Government of the Republic of Kenya

Government Information Technology Investment Management *Framework* (GITIM)

Report, Policies, Standards and Guidelines for ICT Deployment in the Public Sector

Draft GITIM and EISA Strategy Report

December 2004

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I.   Introduction and Background

1.1   Introduction

As part of the Government of Kenya's e-government framework and with assistance from the World Bank, the Government of Kenya has engaged **Osano & Associates** to assist in the development of a **Government Information Technology Investment and Management (GITIM)** strategy as a framework of policies, principles, standards, and guidelines that will strengthen the acquisition, development, management, support, and use of information systems and technology infrastructure that support Kenya Government operational processes and service delivery.

1.2   Terms of Reference and Objective of the GITIM Assignment

The overall objective of the GITIM assignment is to develop a *high-level Information Systems and Communication Technology Framework* and *Formulate a Strategic and Operational Plan* for its successful implementation. The Communication Technology framework will serve as a common reference point to facilitate efficient and effective coordination of *business processes, information flows and technology investments* across the public sector; and to *provide the basis for support of the GOK's business and technology requirements* aimed at meeting both immediate and long-term needs of all government departments. The benefits of the framework include:

(a)   ICT policies for the Public Sector

(b)   Standards and guidelines for the engineering of information systems;

(c)   A framework for improved IT/business planning;

(d)   Re-use of shared infrastructure;

(e)   Re-use of shared databases;

(f)   Leverage for new technology opportunities; and

(g)   Partnerships and increased opportunities to share skills and knowledge across board in the public sector.

1.3   Overview of Key ICT Policy Issues to be addressed

From the above, the following are some of the key policy issues that need to be addressed in the public sector to help improve information interchange:

• Ensure availability of ICT resources to Kenyans. By more public servants embracing ICT there is bound to be better service delivery to stimulate development

• Ensure that Kenya has in place an ICT framework that will help to fit in the Global ICT infrastructure by providing reliable and secure gateway to the global information infrastructure

- Introduce, debate and pass an Information Technology bill with provisions that will spur growth in the sector. Specific provisions include laws that facilitate and protect transactions that use electronic modes of exchanging information as well as setting up a regulatory framework for e business

- Use of ICT to comprehensively build data warehouses relating to holding information on Kenya citizens. These include but are not limited to registration of births, identification cards, passports, voters' cards, marriage certificates and death certificates among others. Such information needs to be seamlessly integrated to ensure integrity of information relating to Kenyan citizens held by the government.

- Develop appropriate curriculum that will encourage ICT education in schools, colleges and tertiary institutions

- Use ICT for national planning and development, improve on information collection, dissemination and analysis capacities for central and local government

- Use of ICT for provision of health care, health administration and delivery systems

- Development of ICT centers of excellence across the country such as telecentres

- Development of a national infrastructure that would facilitate the inter connection of ministries, government departments, schools, colleges among others

1.4   Benefits of an ICT Strategy/Framework

The benefits of a public sector ICT strategy include:

- Availability of standards, guidelines and procedures for development of information systems

- A framework for improved planning for ICT investments

- Policies on use of shared infrastructure for the benefit of all

- Application and leveraging of new technology opportunities with a view to enhancing service delivery

- Public, Private sector Partnerships and increased opportunities to share skills and knowledge by different stakeholders

The goals of such a strategy would include but are not limited to:

- Provision of a robust, flexible and scalable infrastructure to support cross-ministerial and departmentally integrated electronic service delivery

- Enable convenient, equitable and innovative access to integrated government services through ICT

- Establish and monitor sound and consistent information management practices across government

- Simplify operational support, so that the government's information systems and ICT infrastructure are managed efficiently, reliably and cost effectively

- Focus on the transforming or overhauling systems in order to promote interoperability, portability, scalability and security. Ideally this would cover standards for various products, including computers, software, and networking in the public sector.

- Serve as a common reference point to facilitate efficient and effective coordination of business processes, information flows and technology investments across the public sector and to provide the basis for support of the GOK's business and technology requirements to meet immediate and long-term needs of all government departments.

1.5 Activities undertaken in the Consultancy

The following three phases outline what is required of the consultants to effectively develop a Government Information Technology Investment Management (GITIM) *Framework* or strategy.

Phase 1: Review of Information Flow and Management

(a) Review and document the current Information Flows and Management in the government, while identifying opportunities for reducing repetitions and redundancies by streamlining data entry, information access, increase in consistency and accuracy of information.

(b) Develop a top-level Government-wide Information System Architecture and Design, that reflects inter-departmental relationships, business processes and information technology processes;

Phase 2 – Documentation of Policies

(a) Based on the above Government-wide Information Systems Architecture, document policies on ICT for the Public Sector.

Phase 3 – Documentation of Standards

(a) Based on Phases I and II above, (*Government-wide Information Systems Architecture and the documented policies*), document standards, and guidelines that will strengthen the acquisition, development, management, support, and use of information systems and technology infrastructure that support Kenya Government operational processes and service delivery.

II.   GITIM Workshops and Key Recommendations

2.1   Stakeholder Workshop

The Government Information Technology Investment and Management (GITIM) stakeholders' workshop was held on **21st** to **25th November, 2004** at the **Voyager Beach Resort** in **Mombasa**. Participants were drawn from various Government Ministries, Departments, Parastatals, Universities and other public sector institutions.

The workshop was officially opened by **Eng. James Rege – Permanent Secretary** in the **Ministry of Information and Communication** and officially closed by **Mr Joseph Kinyua - Permanent Secretary** in the **Ministry of Finance**.

The group discussed and made proposals for Information & Communication Technology (ICT) policies, standards and guidelines for ICT deployment in the public sector while focusing on the following key areas:

❖ Technical

❖ ICT Human Resources/Skills and Institutional Arrangement

❖ Financial

❖ Users

❖ Systems Development and Acquisition

The group also discussed and proposed the way forward on the following issues:

❖ ICT deployment in the Public Sector and problems experienced

❖ Best Practices on ICT deployment in the public sector

❖ Current ICT Initiatives in the public sector and their duplications

2.2   ICT Vendor Workshop

The Government Information Technology Investment and Management (GITIM) Vendors' Workshop was held on **5th** to **7th December, 2004** at the **Voyager Beach Resort** in **Mombasa**. Participants were drawn from a number of firms in the ICT Industry. In addition, the Workshop had representatives from GITS and selected public sector institutions.

The workshop was officially opened by **Mr. John Bosco Mwangi – Acting Director, GITS** and officially closed by **Mr Joseph Kinyua - Permanent Secretary** in the **Ministry of Finance**.

The workshop focused on the development of ICT standards and deployment guidelines in the following areas:

❖ Hardware

❖ Software

❖ Networking and Communications

❖ Security

2.3 Combined stakeholder and ICT vendors workshop

This workshop was held in Naivasha from 17th to 20th December 2004 and drew participants from both the Stakeholder institutions and ICT Vendors. It was convened at the request of ICT vendors who offered to sponsor the workshop.

The workshop was officially opened by **Mr. Abok J Odera – Managing Director, National Housing Corporation** and officially closed by **Mr J E W Muriuki – Registrar of Births & Deaths** in the **Office of the President**.

The participants deliberated and agreed on a number of issues including the following major proposals:

2.3.1 Creation of an ICT Governing Body

As a follow-up to suggestions from the Mombasa workshops, it was proposed that for effective management of ICT deployment in the public sector, the Government creates a **Kenya Information & Communication Technology Authority (KICTA)** charged with the responsibility of managing, coordinating and regulating ICT activities in the public sector. KICTA shall be the custodian of all government information and all ICT programmes and shall be headed by a Director-General or Secretary General who will also be the governments Chief Information Officer at Permanent Secretary Supper Scale level.

2.3.1.1 KICTA Composition and Organisation Structure

KICTA shall combine into a one umbrella organization, the following institutions/organizations:

❖ Government Information Technology Services (GITS)

❖ E-Government Secretariat (EGS)

❖ National Communication Secretariat (NCS)

❖ Information Systems Audit Department (To be set up)

2.3.1.2 Proposed Composition of the KICTA's Board

It was further proposed that KICTA's board comprise of representatives from the following institutions and bodies:

❖ Communications Commission of Kenya (CCK)

❖ Attorney General

❖ Ministry of Finance

❖ Ministry of Information and Communication

❖ Ministry of Education

- ❖ National Security Intelligence Service

- ❖ Department of Defense

- ❖ Department of Police and

- ❖ 6 Private sector/ICT Vendor representatives and 3 ICT Consulting Firms/Consultants (from the private sector)

2.3.1.3   Proposed Institutional Structure for KICTA
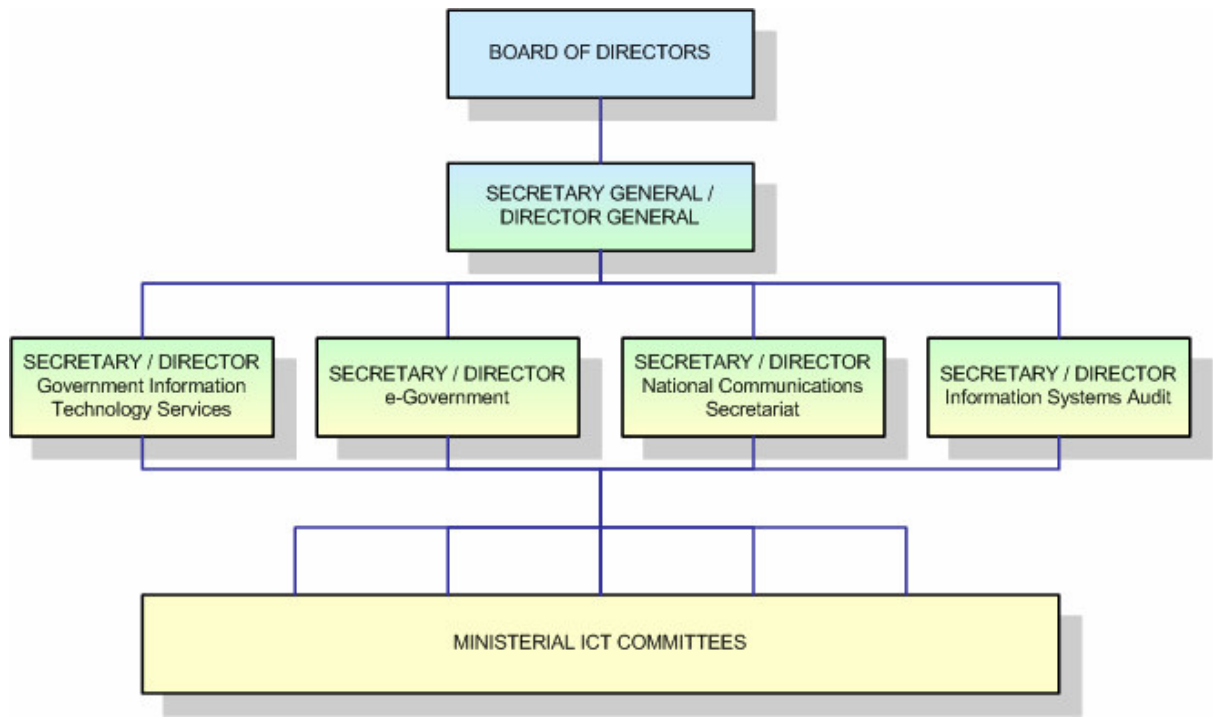
2.3.1.4   Proposed Roles and Functions of the Four Secretariats / Departments in KICTA

Government Information Technology Services (GITS) will provide technical assistance in designing, developing and deploying application systems, communications and security infrastructure in government ministries, departments and parastatals. In providing this assistance, GITS will follow standards developed by the **National Communications Secretariat (NCS)**. **GITS** will also undertake capacity building by training the core implementation team on computer literacy and web-based applications and internet use.

E-government Secretariat (EGS) will coordinate the implementation of the national e-government strategy and ensure the availability, quality, reliability, relevance and frequency of information and services delivered to the citizens. The e-government secretariat will be "*citizen-facing*" and will rely on the infrastructure put in place by **GITS**. **EGS** will also harmonise all Ministry websites in a single Government Portal and create email addresses for all civil servants to ease access to Government information and improve communication

National Communications Secretariat (NCS) will set the policies, standards & guidelines to be followed by **GITS, EGS and ISA** to ensure seamless integration of the Government service delivery mechanism. Such policies will focus on among other areas overlaps, duplication, open-systems architecture and scalability to ensure that there exists a building block for continuous building and maintenance of the infrastructure to provide e-services. ISA will also set ICT Standards and ensure E-security for e-Government.

NCS shall continue withs its mandate of formulating communication and related policies for the government.

Information Systems Audit (ISA) will assist in the conceptualization of government ICT projects and will provide continuous monitoring and evaluation of the standards and controls implemented in government information systems. ISA will also work closely with the **National Audit Office** and the **Internal Audit Department** of Ministry of Finance.

2.3.2 Creation of a Central National Database

As a follow-up to deliberations from the Mombasa workshops on efficient management of information flow in the government, it was proposed that the government creates a **Central National Database (CNDB)** as part of efforts to harmonize and integrate data capture, storage and retrieval within the public sector.

It was further suggested that for effective management of the **CNDB**, the government creates a **National Registration Authority (NRA)**. This Authority will be charged with the responsibility of harmonizing and integrating the current duplicated efforts on data capture as well as collecting and managing vital information on the citizenry and other relevant data.

The database shall have every individual profile of Kenya citizen or non-citizen from creation to death. Creation would mean birth, late registration, naturalization, expatriate worker or refugee. Death shall mean death or end of expatriate stay or revocation of refugee status. This profile shall also include important information such as biometric identity of the individual and the social security number (primary key).

All other GITS applications shall reference this database for authentication or verification of individual profiles. Information on this database shall remain largely static once entered.

2.3.3 Creation of ICT Solution Providers' Council

It was proposed by the ICT Solution Providers that for effective management of ICT deployment in the public sector, the government only deal with members of a central body representing ICT Solution Providers hence the need for the government to facilitate the creation of ICT **Solution Provider's Council**.

The Council will regulate ICT Solution Provider's activities and ensure that there is ethical practice within the ICT industry. The structure and management of this body will be discussed and agreed on by the ICT vendors and ICT consultants before being registered.

This body shall be registered by KICTA and its members recognized by government. The government shall only deal with members of this body when making Invitations to Tender (ITT) or requests for proposal (RFP).

2.3.4 Primary Key (Unique Identifier Social Security number)

It was proposed that every newly registered entity entered into the CND shall be assigned a unique identifier known as Social Security number (SSN) (primary key) to be used to create relations within the existing and newly created databases that this newly registered entity will interact with in future.

The Social Security Number (SSN) shall be a security number that will uniquely identify the individual during the life history of the record (creation to death).

It shall be mandatory for any Kenyan or non-citizen who receives income to have an SSN. It will therefore be expected that employers shall use SSN to report the individual's income to KRA.

It shall be mandatory for children to be issued with SSN during birth. The SSN number shall be required when filing returns on income tax. Further, to open a child's bank account, this number shall still be required. To this end hospitals shall play a major part in the initial registration and creation of SSN on the database.

On death or migration, the record will be de-activated but the SSN number shall not be recycled.

It shall be against law to include the SSN number on Driving License, Identity card, bankcard, school ID or any other form of identification other than the SSN card that shall be issued to individual from the National Registration Agency. This restriction shall be important to protect the confidentiality of individual.

To renew, replace or change the name on a card will require valid documentation.

The SSN shall be a nine-digit number as follows:
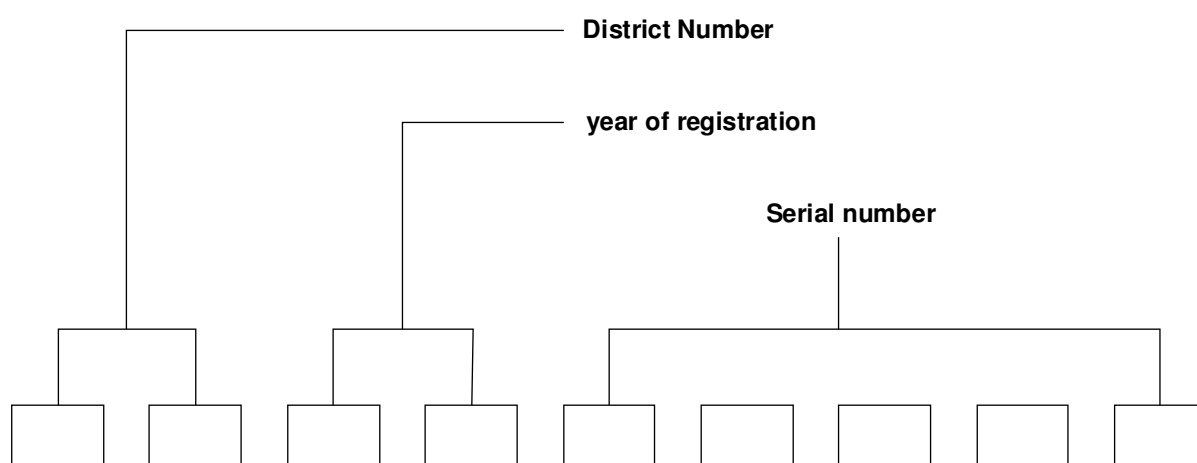
- **District numbers** - these first two digits shall be used to represent the districts of registration. For infants, this shall also represent the district of birth.

- **Year of registration** - These two digits shall be used to represent the year of registration. The year of registration shall also be used for grouping the serial numbers.

- **Serial numbers** – For each place of registration, the serial numbers shall be sequential and run consecutively from 0001 through 9999.

2.3.5 Management of ICT Projects

2.3.5.1   Hierarchical Structure

There shall be a four-tier governance structure in the management of ICT projects as follows:

National level: ....National Steering Committee

Ministerial / Departmental / Parastatal level: ....Steering Committee

Departmental level: ....Working groups

Consumer level:...User groups

2.3.5.2   Roles and Responsibilities of the Committees and Groups

National Steering Committee shall handle the following:

- ❖ Compliance with policy and regulations

- ❖ Continuous review of the policy in accordance with technological advancements

- ❖ Coordination of stakeholder programmes

- ❖ Sensitisation of stakeholders on Government ICT initiatives

Ministerial/Parastatal Steering Committee shall be responsible for the following:

- ❖ Continuous review of the policy and strategy in accordance with technological advancements

- ❖ Harmonisation of ICT projects against ICT strategy

- ❖ Prioritisation of proposed ICT projects against available resources

- ❖ Approval of user requests and ICT projects

- ❖ Coordination of the implementation of ICT projects

- ❖ Preparation of regular implementation status reports to the National Steering Committee

Departmental Working Groups shall be responsible for the following:

❖ Rationalisation of user requests

❖ Formulation and justification of ICT projects in line with the ICT strategy and policy

❖ Recommend user requests for approval by the Ministerial/Parastatal Steering Committee

User Groups shall be responsible for the following:

❖ Initiation and justification of requests

❖ Continuous review of existing ICT facilities

❖ Develop implementation plans for approved ICT projects

❖ Implement approved ICT projects

2.3.5.3 The Director General/Secretary General of KICTA

The Director-General of KICTA shall head the National ICT Steering Committee. The role of the DG shall be assigned at a senior executive level to align all ICT management resources with the government's mission, goals, Strategic Plan, and with the ICT and e-governance strategy. This role requires demonstration of strength, independence and experience at an executive level and should focus senior management attention on critical information management issues and decisions.

III. Overview of Current ICT Deployment in the Public Sector Institutions

3.1 Introduction

One of the activities of the series of three workshops held in Mombasa and Naivasha was a review of the current ICT Deployment within the Government Ministries and Departments as well as other public sector institutions.

From the information gathered, we classified all these institutions into three categories. The table below (**Table III-1**) is an analysis of these institutions *vis-à-vis* the status of ICT deployment.

Table III-1: Comparison Matrix for Different Categories of Institutions

	1. Institutions with little of non-existent ICT activities	2. Institutions with Partially-developed ICT Departments	3. Institutions with a fully-fledged ICT Departments
A. Organisational Structure	ICT activities limited to basic computing work i.e. a limited number of Personal Computers (PCs) used for routine Office Automation work.	The ICT section is usually subordinate to another department – usually finance.	ICT department usually has an executive sponsor – head of IT reports directly to the CEO and / or the Board of Directors.
B. Skills availability	Usually personnel trained to perform limited whatever Office Automation tasks the organisation deploys.	Personnel usually re-deployed from other existing departments to form the core of the ICT department. May need re-training.	Highly-skilled personnel recruited for the purposes of running the ICT department.
C. ICT Procurements	Handled similarly to other procurements – no prioritisation for ICT.	The parent department of the ICT section has control over procurement procedures.	The ICT department will, to a large extent, control its own procurement procedures.
D. Budget	Budget for ICT procurement is usually not separate from the budget for other purchases within the department.	Budget for ICT is within the budget for the parent department which exercises control overall.	The ICT department may have control its own planned budget to cater for maintenance and any planned new acquisitions.
Additional Remarks	– Such institutions do not usually have an ICT Strategy.	– Such institutions may have a long-term ICT strategy that may be in the initial stages of implementation.	– Such institutions will often have a fully developed business strategy that includes a well-defined ICT Strategy.

3.2 Some of the Current ICT Initiatives in Public Sector Institutions

The table below (**Table III-2**) identifies some of the initiatives underway within the Ministries and Departments within the Government of Kenya as well as some Parastatals and other Public-Sector Institutions. This list is by no means exhaustive.

Table III-2: Some of the Current ICT Initiative within the Government and Other Public Sector Initiatives

Min. / Dept.	Nature of project	Benefits	Remarks	Duplications
Ministry of Finance	Integrated Financial Management System	Would assist in proper government financial management	Being carried out in all ministries (up to district level)	
	Development of Government Information Technology Management Framework	Will form a framework for implementation of all government ICT initiatives	Has started and aimed at being completed by end of January 2005. Took 2 years to finalise the start-up yet it is critical to all government ICT initiatives	
	The KREISA Project of KRA (Development of KRA Integrated System to cover all the departments)	Will assist the government manage the collection of revenue	Phased implementation starting with the Customs and Excise Dept. component. Entire project to be completed in 4 Years.	
	ExecNet: A WAN linking all Government Office Buildings	Physical infrastructure to provide connections to the internet for all accounting officers in all ministries	Already largely implemented. Bandwidth upgrades in progress.	
	Development of an ICT Strategy for the Internal Audit Department	Will form a framework for all audit services for the government	Tender floated and awarded already. To be completed before end of June 2005	
Office of the President	Electronic messaging	Would ease document flow and positively impact on service delivery	Project at testing phase. Running on ExecNet (bandwidth yet to be upgraded)	
	e-Government	Improved efficiency and effectiveness of delivery of services and information to citizens and other external partners	Implementation on track 80% of short-term activities achieved.	
		Civil service reform through injection of customer focus in Government through recruitment of IT-literate staff and leveraging ICT in Government operations		
Directorate of Personnel Management	Integrated Personnel and Payroll Database (IPPD)	Would ease government management of payroll and personnel records	Currently being rolled out in all Ministries and Departments. However, project has taken too long (at least 8 years) due to lack of adequate planning	

Min. / Dept.	Nature of project	Benefits	Remarks	Duplications
Ministry of Information & Communication	Development of an ICT policy	Would form a basis for development of a National ICT policy	• Does not appear to be widely communicated through out government and the public. • Being finalised.	UNDP-led initiative to develop a similar policy. IDRC/KIPPRA/MoPND initiative to develop a similar policy
	Counter Automation of Postal Corporation of Kenya	Will improve postal services delivery	Ongoing; to be completed by 2007.	
	Computerization of Kenya Ports Authority	Will improve the service delivery at the port.	• ERP system (SAP) implemented and in use • Waterfront operations system placed on hold due to procurement issues. Recommences in year 2005 • Community-based system in planning phases	
Ministry of Energy	Kenya Power and Lighting Company Ltd: Institutional Strengthening Project (ISP)	Improvement of service delivery in the power sector	Implemented and being used	Proposed Optical Fibre (Mombasa-Nairobi-Lessos-Tororo / Nairobi-Kiganjo) may duplicate other initiatives by KPC / KPLC / TKL
	Kenya Electricity Generating Company Ltd:	Improvement of service delivery in the power sector	Implemented and being used	
	Kenya Pipeline Company Ltd ICT policy and Strategy Development	Will improve service delivery in the oil sector	Has developed a comprehensive ICT strategy that is currently being implemented	
	National Oil Corporation of Kenya computerisation project.	Will improve service delivery in the company	• LAN infrastructure in Place • Financial System operational • HR System operational • Fuel accounting system operational • Toll-out to other branches planned	
Ministry of Lands and Housing	Invited bids for consultants to carry out a study for a Land records/document management system (LIMIS)	A noble initiative that will assist in the management of Land in Kenya	The ICT strategy was completed and the project is currently being implemented	
	Kenya Land Information System	Better management of land records	Initialization stage. (proposal)	Possible
	GIS	Help prepare regional physical planning	Under implementation	Possible

Min. / Dept.	Nature of project	Benefits	Remarks	Duplications
Ministry of Labour and Human Resource Development	Computerisation of National Social Security Fund	Would help manage properly the Fund	Tenders have been floated twice in two years and both cancelled. The terms of reference of both not clear as to what needs to be achieved.	
Ministry of Local Government	Revenue Management System for Local Authorities	Would assist in the management of local authority revenue collection	Various initiatives by the local authorities within the various service sectors are underway but may not fit within the National ICT management framework.	
Ministry of Justice and Constitutional Affairs	Computerization of the judiciary (GJLOS)	Will ease and hasten the administration of justice	• The following activities are in progress: • Training • Acquisition of Equipment • Structured Cabling at: Sheria House, A-G's Chambers, High Court, Milimani Commercial Court, Co-operative House	
Office of the Attorney-General	Computerization of the Registrar of Companies	Will ease and hasten the administration of registration of companies	Still underway but has taken long.	
High Court	Computerisation of Judiciary (Court Processing System)			
Ministry of Planning and National Development	Computerization of Central Bureau of Statistics	Will assist in the proper collection, storage and dissemination of statistical data	• Installation of LAN and WAN infrastructure in progress. • KenInfo System (monitoring of National Programs) in Place • IMIS system in implementation stage	

Min. / Dept.	Nature of project	Benefits	Remarks	Duplications
Ministry of Home Affairs	Computerization of Immigration department	To improve immigration service delivery	Benefits will be sub-optimal in the absence of a National ICT strategy. Should be linked to registration of Births and Deaths as well as that of KRA.	
	Computerization of Registrar of Births and Deaths	To improve service delivery in the registration of births and deaths	Benefits will be sub-optimal in the absence of a National ICT strategy. Should be linked to immigration system as well as that of KRA.	
	Computerization of Voter Registration	Improve service delivery	Benefits will be sub-optimal in the absence of a National ICT strategy. Should be linked to registration of Births and Deaths as well as that of KRA.	
Ministry of Education	• Institutions of Higher Learning • Joint Admissions Board (JAB) Information System	Improved Service Delivery	On going	N/A
	• HELB – students Loan Management Systems	Recovery of Loans effectively		N/A
	• Kenya Education Network. (KENET)	Integrated, Information Systems for universities and tertiary institutions	Improved Communication Network	N/A
	- e-learning Centres/Systems (African Virtual University) - E-Tutor – JKUAT (details to be confirmed with respective institutions) - KU - Egerton - UoN - Moi - JKUAT - Maseno - Library Systems - Examination Systems - Students records - Other database management	Improved Learning Service Delivery	Ongoing	N/A
	Statistical Information on Student Population in the Entire country. (IMIS)	Policy Issues	Ongoing	N/A

Min. / Dept.	Nature of project	Benefits	Remarks	Duplications
Minstry of Labour & Human Resource	Computerization of NSSF	Help manage the new pension scheme	To be re-tendered due to technical/procurement regulation	N/A
Department of Defence / Office of the President	IT capacity building at KAFTEC	Develop capacity for computerization programs for the armed forces	In Progress	
	Network Infrastructure at DoD Headquarters, & Services	Improve inter office information flow	In progress (to – 2010)	
Local Government	Local Authority Integrated financial & Revenue Management System	Assist in Revenue collection	Under implementation	Possibly IFMIS
Ministry of Livestock and Fisheries	• Accounting System • Fisheries, Livestock, database. (Database to capture fish statistics with Kenya Navy (MoU) to be confirmed.) • Project with LAVEMP – Lake Victoria Environmental Monitoring Project	Numbers, census, disease control		
Ministry of Agriculture	Computerization of Sugar Companies (Chemelil, Mumias, SONY, Nzoia, Miwani). Computerisation of parastatals in the agriculture sector (KTDA, CBK, ADC, AFC, Pyrethrum Board, NTZ, etc)	Will assist in improving service delivery	At various stages of implementation with some having stalled	
	• NCPB – Database of cereals • Pyrethrum Board of Kenya: DataBase to capture information including: Growers' acreage and marketing information • KEPHIS / Kenya Seed Co System	Improvement of food security, marketing and production.		Duplication of efforts may exist where similar database management systems
	KARI: Provision of an electronic agro-information centre (website)		ongoing	
	AFC: Upgrading of old systems and skills upgrading of staff	Improvement of service delivery		
Ministry of Water Resources	Structured cabling on going water/Management DB Irrigation	Availability of Water. Energy generation/Reservation Water Catchments, Usage capacity quality		N/A

Min. / Dept.	Nature of project	Benefits	Remarks	Duplications
Environment	Acquire GIS to monitor environment pollution (NEMA), in the process with Health Ministry (USAID)	Preventive measure to be taken against pollution		N/A
Ministry of Health	• Kenyatta National Hospital LAN and WAN Project	• Improve Revenue Collection • On-line patient tracking • Improve service delivery to patients	LAN at KNH in process of implementation	
	• KNH Finance and Hospital Management System	Financial and inventory records management	Infrastructure for implementing system at Moi Referral Hospital	
Ministry of Trade, Commerce and Industry	IPC initiative on electronic commerce (e-Kenya.biz)	• Initiative on e-Commerce called Global Investment Management Portal to enhance trade via electronic means • Creation of a trade Web Portal	• The e-Kenya.biz domain name has already been registered • Committee operates with no budget from Parent Ministry • Committee has no TOR	
Kenya National Audit Office (KNAO)	Setting up an IS Audit Function	Effective and timely audit Government Computer Systems	Procured a CAATS system and carried out training. The necessary in place	

IV. Data Collection, Processing and Information Flow in GoK

4.1 Introduction

In order to evaluate the Data Collection and Processing, and the Information Flows within the Government, registration processes were selected for consideration since this is the one activity that involves the flow of data/information from the public, into the various government agencies for processing, storage and dissemination.

The following sections detail some of the various registration agencies, information processing activities, and a brief analysis of the prevailing operating environment.

4.2 Registration Agencies

4.2.1 Primary Registration Agencies:

- Registrar of Births and Deaths
- National Registration Bureau
- Immigration Department (Aliens)

4.2.2 Secondary Registration Agencies:

- National Social Security Fund (NSSF)
- National Hospital Insurance Fund (NHIF)
- Kenya Revenue Authority
- Immigration Department (Passports)

4.2.3 Others Registrations and Agencies

- Registration of Businesses and Associations- *Companies, Trade Unions, Business Names, Building Societies, Insurance Companies, Societies, Political Parties*
- Registration of Assets
  -Land and Associated Interests
  -Motor Vehicles
  -Chattels

- Electoral Commission of Kenya (*Registration of Voters*)
- Registrar of Marriages
- Registration of Divorces *takes place at the Judiciary*
- Criminal Records Office

The following illustration (Figure IV-1) shows information flows in a typical registration department within the government.

Figure IV-1: Data Collection, Processing and Information Flow
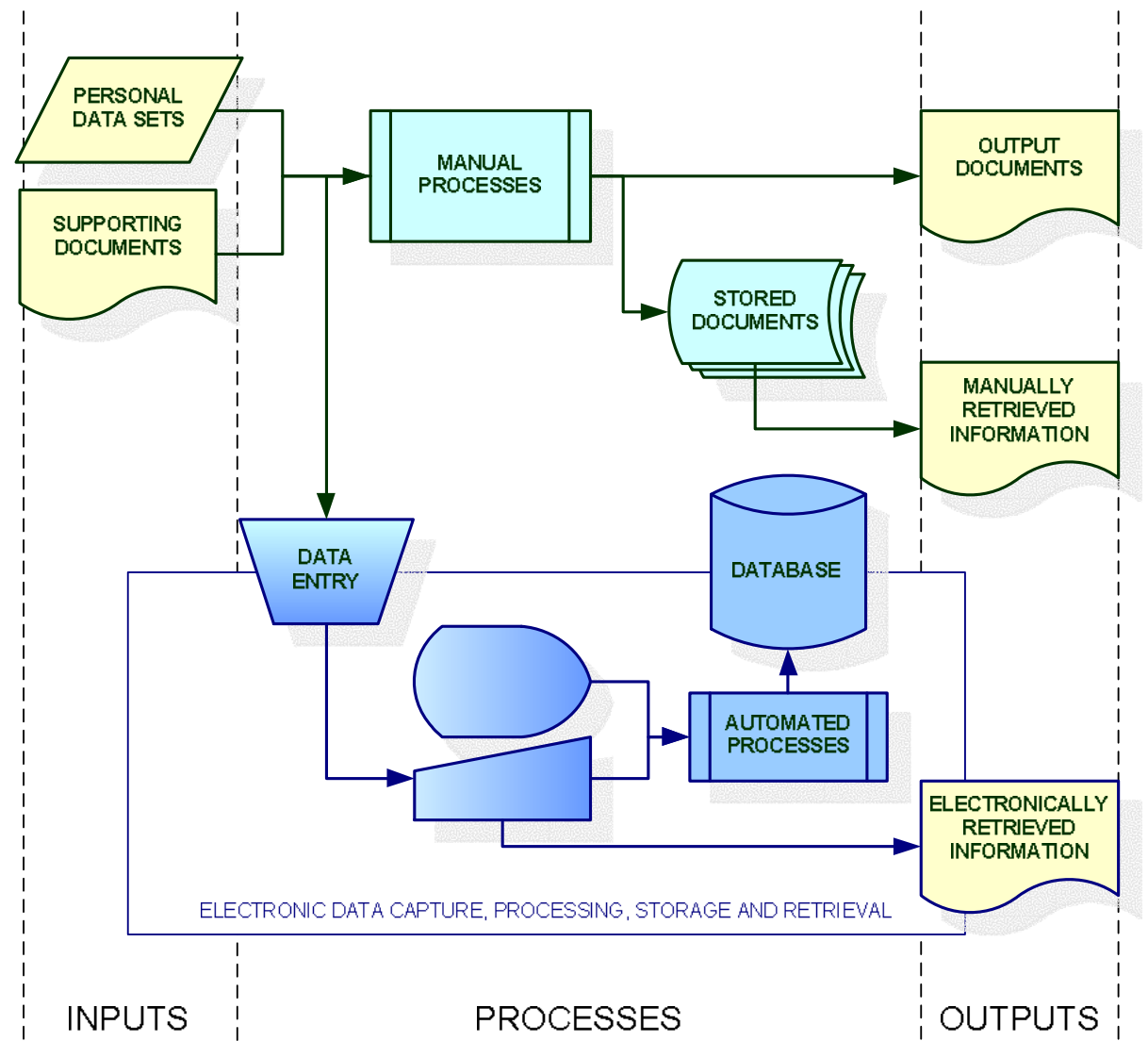
Notes:

i.   The diagram above illustrates a Registration agency with both manual and electronic processing of information. Certain agencies (or their departments and branches) often do not have automated processes.

ii. Each registration agency is responsible for the collection, processing and storage of its own data. The sharing of information between various agencies is limited and often restricted by the various acts of parliament that created them.

iii. There's is virtually no link between the agencies which means that static information (such as Name, Date of Birth, Sex etc.) of the person or entity being registered has to be re-entered at each agency. In certain cases – for instance, where the registration agency has not automated its information handling processes – it is often a requirement that the same information be re-entered.

Examples of some registration processes as illustrated above are listed in **Table III-1** below.

Table IV-1: Examples of Various Registration Processes

Registration Agency	Activity	Inputs	Processes	Outputs
Department of Civil Registrations	Registration of Births (Current)	**Personal Data Sets** − Full Name of Child − Date Of Birth − Sex − Type of Birth (single, triplets, twins etc) − Exact Place of Birth − Nature of birth (live or dead) − Name of mother − Marital Status of Mother − Age of Mother at birth − Previous births of mother and their nature − Normal residence of Mother − Name of Father − Name, description and signature of Informant − Name and signature of registrar − **Supporting Documents** − NONE	− Verification of Particulars − Assignment of Registration Number of birth (running numbers given on a running basis….lowest N<u>o</u>. in Jan; highest in December) − Other Registration Processes	− Birth Certificate − Updated Register of Births (internal storage)
	Registration of Birth (*Late*; (*Birth reported after 6 months*)	**Personal Data Sets:** *Same as for Current Registration* **Supporting Documents** − Proof of Date of Birth (Hospital Records, Certificate of infant baptism, Immunization Card) − Proof of Place of Birth (Same as above) − Proof of Identity of Mother (Certificate of Infant Baptism, Immunization card, Mothers ID, If Under Age affidavit of father of mother) − Proof of Father name (written acknowledgement/affidavit, marriage certificate and ID)	−	−

Registration Agency	Activity	Inputs	Processes	Outputs
	Registration of Death	**Personal Data Sets:** - Name of Deceased - Sex of Deceased - Date of Death - Age of Deceased at Death - Occupation of Deceased - Place of Death - Cause of Death - Name and qualification of person certifying death - Name and Description of Informant - Name and signature of Registrar - Registration Number **Supporting Documents** None Mandatory		- Register of Death - Death Certificate on Application on Payment
	Late Registration of Deaths	**Personal Data Sets:** *Same as for Current Registration* **Supporting Documents** - Hospital record - Burial permit - Chiefs certificate or cemetery record - ID of Deceased if over 18.		- Register of Death and Certificate

Registration Agency	Activity	Inputs	Processes	Outputs
National Registration Bureau	Registration of Persons (*over 18*)	**Personal Data Sets:** - Full Names - Fathers full names - Mothers full names - Date of Birth - Sex - District of birth - Tribe - Clan - Family - Home district - Division - Constituency - Location - Sub-location - Estate - Address - Occupation - Home Postal Address - Marital Status - Office of Issue - Signature of holder - Name of issuing officer and signature - Date of signature - Date of Issue of ID - ID Number - Complete finger prints for both hands - Supporting Documents - Birth certificate if available - School leaving Certificate if available - Baptism certificate if available - Doctors age assessment - Chiefs certificate - Fathers ID; If single mother, mothers ID - Registration Certificate if previously alien - Own passport or Fathers/mother passport	- Verification - Other Registration Processes	- Civil status register - ID Card

Registration Agency	Activity	Inputs	Processes	Outputs
Registrar of Marriages	Registration of Marriages Types of Marriages - Civil Marriage - Christian Marriage - African Customary Marriage - Mohammedan Marriage - Hindu Marriages (*registered by the community*) NB: Customary are not registerable. - Islam marriages can be registered at the district Kadhi office - Civil and Christian marriages must be registered	**Personal Data Sets:** - Name of groom/bride - Age of groom/bride - Father of groom/bride - Status of groom/bride (single, divorced or widowed) - Place of marriage - Names and signatures of witnesses - Name and signature of officiating minister or registrar - Registration number **Supporting Documents** - ID's Groom/ Bride, or - Passport	-	- Certificate of Marriage - Register of Marriage
Judiciary	Registration of Divorces and cases	Petition for Divorce and cases (registered)	Hearing and Judgment	- Decree (certificate of Divorce)
Electoral Commission o f Kenya	Registration of Voters	**Personal Data Sets:** - Name - ID/Passport Number - DOB - Constituency **Supporting Documents** ID or Passports		- Voters Card with voters number

Registration Agency	Activity	Inputs	Processes	Outputs
Immigration Department	Registration of Aliens Types of Aliens - Refugees - Entry Permit Holders - Dependants Permit holders	**Personal Data Sets:** - Full Names - Country of Origin - Reason for being in the country - Date of arrival/entry - Port of entry - Sex - Date of Birth - Period of stay **Supporting Documents**	- Registration at Refugee organization - Registration at Immigration - Verification - Data is entered at Immigration	- Permit - Alien ID - Registration Certificate
	Issue of Passports		-	-
National Social Security Fund (NSSF)	Employee Registration	- Organisation Name - Physical and Postal Address - Number of Employees	- Opening File (Manual) - Data Entry (Electronic) - Opening of Account (Manual/Electronic)	- Employer Registration Certificate
	Member Registration	- Name of Employee - ID No - Personal Details - Employer Name and Address - Birthday - Date Of Regstration, - District, Location, Sub-location - Chiefs Name - Tribe - Profession - Marital Status, - Citizenship	-	- Registration No of Employee - Members Card - A and B Certificates
	Employee Data Entry (Electronic Data Capture)		- B Certificate Details Into Database	- Electronic Member Account

Registration Agency	Activity	Inputs	Processes	Outputs
National Hospital Insurance Fund (NHIF)	Employee Registration	- Name of Co - Physical and Postal Address	-	-
	Member Registration (done by Employers)	- Name Of Employee - Reg N<u>o</u> Of Employee - ID No, - Personal Details	- Data Entry	- Electronic Member Account - NHIF Certification