standards and Guidelines is part of the process leading to e-Government and other initiatives. It will also enable examination of issues related to e-Signature and e-Transactions in that context.

The initiative is part of the overall Standards and Guidelines deliverables and should be reviewed in conjunction with the Global Policy Document which presents related policies and recommendations. It imperative to note that no constitutional, legal or regulatory provisions forbid the Introduction of ICT Standards and Guidelines in Kenya, whether at the government level or any other level within the Kenyan Republic.

To reach the efficiency sought from setting up ICT Standards and Guidelines, it is necessary to identify the proper authority to introduce, and monitor the implementation of such Standards and Guidelines





ANNEX 3

IMPLEMENTATION MATRIX AND THE FINANCING FRAMEWORK OF THE E-GOVERNMENT STRATEGY

1. SHORT - TERM INITIATIVES/ACTIONS TO BE IMPLEMENTED BY JUNE 2004

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OBJECTIVE	ACTIVITIES/ ACTIONS	EXPECTED OUTPUT	INDICATORS	IMPELENTI- NG AGENCIES	FINANCIAL REQUIRMENTS (KSHS. MILLION)			TIME FRAME	STATUS REMARKS
					2003/04	2004/05	2005/06		
Have E-Government Strategy in place.	Finalize the e-Government Strategy	E-Government Strategy paper	Document in place Cabinet approval for implementation	OOP — E-Government Team	-	-	-	Sep 2003 — Jan 2004	Final paper prepared
	Develop ICT Standards Manual	ICT Standards manual	The manual produced	e-Government Team and GITS	0.1	0.2	0.2	Sept 2003- June 2004	ICT standards guidelines produced
	Develop e-Government Security Manual	Manual Developed	The manual produced	e-Government Team, NSIS, GITS	0.1	0.2	0.2	Feb — June 2004	Draft being prepared Peer review needs to done

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	Finalize the audit on ICT capacity and skills	Audit report	Document	e-Government Team	-	-	-	March 2004	Draft prepared Committee reviewing the report
	Create awareness at all levels of government on e-Government	Awareness across Government	Understating of and commitment to e-Government Strategy	e-Government team	1.2	1.3	1.4	Feb — March 2004	Started
	Define e-Government Structure - Create, strengthen and mandate a body to oversee the e-Government implementation and management processes.	The proposed institutional structure in place	The structure	OOP	7.5	30.0	31.0	Feb — June 2004	Proposed structure in the e-Government Strategy
	Disseminate the e-Government Strategy	Printed Version and widely circulated	No. printed and circulated	OOP/E-Government Team	2.0	2.1	2.2	Feb — June 2004	Not started

	E-Government Seminars and Conferences	Increase awareness, share experiences and improve collaborations and coordination	Increased awareness	e-Government Directorate		5.0	5.2	2004-2006	To start
	E-Government research and Development	Improve technological capacity and best practices, skills and methods in e-Government	State of the technology and best practices	e-Government Directorate, GITS, NCS		5.0	5.2	2004-2006	To start
	The e-Government team to participate in the 10 <sup>th</sup> GCC E-Government Forum (May 24-26, 2004, Dubai, UAE.	Report of Conference and experienced gained	Level of sensitization	E-Government Team	3.0	3.1	3.3	May 24-26 2004	Scheduled but not yet confirmed
<b>Ensure security of information infrastructure</b>	Develop e-Security program and	e-Security program	Training and e-Security program	e-Security department, Directorate of e-	3.5	4.0	4.5	March - June 2004	Draft e-Security training

	training manuals	e-Security training manuals	documents in place	Government					manuals in place
<b>Enhance e-Government Infrastructure</b>	Installation of local area networks in Harambee house, KICC and Jogoo B house, Nyayo house (Ministry of Energy)	LANs in place in all Government Offices	Efficiency of information flow and sharing	OOP—E-government Team Ministries	45.0	48.8	53.2	2003-June	Work started - tender awarded for Jogoo B house
<b>Initiate Integration of internal Government processes</b>	Review processes, procedures and regulation (Code of Regulations)	New procedures and processes in place	Reduce level of bureaucracy Enhanced information flow	CSRP/DPM	CSRP/DPM to determine	10.0	11.0	Continuous	Ongoing

	Eliminate duplication of efforts and resource wastage by enforcing high levels of sharing information infrastructure	Improved information sharing and productivity	Ease and timeliness of information flow and improvement of productivity	CSRP/DPM				Continuous	Ongoing
	Enforce standards and control processes across Government in areas of human resources management and expenditure management, monitoring and control	Expenditure control and management	Standards and levels of controls	CSRP/DPM, e-Government team				Continuous	Ongoing

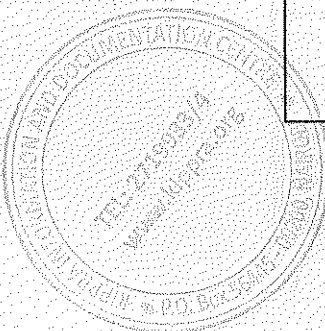
	Initiate other systems geared towards increasing efficiency, transparency and accountability in the public service	Improved efficiency, transparency and accountability in the public service	Level of efficiency, transparency and productivity	CSRP/DPM, e-Government team				Continuous	Ongoing
	Continue with Civil Service Reforms aimed at making the service lean, efficient, effective and productive.	Improved efficiency, transparency and accountability in the public serviced	Level of efficiency, transparency and productivity	CSRP/DPM, e-Government team				Continuous	Ongoing
<b>Increase internal operational efficiency and effectiveness</b>	Fully implement the IFMIS system which are already underway	Fully operational system	Effective financial management	GITS, e-Government team, Accountant General	GITS to determine	100.0	110.0	Sept 2003 — June 2004	At the testing phase

	Fully implement the IPPD system which are already underway	Fully operational system	Effective financial management	GITS, e-Government team				Sept 2003 — June 2004	At the testing phase
	Implement data repositories and services for CBS	Improved data access	Data quality, accuracy and timeliness	MOPND, CBS	40.0	41.0	42.0	2004-2007	Ongoing
<b>Operationalise and optimize a single Government portal i.e. gov.ke</b>	Design of a Government Portal	An Active Government Portal	Ease of access	e-Government Team	0.5	0.5	0.6	March — June 2004	Not started

	Web hosting for the Government portal — to be done by GITS since they have the infrastructure. In the medium term, the Directorate of e-Government will host the portal	Web hosting and information posting and updates	Active portal	GITS/e-Government Directorate	5.0			March — June 2004	Not started
	Put Functions of ministries and government departments on websites	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Shows structure and management of the ministries and departments	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing

	Provide Services offered and requirements on the part of businesses	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Post Various policies	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Make announcements, alerts and bulletins	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Make description of Information available from government ministries and departments (metadata).	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing

	Post available Publications	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Post the Kenya gazette and Post Legal Notices	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Avail Budget Statements, Finance bill, booklet on tariffs and statistical annexes	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing
	Provide statistical information on schools	Statistical information	Access to information on schools	Ministry of Education				Feb — June 2004	To start
	Make tender documents available electronically	Increased access to and awareness of government services	Ease of access	e-Government Team				Feb — June 2004	Ongoing



Enhance Capacity for implementing e-Government Strategy	Create and sustain leadership for implementation of e-Government	Top leadership and commitment	Pace of implementation	OOP	20.0	21.0	22.0	Continu ous	Demonstrat ed leadership there
	Train core e-government team members and ministries key staff — 50 in number - on web-based applications and internet use  All civil servants will be trained in the medium term	Team members trained	Effectively managing the e-Government implementation	e-Government team				Feb - June 2004	Officers identified

	Provide email access to civil servants within 10 ministries (headquarters)	Email access	Email use	E-Government team, ministries	15.6	16.4	17.2	Continu ous	Ongoing
Enhance talking to citizens	Providing citizens with details of public sector activities and information	Increased accessibly	Access and quality of information	e-Government Team, Ministries	Budget covered under the e-Governme nt Portal and Creation of Websites	Budget covered under the e-Governme nt Portal and Creation of Websites	Budget covered under the e-Governme nt Portal and Creation of Websites	Continu ous	Ongoing
Provide Employment Information	One can search for jobs with the government and apply online this enables more objective search of employees	Efficiency on employment information access	Availability of employment information online	Public Service Commission, DPM	Budget covered under the Governme nt Portal and Creation of Websites	Budget covered under the e-Governme nt Portal and Creation of Websites	Budget covered under the e-Governme nt Portal and Creation of Websites	Feb — June 2004	Not started
	Find out the latest policies and schemes of service	Efficiency on employment information access	Availability of employment information online	Public Service Commission, DPM				Feb — June 2004	Not started
	Understand employment laws	Efficiency on employment information access	Availability of employment information online	Public Service Commission, DPM; Ministry of Labour				Feb — June 2004	Not started
<b>Total</b>					<b>145.50</b>	<b>283.60</b>	<b>309.3</b>	<b>Tentative budget</b>	

2. MEDIUM TERM INITIATIVES/ACTIONS TO BE IMPLEMENTED BY JUNE 2007

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OBJECTIVE	ACTIVITIES/ACTIONS	EXPECTED OUTPUT	INDICATORS	IMPLEMENTING AGENCIES	FINANCIAL REQUIREMENTS (KSHS. MILLIONS)			TIMEFRAME	STATUS REMARKS
					2004/05	2005/06	2006/07		
Enhance Human resource capacity in Government	Train all civil servants on computer literacy and web based applications	Improved capacity for implementation of e-Government	No. of civil servants trained	e-Government Directorate, All Ministries and departments	50.0	53.0	55.0	2004-2007	To start
	Provide all civil servants with email addresses	Enhanced communication within Government	No. of Civil servants with official email addresses	e-Government Directorate, All Ministries and departments					
Accelerate Automation and integrate Government information and Records	Implement integrated systems for registration of persons including births and deaths, citizen registration, immigration etc	Fully operational System providing population-related information online	Ease of access and availability of information online	OOP, KRA IMMIGRATION NCPD	60.0	65.0	70.0	2004-2007	Started
	Develop and implement integrated property and assets registration systems including land, companies, courts and motor-vehicles	Fully operational integrated systems providing information online	Ease of access of information online	MOF, MOLS, AG, MOTC, Judiciary				2004-2007	Not known

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	Implement integrated taxation databases and information systems.	Fully operational System providing tax-related information online	Ease of access of information online	Ministry of Finance, KRA				2004-2007	Started
	Complete the implementation of Messaging and Collaboration Services which entails exchange of mail among discussion groups and calendaring of events across a common platform	Improved exchanges and collaboration within Government	Improved information consistency, integrity, access and exchange	MOF, OOP All Ministries				2004-2007	Not known
	Manage business licensing by local authorities	Improved processing of business licenses	Speed of business licensing						

	Operationalise other information systems	All systems fully operational	Ease of access of information online	All ministries and department	5.0	5.2	5.5	2004-2007	Started
<b>Finalize the information infrastructure within Government, including district offices.</b>	Complete network infrastructure development and cabling	All buildings cabled, and simplified service delivery to the public	Intra- and inter-ministerial data communication networks	MOF (GITS), All Ministries, Departments and District Offices	100.0	110.0	120.0	2004-2007	Started
<b>Operationalise e-Security Department, e-Government Directorate</b>	Conduct targeted e-Security training  Establish cyber-emergency response team	Training rollout program  Emergency response capability	Cyber-emergency response team trained and in place	e-Security department, Directorate of e-Government  NSIS	10.0	11.0	12.0	2004-2007	Draft e-Security training manuals in place  Work started on e-Security program & emergency response team.
<b>Develop and implement media strategy</b>	Conduct sensitization workshops for senior media personnel	Awareness and buy-in achieved in senior media circles	More space devoted to e-Govt and ICTs in local media	e-Government directorate  Ministries	5.0	6.0	7.0	2004-2007	Media strategy Under development

	Publish regular articles in print media.	General awareness and support among the populace	Citizen participation in e-government rollout	e-Government directorate				2004-2007	Not started
	Develop media kit (brochures, information notes etc)	Media kit developed	Increased awareness by e-Government customers	e-Government directorate				2004-2007	Not started
<b>Develop and implement web-enabled databases</b>	Implement integrated and centralized information databases in web environment to enable increased and expedited data sharing within Government	Improved data sharing within Government	Amount and quality of data shared	MOF (GITS), All ministries, Department and Districts offices	5.0	6.0	7.0	2004-2007	To start



	Provide employment information – one can search for jobs with the Government and apply online. This enables more objective search of jobs	Improved access to information on vacancies	Ease of access	PSC, DPM				2004-2007	To start
	Find out about the latest policies and schemes of service	Schemes of service and policies available online	Ease of access	PSC, DPM				2004-2007	To start
	Understand employment laws	Better understanding of laws	No. of laws posted	Ministry of Justice and Constitutional Affairs, MOLHRD				2004-2007	Not started

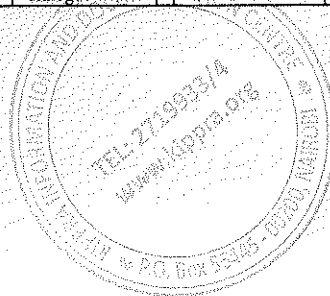
	Provide education information - Apply for primary and secondary school admission in government schools	Improved applications	No. of applications	MOEST				2004-2007	Not started
	Find out the availability of places for admission in the schools	Improved admission	No. of Admissions	MOEST				2004-2007	Not started
	Find out the latest school information	Access to list of schools	No. of Schools available online	MOEST				2004-2007	Not started
	School curriculum on line	The curriculum available online	Ease of access to the school curriculum	MOEST				2004-2007	Not started

	Provide Family related information - Recreation such as Website with list of parks and entertainment	Improved access and knowledge about available information	Ease of access	MOGSH OVP/MOHA				2004-2007	Not started
	Exhibitions and festivals such as advertisements on the On-going and scheduled exhibitions	Improved scheduling of activities	Ease of access	MOGSH OVP/MOHA				2004-2007	Not started
	List of Day care facilities countrywide such Public immunization	Improved information on the facilities	Ease of access	MOGSH OVP/MOHA				2004-2007	Not started

	Library such as applying for membership to the Kenya National Library. Browsing/Searching the library catalogue etc	Improved library information	Ease of access	MOGSH OVP/MOHA				2004-2007	Not started
	Provide Elections information - Verification of details on the voting register	Accuracy and completeness of records	Accuracy, completeness and timeliness					2004-2007	Not started
	Provide Law information - Legal aid and advice	Improved access to legal advice	No. of cases handled	MOJCA Judiciary, AG				2004-2007	Not started
	Family wills and estates o Free legal clinic on family law o Services and information on family court	Advice of family wills and estate management	No. of families/people assisted	MOJCA Judiciary, AG				2004-2007	Not started

	Court related information	Providing of court calendar, cases and judgment online	Improved access to court information	MOJCA Judiciary, AG				2004-2007	Not started
Achieve Electronic Administration of businesses	Company/business registration o Registration of names and name search facilities o PIN application o Submission of business documents such as memorandum of understanding and articles of association	Improved systems of registration of companies	No. of companies registered	MOJCA AG	2.0	2.1	2.2	2004-2007	Started
	License and permit applications	Reduced red tape in applications	No. of Applications						
Ensure Electronic returns & claims	Income tax returns completed online	Improved processing of tax returns	No. of returns and complaints processed	KRA	1.5	1.6	1.7	2004-2007	Started

	Tax claims lodged online								
	Business compliance returns								
	VAT returns								
Provide Portal Services – Data warehousing	Statistical data Analytical reports	Increased access to data and reports	Ease of access to data	CBS, Ministries and departments	1.0	1.1	1.1	2004-2007	Not known
Undertake E-Procurement	Ordering systems for the government	Improved procurement services	No. of orders made	MOF	1.0	1.1	1.1	2004-2007	Not started
	Shipment and Invoicing for businesses		No. of invoices						
	Linking to internal systems within government ministries and departments		Links and networks						
Conduct Electronic Forums for discussion and feedback	Posting of topical issues such as Constitutional Review Bulletin Boards	Increased citizen participation in Government	No. of fora and discussions		1.0	1.1	1.1	2004-2007	Not started
Enhance talking to citizens	Providing citizens with	Improved dialogue with	No. of issues posted and		2.0	2.1	2.2	2004-2007	Not started



	details of public sector activities and information such as the Kenya Gazette, Laws and Regulations, etc. through websites	citizens	commented on						
<b>Improve public services and service management</b>	Improving the services delivered to members of the public along dimensions such as quality, convenience and cost, e.g. enabling citizens to- Enquire on their driving license status; Apply for a passport, Visas, driving	Improved processing of inquiries	No. of inquiries processed	All Ministries and departments	5.0	5.2	5.4	2004-2007	Started

	license, etc; Submission of tax returns in major urban centers; Request a reminder of tax returns submission date								
<b>Introduce E-policing- using the internet to administer the police operations</b>	E-alerts – Security alerts, traffic alerts can be transmitted by the internet	Improved police operations Improved security	No. of alerts	OOP – Police department	80.0	84.0	88.0	2004-2007	To start
<b>Provide e-enabled property Search.</b>	Buying a property or Selling a property	Enhanced search and knowledge of existing property for sale	Ease of access	All ministries and departments	0.5	0.5	0.6	2004-2007	Not started
<b>Total</b>					<b>329.0</b>	<b>354.0</b>	<b>378.9</b>		

3. LONG TERM INITIATIVES/ACTIONS TO BE IMPLEMENTED BEYOND JUNE 2007

OBJECTIVE	ACTIVITIES/ACTIONS	EXPECTED OUTPUT	INDICATORS	IMPLEMENTING AGENCIES	FINANCIAL REQUIREMENTS (tentative) Kshs. million			TIME FRAME	STATUS REMARKS
					2007/08	2008/09	2009/10		
Undertake Electronic Government Payments and link to the payments system	Link to banks for payments of Government services, payment of salaries, etc	Improved payment system	Speed of processing payment	MOF, CBK, Banks and Non-Bank Financial Institutions	20.0	30.0	40.0	Beyond 2007	Will be reviewed as necessary
	Link to the Central Bank of Kenya								
	Link to services providers for bills settlement								
e-Trading of Government Securities	Tendering information on government securities for businesses	Improved trading in the securities market	Volume of trade Turnover	MOF, CBK, Banks and Non-Bank Financial Institutions	10.0	15.0	20.0	Beyond 2007	Will be reviewed as necessary
	Payments for securities								
	Management of securities portfolio								
Achieve electronic	Service appointments	Improved service	Quantity of operations	e-Government Directorate	50.0	60.0	70.0	Beyond 2007	Will be reviewed

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Government Service management	booking and management online e.g. motor vehicle inspection services	delivery	online	All ministries and department					as necessary
Enhance e-policing- using the internet to administer the police operations; for example a traffic policeman would be able to access the details of a car and the driver when the driver commits an offence	Update of Personal particulars for access by the government and the police. N.b. documentary proof of change of particulars must be produced within 7 days	Improve operations of the police	Amounts of services online Level of security	OOP – Police department e-Government Directorate	100.0	110.0	120.0	Beyond 2007	Will be reviewed as necessary
Enhance listening to citizens	Increasing the input of citizens into public sector decisions and actions. This could be flagged as either democratization or participation.	Improved democratization and participation	Level of participation	All ministries and departments	50.0	51.0	52.0	Beyond 2007	Will be reviewed as necessary

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	<ul style="list-style-type: none"> <li>▪ e.g. Sourcing of opinion polls on the constitutiona l Review Process;</li> <li>▪ Opinion Polls in matters being dealt in Parliament; and</li> <li>▪ Suggestion boxes</li> </ul>								
<b>Conduct Elections electronically</b>	E-voting-voting from the computer would ensure that there was no congestion of polling halls and the counting would be done quicker Application for e-voting	Improved system and speed of voting	Elections online Accuracy and timeliness of voting	Electoral commission of Kenya	100.0	110.0	120.0	Beyond 2007	Will be reviewed as necessary
<b>E-payment for Utilities</b>	Link for payments of utility bills e.g. link to water payment systems	Improved system and accuracy of payment	Level of bureaucracy	KPLC City and Municipal Councils	5.0	5.2	5.5	Beyond 2007 Beyond 2007	Will be reviewed as necessary
<b>Total</b>					<b>335.00</b>	<b>381.20</b>	<b>427.50</b>		

#### 4. SUMMARY OF RESOURCE REQUIREMENTS FOR IMPLEMENTATION OF E-GOVERNMENT

Time horizon	Financial Requirements (Kshs. Million)						
	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10
Short Term	145.5	283.6	309.3	-	-	-	-
Medium Term	-	329.0	354.0	378.9	-	-	-
Long term	-	-	-	-	335.00	381.20	427.5
<b>Total</b>	<b>145.5</b>	<b>612.6</b>	<b>663.3</b>	<b>378.9</b>	<b>335.0</b>	<b>381.2</b>	<b>427.5</b>

## ANNEX 4

### MEMBERS OF THE E-GOVERNMENT PREPARATION TEAM

1. P. Gakunu Advisor/Cabinet Office (Chairman).
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