

The Institutional Structures and Models for Implementing the Kenyan National ICT Plan

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Part A: Background and Methods

I. Introduction

This project attempts to address several questions which are aimed at helping the Government of Kenya successfully implement its ICT policy after that policy is finalized. Improving Kenya's ICT institutions can have remarkable impacts for economic development in Kenya. The goal for Kenya is to create a "capable state," with well-designed government institutions as well as effective and legitimate government institutions.¹

Goals and Objectives of the Study

The general terms of reference of this study aim to identify and critique the current institutional structures for the impending implementation of Kenya's ICT policy. In addition, this study recommends optimal institutional structures and strategies which will facilitate the implementation of Kenya's ICT policy.

Questions Presented

The researchers have been asked to determine answers to the following questions:

- Which existing institutional structures for national ICT policy implementation/delivery are presently in place in Kenya?
- Which organizations in Kenyan government have essential and secondary mandates that relate to the governance of ICTs?
- Which mandates and legislation do these organizations operate under, where relevant?
- Are the existing organizations operating optimally?
- What can Kenya learn from other nations' institutional arrangements?
- What recommendations can improve Kenya's institutional arrangements and strategies for managing ICT?
- Should Kenyan ministries and organizations be reorganized, and if so, how?

Structure of the Paper

In terms of structure, this paper is organized into various sections, including an executive summary, a background section, a discussion of the research methodology employed, a review of existing policies and organizations, a comparative institution section, an analysis section and a recommendations section.

II. Executive Summary

This project is designed to assist the Government of Kenya (GOK) to identify and critique the current institutional structures for the impending ICT strategy and policy implementation. This section presents a summary of the researchers' findings and recommendations.

The researchers have summarized the information they have gathered on the first three questions posed by the Ministry in the table below. A detailed discussion of these issues may be found in section VI.

- ◆ Which existing institutional structures for national ICT policy implementation/delivery are presently in place in Kenya?
- ◆ Which organizations in Kenyan government have essential and secondary mandates that relate to the governance of ICTs?
- ◆ Which mandates and legislation do these organizations operate under, where relevant?

Figure 1: Organizations with Responsibilities Related to ICT²

ORGANIZATION	DATE FOUNDED	AFFILIATED MINISTRY	EMPOWERING LEGISLATION OR AUTHORITY	MANDATE	POLICY ROLE?	IMPLEMENTATION ROLE?
Organizations with Primary Responsibility for ICTs in Kenya						
Communications Commission of Kenya (CCK)	1998	Ministry of Information and Communications	Kenya Communications Act	Licenses and regulates telecommunications, radio communications and postal services in Kenya Allocates frequencies for communications and broadcasting	Yes ^a	Yes
National Communications Secretariat (NCS)	1998	Ministry of Information and Communications	Kenya Communications Act	Advises the government on communications policy	Yes	No
Government Information Technology Services (GITS)	2000	Ministry of Finance	Government reorganization of Micro Information Systems Department	Provides computer services to government ministries, departments and selected parastatals	No	Yes
Directorate of E-Government Office of the	2004	Cabinet Office, Office of the President	Cabinet Approval of E-Government	Oversee implementation of e-government strategy	Yes	Yes

^a The KCA 1998 does not specify a policy role for the Communications Commission of Kenya. However, in practice, CCK does carry out several policy functions.

ORGANIZATION	DATE FOUNDED	AFFILIATED MINISTRY	EMPOWERING LEGISLATION OR AUTHORITY	MANDATE	POLICY ROLE?	IMPLEMENTATION ROLE?
President			Strategy			
Appeals Tribunal	1998		Kenya Communications Act	Arbitrate disputes under KCA	No	Yes
Telkom Kenya Ltd.	1998	Ministry of Information and Communications	Kenya Communications Act	National telecommunications operator	No	Yes

Organizations with secondary involvement with ICTs in Kenya						
National Council on Science and Technology NCST		Ministry of Education Science and Technology	The Science and Technology Act, Chapter 250 (Laws of Kenya), Revised Edition 1980	Determine the needs and priorities for scientific R & D required in Kenya Advises the Government on Science and Technology Policy	Yes – Science & Technology policy	No
Central Bureau of Statistics CBS		Ministry of Planning & National Development		Collects stores and disseminates statistics required for national planning	No	Yes
KIPPRA		Ministry of Planning & National Development		Responsible for research activities including information on ICTs.	Yes - Advisory	No
Department of Technical Training		Ministry of Education, Science and Technology		Inspection and supervision of all technical training institutions in Kenya	No	Yes
Kenya Broadcasting Corporation (KBC)		Ministry of Information and Communication	The Kenya Broadcasting Corporation Act	National public broadcaster (radio and television)	No	Yes

◆ Are the existing organizations operating optimally?

The core organizations including CCK, NCS, the E-government Directorate all appear to be fulfilling their assigned functions. There was no evidence of duplication. However, there is evidence of significant role confusion, however. Although the organizations seem to have a clear understanding of their individual missions, they are uncertain of their relationship to one another. Further, they lack an overall coordinating mechanism. Although there is some high level interaction between the named entities, it is ad hoc and not frequent enough. There is little interaction between entities at the lower levels. At least one half of Kenyan ministries lack core technical ICT staff, and recruitment and training of ICT staff is haphazard. Most staff in Kenyan ICT Units do not have adequate education and training in ICT. Ministries must require a higher level of training for ICT staff and must properly remunerate staff so that they retain quality employees. Not every Kenyan Ministry receives an allocation for ICT in its annual budget. This is partly due to a lack of e-leadership within ministries, and partly due to a lack of policy coordination regarding e-government as a whole.

◆ What can Kenya learn from other nations' institutional arrangements?

First, ICT championship in other East African nations studied takes place at the highest level of government. The ICT Champion is either the President or the Prime Minister depending on the structure of government. Further, ICT is considered to be a strategic resource, and therefore national ICT planning is an integral part of national socio-economic development planning. In the countries studied, a relatively high proportion of national resources have been allocated to ICT. For example, Rwanda, with a relatively small GDP in comparison to Kenya, allocates significantly more resources to ICT than Kenya. Importantly, structures are in place to address ICT issues in various ministries. Further, most countries have established elaborate institutional mechanisms for ICT strategy development and implementation.

◆ What is the role of Civil Society and the Private Sector in Kenya's ICT Arrangements?

In the recent past a number of trade association and civil society groups have emerged which have had an impact on Kenya's ICT Policy Process.^b The most notable among these are Tespok, KIF and Kictanet. Tespok represents the telecommunications providers in Kenya. Tespok has lobbied government regarding IXPs and VSATs, encouraged the government to establish the Ministry of Information and Communications, and has set up exchange points with other countries. KIF is the umbrella body which brings together all private sector organizations with an interest in ICT. Tespok and the Computer Society of Kenya are members of KIF.^c KIF has lobbied vigorously for the finalization of Kenya's ICT Policy. Kictanet is a recently formed multi stakeholder Inetwork. Kictanet has collected comments from various stakeholders regarding the ICT policy and forwarded them to the MOIC. Overall, the relationship between civil society, the private sector and government with regard to ICT has improved since the last election. The entities are working more closely, and civil society and the private sector are taking an interest in building government capacity in this sector.

^b The body of this document focuses on the role of government organizations and institutions with respect to ICT. A discussion of civil society and private sector is outside of the scope of the terms of reference.

^c A more detailed discussion of the role of KIF may be found in chapters by Mike Eldon, Warigia Bowman and Charles Nduati in a forthcoming book published by IDRC.

- ◆ What recommendations can improve Kenya's institutional arrangements and strategies for managing ICT?

In the interim, the researchers recommend the following changes which will result in a partial reorganization of ICT in Kenyan Government:

- Strengthen and expand the E-Government Directorate staff
- Ensure that GITS reports to E-Government Directorate
- Energise Ministerial ICT Committees
- Implement existing recommendation to create ICT departments in Ministries
- Improve ICT human capacity in Ministries
- Strengthen the role of NCS on policy while encouraging a culture of openness in policy development

In the long term, the researchers recommend a more radical restructuring of ICT structures in Kenyan Government:

- Create a National ICT Body staffed by a Secretariat and backed by legislative authority with a board having representation from all key stakeholders, including relevant government ministries, academia, the private sector and civil society
- The National ICT Body will coordinate policy for ICT across all sectors in the nation. Openness will be assured by the multi-stakeholder board
- Ensure the presence of an ICT champion at the highest level of government
- Empower CCK as a truly independent regulator and make CCK the regulator for ICT, including broadcasting
- Create an Inter-Ministerial ICT Committee where PSEs meet to coordinate
- Strengthen the Ministry of Information and Communications. The MOIC will coordinate and implement all ICT matters within Kenyan Government.
- Strengthen ICT departments in ministries
- Consolidate ministerial ICT committees
- Encourage a culture of transparency, openness, accountability and responsiveness to the public in ICT

III. Background

This section provides relevant background and context regarding

- Statistics and information regarding the state of ICT in Kenya
- What policies and instruments currently govern the ICT sector
- Where organizations draw their mandates from

What is ICT?

In the past fifteen years, many actors, including the private and commercial sector, the international donor community, local community based organizations, and governments themselves, have expressed strong interest in the subject of increasing the distribution of information communication technologies (hereinafter “ICTs”) in Africa.

ICTs generally refer to landline and cellular telephones, wireless technologies, computers, and Internet, computer software and hardware, as well as older communication technologies such as radio. Kenneth Aduda of Daystar University defines ICTs as “all hardware, software and services that relate to information processing, communication, and handling, as well as all business activities that depend substantially on the above.”³ Accordingly, ICTs refer to a conglomeration of products and services that help people communicate faster and more efficiently and help remove the obstacles traditionally posed to communication by time, space and the amount of data. Many observers believe that improving the access of developing nations to ICTs may help promote economic and social development, create jobs, and facilitate global competitiveness.⁴

Status of ICT in Africa

Among developing nations, Africa has the lowest telephone densities in the world and the lowest level of Internet connectivity even when compared to less-developed areas such as Eastern Europe. In response to this deficit, over the past five years, numerous African governments have made policy commitments to developing formal ICT policies in their nations. Many African governments began these policy initiatives in the late 1990s at the behest of donors.⁵

Yet, within Africa, there is wide variation from country to country regarding success in completing and implementing such policies. Some African nations, such as Rwanda and Uganda, have moved beyond planning and have begun the process of developing organizations to administer such programs. Others, such as Ethiopia, lag far behind. Kenya is currently developing an ICT policy. In comparison with other African nations, Kenya is a middle case in terms of the ICT policy process.

Current Status of ICT Infrastructure and Diffusion in Kenya

Kenya has been ranked a low access country with regard to ICTs according to the World Telecommunication Development Report. Most African countries share this ranking. In

Kenya, 6.5 per cent of businesses use computers, one per cent use the Internet and .1% (one tenth of one per cent) has an Internet presence.

ICT Use is Concentrated in Urban Areas

The usage of ICT is related to access to ICTs. Although Kenya has one of the more developed ICT infrastructures in Africa, Kenya's telecommunications infrastructure is primarily concentrated in urban areas, particularly Nairobi and Mombasa despite the fact that the majority of Kenya's population resides in rural areas. According to the universal access report prepared for CCK (2004) by Dr. Timothy Waema, the penetration of rural electrification is about 4%. It is an obvious point, but one that bears repeating that access to almost ICTs is impossible without electricity. Nairobi possesses 56% of fixed telephone line subscribers. On average, Kenyans travel more than 22 kilometers to reach the nearest Internet service access. Some Kenyans have never accessed a computer, particularly in regions such as North Eastern.⁶

Of the over one million Internet subscribers in Kenya, only a small elite own computers and has access to the Internet at home. A slightly larger group utilises computers at the office in non-governmental organisations, private industry, academia, and government in large cities. However, computer and Internet usage is largely confined to urban areas. For example, many businesses in remote arid and semi-arid rural areas such as parts of the Great Rift Valley and Northeastern Province operate the bulk of their services manually. Most Kenyan consumers in both rural and urban areas gain access to computers and the Internet through for-profit cyber cafes. A significant proportion of Internet accounts belong to cyber cafes. Cyber cafes are located in all first tier towns, such as Nairobi, Kisumu, Nakuru, Mombasa, and Eldoret. Although cyber cafes are found in some smaller towns, such as Nanyuki, they are limited to areas with electricity, a point of presence and an ISP. Thus, many second tier towns, such as Isiolo or Lamu, lack cyber cafes. Recently, the Postal Corporation of Kenya (POSTA) has installed cyber surf cafes in most of their post offices using very small aperture terminal (VSAT) technology. POSTA's efforts may be the key to universal access in rural areas.

According to the International Telecommunications Union (ITU), in 2003, out of a population of approximately 32 million, 328,000 had main telephone lines, approximately 1 and ½ million were cellular telephone subscribers, and 500,000 were Internet users. However, these numbers are growing rapidly. As of late 2004, the dominant Kenyan cellular provider, Safaricom, provided services to two million cellular customers. Indeed, according to the Kenya Institute of Public Policy Research and Analysis, the telecommunications sector is one of the most dynamic economic sectors in the Kenyan economy today.

Numbers of Users

The mobile telephone sector in Kenya and East Africa is growing rapidly. A study conducted by the East African Community in June 2003 indicates that among telephone users, mobile phone subscribers comprised 82.7 per cent of total subscribers, whereas only 17.3 per cent of the market was occupied by fixed line subscribers.⁷ These statistics are in line with international trends. Developing countries have experienced a sharp surge in the mobile telephony business over the past decade, with mobile subscriptions outpacing the demand for fixed lines.⁸

According to the Government of Kenya, by April 2004, there were seventy three (73) licensed Internet Service Providers (ISPs) in Kenya, sixteen (16) of which actually provide service. Recent estimates indicate that approximately 1,030,000 individual users and 1,000 cyber cafes and telephone bureaus have Internet accounts with these ISPs.⁹ However, all of these ISPs were dependent on one Internet gateway - Jambonet, operated by the monopoly provider Telkom, until June 30, 2004.

Despite the recent proliferation of privately operated and low cost Internet cafes in major cities such as Nairobi and Mombasa, the penetration of telephony, computers, and Internet in both rural and marginal areas is low. Only one person in a hundred has a main telephone line; only five in a hundred are mobile phone subscribers; and only 1.6 in a hundred are Internet users. Interestingly, Internet usage has outpaced fixed line phone penetration.¹⁰ The Government of Kenya attributes this low level of diffusion in large part to the high cost of equipment, poor telephone communications service, and the lack of a rural power supply.

The Policy Regime Governing ICT in Kenya

In the 1980s, the Kenya Posts and Telecommunications Corporation operated as the sole provider and regulator of telecommunication services in Kenya. In accordance with the structural adjustment programs of the 1980s, the privatization of Telkom was made a condition of the resumption of talks with the IMG and the World Bank. In the Sessional Paper No 2 of 1996, the GOK issued a major policy statement regarding the liberalization of the telecommunications sector. The deregulation process was further spelled out in a 1997 Sector paper. In 1998, the Kenya Communication Bill and the Postal Corporation Bill were passed in Parliament.¹¹

Below follows a summary of key government documents relating to ICT in Kenya to date.

A. Kenya Communications Act

The most influential document regarding ICT legislation and regulation in Kenya is the 1998 Kenya Communications Act. The KCA, which repealed the Kenya Posts and Telecommunications Act, provides the current framework for regulating the communications sector in Kenya.¹² The Act unbundled Kenya Post and Telecommunication into five separate entities including Telkom, the fixed line operator; the Postal Corporation of Kenya (Posta); the regulator, the CCK; and the National Communications Secretariat (NCS) and created an Appeals Tribunal for the purposes of arbitrating in cases where disputes arise between parties under the KCA. The 1998 Act further liberalised the telecommunications sector Telkom's monopoly in the fixed line arena was limited to five years, ending June 30, 2004. The Act further allowed the operation of two predominantly private sector mobile phone providers, licensed various ISPs, as well as private courier companies, and even allowed for the licensing of regional telecommunications operators.¹³

B. The Economic Recovery Strategy

In order to achieve faster growth in the ICT sector, the Kenyan government identified the following goals in the ERS: establishing an inter-ministerial committee to incorporate ICT into government operations; investing in adequate ICT education and training; implementing tax reductions and tax incentives on both computer software and hardware to make them affordable to micro-enterprises and low income earners; and reviewing the legal framework to remove impediments that have discouraged the adoption and use of e-commerce. Finally, the NARC administration intended to develop a masterplan for e-government by the end of June 2004.

C. Kenya's E-Government Strategy

Kenya issued an e-government strategy in March of 2004. The strategy was developed by a preparation team which drew its membership from numerous agencies and organizations. The e-government strategy aims to use information technologies to improve service delivery, "transform government operations and . . . promote democracy."¹⁴ The e-government strategy aims to modernize the Kenyan government by developing websites, networking all ministries, developing computer literacy among government staff, and computerizing office operations among other goals. The E-government strategy contemplates standards From an institutional standpoint, the E-Government Strategy created a directorate of E-government which is housed within the Office of the President. Further, the E-Government strategy contemplates a committee of Permanent Secretaries that is to meet regularly. The Kenyan government has committed to developing a four year, three phase electronic government strategy project beginning in June of this year projected to cost Sh2.5 billion (\$3 million). The project will include upgrading infrastructure, linking government ministries and departments to the Internet, establishing an internal communication system within government, and establishing a government portal.

D. Universal Access Report

The CCK collaborated with donors to commission a universal access report which was issued late in 2004. Although this document is not an official policy document, it provides crucial data and recommendations that will be essential in guiding policy decisions about this area. The report envisions a universal access plan for Kenya which provides accessible, available and affordable communications services and creates sustainable rural communications development.

The report notes that 90 of Kenya's divisions are un-served by most basic communications services, and recommends that the government target improvements in tele-density, electrification, Internet points of presence, as well as local content on the Kenyan Internet, as well as on local TV and radio stations. Further, the report recommends the establishment of integrated telecentres, and ICT training institutions with a focus on the affordability of communication services in rural areas. Finally, the report recommends the establishment of a Universal Access Fund to be funded jointly by the Government of Kenya and telecommunications operators and service providers as well as grants from development partners.¹⁵

E. Draft National ICT Policy

The Kenyan government has been working on an ICT policy for several years. However, observers may now say with certainty that the Kenyan government is currently moving towards finalization of an ICT Policy. The past two years have witnessed significant policy activity in this arena with the finalization of an e-government strategy, the issuance of a universal access report, the development of two ICT policy drafts, and most importantly, the acceptance of the GOK of the need for multi-stakeholder participation in the drafting process.

Accounts vary regarding when the ICT policy process began in Kenya. In December 2001, the Ministry for Transport and Communications issued the Telecommunications and Postal Sector Guidelines. According to the Communications Commission of Kenya, the ICT Policy "will replace the Telecommunications and Postal Sector Guidelines of December 2001 and set up an enabling framework for the . . . communications industry in Kenya."¹⁶ In its most recent incarnation, the NCS initiated the formal ICT policy process in February 2003 by releasing the first draft of an ICT policy and calling a stakeholders workshop. However, most of the entities giving input at that workshop came from the public sector. After the stakeholders provided inputs, it was agreed that the NCS should call for a second workshop. The NCS did forward a policy to the cabinet. However, the policy was not acted upon because broadcasting had not been integrated into that policy due to the fact that broadcasting and telecommunications were housed in separate ministries. In June 2004, the President merged broadcasting and telecommunications into the Ministry of Information and Communication. At approximately the same time that the universal access report was released, the Government of Kenya also released a draft of Kenya's National Information and Communications Technology Policy to the public.

The policy is far-reaching and covers many issues such as Telecommunication Services, Radio Frequency Spectrum, Universal Access and Market Structure. The Ministry of Information and Communication solicited public comment on the policy. Numerous public comments were received from academia, the private sector, civil society groups, and legal

observers, and submitted to the Ministry in late April, 2005. Comments covered issues ranging from universal access, education and workforce training in ICT, regulatory matters, gender and youth concerns, and the use of ICT for development and poverty reduction. If the ICT Policy is finalized and appropriately incorporates public comment, it could provide a strategic direction for Kenya's ICT policy. If the existing E-government strategy and the universal access report are harmonized and incorporated into any final approach, Kenya will be well on its way to attaining a strategic framework for approaching ICT as a development tool in the government, in the private sector, and in underserved rural areas at all levels.

IV. Research Methodology

Data Collection Approach

The data collection approach used to research this paper is both empirical and qualitative. Empirical means that data is collected from primary sources using interviews, surveys or observation. In other words, data is collected from primary sources with first hand knowledge of events and context. In this study, data was collected by review of secondary documents and interviews with key informants. Data collection in this study will continue until completion of the final draft.

Data Collection Instrument

Qualitative research aims to reveal how the parts work together to form a whole. The key concern of qualitative research is understanding the phenomenon of interest from the participants' perspective. Qualitative inquiry requires a data collection instrument which is sensitive to underlying meaning when gathering and interpreting data. In accordance with this procedure, the researchers developed a three page "semi-structured" protocol to guide their interviews with key Kenyan government officials in the ICT sector. The phrase semi-structured refers to the fact that the protocol is a guide for the researcher. It helps the researcher and the informant to stay focused on the key questions and not stray from the topic at hand. However, informants often have insights and suggestions which would enrich the knowledge base of the project but are not adequately captured in the protocol. In these instances, in order to capture valuable information not predicted by the protocol, the researcher may let the informant's insights guide the interview for a time. The researcher will then return to the protocol when appropriate.

Selecting the Sample

Since the goal of the study is to describe and analyze organizations and institutions in Kenyan government, the best tactic is to interview persons who are especially knowledgeable or experienced. Further, it is important to include as respondents persons who view the topic of IC in Kenyan government from different perspectives or who have knowledge about different aspects of it. In order to achieve these goals, the researchers assembled a panel of knowledgeable informants. In studying an organization or organizations, interviews should be held with individuals in different jobs on different levels, in different relationships to the matter being studied, and from different formal and informal groups.¹⁷

Use of Purposful Sample

In this case, the sample selected was a "non-probability sample." Specifically, this paper uses a "purposful" sample.¹⁸ The aim of a purposful sample is not to create a random,

representative or average pool, but rather to locate information rich informants. This non-probability sample combined a “maximum variation” and a “snowball” approach.¹⁹

Maximum variation seeks to create a small sample of great variety which represents the widest range of characteristics of interest for the study. In this case, that meant seeking out civil servants and political appointees from the widest possible range of agencies in the Kenyan government who work with ICTs. Second, this study used a modified snowball approach. In other words, key informants refer you to other key informants. In this case, in order to compile the initial list of informants, we worked with two key informants, one in academia and one in the private sector. As the study has continued, we have supplemented our list with names of informants referred by informants previously interviewed. In total, our aim is to interview approximately twenty informants.

To date, we have interviewed approximately ¼ of our proposed study participants and interviews with key participants continue. Researchers generally advise that interviewing stop when the saturation point is reached, in other words, when the information obtained from new informants is redundant or peripheral.²⁰

Documents Reviewed

In addition to various secondary sources, the following primary source documents were reviewed as part of this study.^d

- The Kenya Communications Act, 1998
- The Draft Information Technology Act, 2002
- Economic Recovery Strategy for Wealth and Employment Creation, (2003-2007) 2003
- Draft National Information Communications Technology Policy, 2004
- Final Report for the Universal Access to Communication Services, 2004
- E-Government Strategy, 2004
- Final Report for the Universal Access to Communication Services: Development of A Strategic Plan and Implementation Guidelines, 2004
- National ICT Policy of Tanzania, 2002
- Recommendations on Proposed Review of the Telecommunications Sector Policy 2005 (Uganda)
- First Draft National Information and Communication Technology Policy 2003 (Zambia)
- An Integrated ICT Led Socio- Economic Development Policy and Plan for Rwanda, 2001-2005

List of Respondents

The researchers interviewed a number of respondents in the private, public and non-profit sector to collect the data for this report. A list of interviewees and affiliated organizations follows. For the purpose of protecting confidentiality of informants, it is requested that this

^d A full reference list in standard citation form follows at the end of this study.

list not be circulated in the general report, but only be reviewed by principals and the reviewer and stripped from the public report.

Sector	Name of Informant	Affiliated Organization
Government	Anonymous (interview conducted by Warigia Bowman for separate research) ^e	National Communications Secretariat
Government	Christopher Kemei (interview conducted by Maureen for CATIA)	Communications Commission of Kenya
Government	Christopher Kemei	Communications Commission of Kenya
Government	Vincent Okongo	E-Government Directorate
Government	Juma Okech	E-Government Directorate
Government	Andrew Limo	E-Government Directorate
Government	Andrew Gakiria	E-Government Directorate
Government	Anonymous (interview conducted by Warigia Bowman for separate research)	KIPPRA
Government	Erastus Ndekele	GITS
Government	Barnabas Sang	Ministry of Education
Non-profit sector	Alice Munyua (interview conducted by Warigia Bowman for separate research)	APC/CATIA
Industry	Charles Nduati (interview conducted by Warigia Bowman for separate research)	KIF
Industry	Joseph Mucheru	Wananchi Online

Threats to Validity: Problems Accessing Government Informants

The researchers have encountered a significant hurdle in the course of this research. Although this is a government project designed to help the Kenyan government run more efficiently, many government civil servants were unable to grant interviews for one reason or another. Further, some civil servants have granted interviews but have then been unavailable when the researcher arrived.

The researchers have worked closely with IDRC to set up interviews with the National Communications Secretariat, using telephonic and electronic means but have not been able to

^e The researchers have conducted more than thirty personal qualitative interviews on the topic of ICT policy in Kenya for other work. Because those persons did not give their consent to have their work used in this context, their names do not appear above. The only names appearing are those of persons who consented. Due to the paucity of government officials who responded to requests for interviews, the researchers used two old interviews with government officials but granted them anonymity.

get through. The interviewers were able to get through to KCST, and CBS to set up interviews. However, the informants were not available at the designated interview time. As noted above, where there was a gap in information, researchers relied upon previous interviews with other informants.

Where researchers arrived at an office and the informant was unavailable, the researchers left a copy of the Ministry of Planning introduction letter with a handwritten note asking to reschedule the interview.

The researchers believe that their work will be strengthened and that the Government of Kenya will derive more utility out of this report if access to key organizations such as NCS can be interviewed. The researchers request additional support from the Ministry of Planning in these efforts before publication.

Part B: Results and Analysis

V. Key Kenyan Organizations and Institutions in the ICT Sector

This section provides readers with background and context regarding

- Which existing structures in Kenyan government which have responsibilities related to ICTs
- How those structures were created
- What legislative or political source they derive their mandate from

Overview of ICT Related Kenyan Governmental Organizations and Institutions

Brief Review of Organizations with Primary ICT Responsibilities

As of 2004, responsibility for ICT resides in a number of agencies in the Kenyan government. Until recently, responsibility for ICT matters was distributed between two ministries: Transport and Communications as well as Information and Tourism. Transportation and Communications was responsible for telecom and postal whereas Information and Tourism was in charge of electronic media.

In a cabinet reshuffle in late 2004, the Ministry of Transport and Communications was changed to the Ministry to Information and Communications in 2004. According to some observers, the previous Minister of Transport and Communication had an uneasy relationship with the private sector. As was the case with his predecessors, the permanent secretary's attention under the old ministry was primarily focused on the transportation sector with less attention paid to the telecommunications sector. This major institutional reform which resulted in the rationalization of these Ministries has been greeted with enthusiasm by sector observers. According to interviewees, the old system created delays and logistical problems. The creation of the new ministry has reduced logistical problems and presented a new opportunity for unifying the policy framework.

In addition to the newly reformed Ministry of Information and Communications, there are four crucial organizations which deserve further detailed discussion, these are the Regulator: the Communications Commission of Kenya (CCK); the Government Information Technology Service (GITS) which provides computer and technology support for Ministries; the National Communications Secretariat (NCS) which is to advise the government on communications policy. NCS and CCK both reside within the Ministry of Information and Communications. CCK is an independent parastatal, whereas NCS is a ministerial department. Finally, an important new organization has emerged worthy of comment, the Directorate of E-Government. Importantly, as Dr. Timothy Waema observes in the final universal access report, "It is not clear which arm of the government deals with matters relating to IT. . . There is no regulator for the IT sub-sector."²¹

Despite the presence of these major agencies, ICT policy matters still remain widely distributed throughout the Kenyan government. In addition to establishing the NCS and CCK, the Kenya Communications Act also put in place an Appeals Tribunal for the purpose of arbitrating in cases where disputes arise between the parties under the Act. The Ministry of Trade and Industry has established a national task force on e-commerce.

Brief Review of Other Organizations with Secondary ICT Responsibilities^f

In addition, the Ministry of Education, Science and Technology has a mandate under the National Council of Science and Technology to handle ICT although the researchers are still investigating the nature of that mandate. The Kenya Bureau of Standards supervises and develops standards on many telecommunications related projects such as transmitters, masts and towers. KIPPRA conducts research activities and is currently involved in several ICT related research projects, including one on alternative providers of service. Finally, the National Environmental Management Authority approves installations of large equipment, such as masts and towers and conducts the Environment Impact Statements.

Detailed Description of Key Kenyan Governmental Organizations Responsible for ICT

CCK

CCK is a parastatal.^g In accordance with the KCA 1998, the CCK regulates the telecommunication sector and oversees the activities of investors with interests in telecommunications installations and operations. The purpose of the CCK is to license and regulate telecommunications, radio communications and postal services in Kenya. In addition, according to official documents, “the CCK is responsible for developing and coordinating the policies and strategies with respect to telecommunications services in Kenya.”²² The CCK was established by the Kenya Communications Act of 1998. According to informants, CCK quickly began serving its legislatively mandated function immediately after its establishment as staff were simply reassigned from the previous postal and telecom entity. CCK is recognized as a legal entity. CCK is the regulator of the majority of the ICT sector in Kenya. The Commission is managed by a board of directors. The Act allows as many as eleven commissioners and eleven are currently in office. The frontline management of the commission is vested in the Director General. A new set of commissioners and a new director general were appointed on May 12, 2005.

GITS

The current Director of the E-Government Directorate played a key role in the creation of GITS. An entity much like GITS was entitled government computer services and the micro-information systems department (MISD). In 2000, MISD was abolished and GITS created. GITS provides computer services to government ministries and departments and some parastatal organizations. GITS writes relevant computer applications, updates existing systems, evaluates system design and conducts feasibility studies. The agency aims to ensure ICT standards within government organizations. GITS remains a technical entity. The head of GITS is at the director level. According to interviewees in government, to date, GITS services have focused primarily on the headquarters of ministries, which are predominantly based in Nairobi.

^f Because interviews are still ongoing, this section will be elaborated in the next draft.

^g Structurally, CCK appears to report to the Ministry of Information and Communications. Yet CCK is a parastatal. The researchers are attempting to clarify the structural relationship.

NCS

Section 84 of the Kenyan Communications Act establishes the National Communications Secretariat. The NCS advises the Kenyan government, particularly the Ministry of Information and Communications, on telecommunications policy. NCS is the only key organization with an explicit, legislatively mandated, policy function. NCS is to pay particular attention to policies which promote the development of technological capabilities, deliver social services and foster economic growth, encourage competition and efficiency in the industry, among other goals. NCS, then, is the entity most clearly responsible for telecommunications policy within the Kenyan government.

NCS took several years to 2001 to get started. NCS advises, government makes policy.

E-Government Directorate

The E-government Directorate was founded in March of 2004. The Director of E-Government was appointed in September 2004. The current ICT Secretary and Director of the E-Government Cabinet Office has, by his own report, been on the job actively since January.^h According to interviewees, the Cabinet saw the need for ICT and thus mandated the creation of this entity. The E-government Directorate is called for as part of the structural composition of the e-government strategy.²³ The official purpose of the E-Government Directorate, according to the Strategy, is to oversee implementation of e-government strategy, and assist the Kenyan government to more effectively deliver services to citizens. The E-Government Strategy proposes that each Ministry have its own ICT department.

In terms of actual day-to-day work, the E-government Directorate focuses on three main areas, Government to Government services (G2G), Government to Citizen Services (G2C), and Government to Business Services (G2B). Among other tasks, the E-Government Directorate evaluates GOK websites for content, usefulness, and relevance; holds breakfasts with information and communication offices; tries to stimulate the interest of civil servants in e-government; highlights the ways that offices can use ICT to cut down on costs, and organizes training for staff within ministries. Further, the economists on the staff provide advice on the automation of the GOK budget. Importantly, the E-government directorate is implementing emails for all civil servants.

^h The E-Government Directorate operates with a small staff of two economists, two secretaries, two technical staff, the Director, a PR officer, and a policy analyst.

VI. Results and Analysis

This section is intended to be diagnostic, and help the Ministry of Planning to evaluate the problems and successes experienced in using the structures that are in place. This section provides answers to the following questions

- How to the existing structures function?
- What coordinating mechanisms are in place?
- What problems have been experienced in using the structures to achieve the respective mandates?

To prepare this section, the researchers used the qualitative research methodology as described above. The researchers interviewed key informants within and outside of the Kenyan government. Interviewees' were sent a copy of their interview to double check for accuracy. Interviewees responses to main questions were typed, coded and organized by theme. Illustrative quotes were included for emphasis, which is a standard ethnographic technique. This method of qualitative analysis is frequently used in political science and sociology.

Accordingly, the ideas presented here are not the researchers' opinions. Rather, they represent a presentation, summary and synthesis of comments made by interviewees themselves, all of whom have first hand experience with ICTs within the context of Kenyan government operations. All observations are grounded in and based on the perceptions of interviewees as corroborated by relevant primary source documents. The interviews are on file with the researchers.

Functioning of Existing Structures

Duplication

As a caveat, the researchers believe that some duplication in government processes is inevitable, and indeed desirable. It is not necessary to completely eliminate duplication in order to have a smoothly functioning ICT policy implementation. With respect to the data collected for this study. When asked directly, no interviewee mentioned that duplication was a severe problem. Two interviewees succinctly expressed the consensus

“I don't see any overlap. There are no functional overlaps. Each has its own niche.”

However, despite the consensus that the organizational roles did not duplicate each other, there was some role confusion, as discussed below.

Existence of Coordination Mechanisms

This research has to date uncovered no evidence of an overall coordinating mechanism which links all entities, ministries, and organizations with an IT mandate. Based on the research done up to this point, meetings regarding ICT tend to be ad hoc. There is no clear convening

authority and decisions tend to be made in a top down fashion without attention to whether the message is penetrating to lower levels.ⁱ

“Is there a coordinating mechanism in place? None that I know of. Organizations and agencies tend to get together in a reactive fashion. This is an issue-driven process.”^j

There are organizations within the Kenyan government which do attempt a coordinating function, however. At the highest level the permanent secretaries meet regularly to discuss ICT related matters. For example, in the past few weeks, the permanent secretaries met over breakfast to discuss e-leadership. This is as a result of the E-Government Directorate’s establishment of the “Permanent Secretaries Committee.”²⁴ Interviews with at least two permanent secretaries are needed to assess the effectiveness of this process. In terms of inter-ministerial coordination, for example, the Director General of CCK is the key liason with NCS.

As noted above, other researchers have noted that there is no organization in the Kenyan government with clear responsibility for IT matters. Currently, different aspects of this responsibility are shared among several entities, including the Ministry for Information and Communications, CCK, NCS, GITS and the E-government Directorate. Indeed, according to interviewees, one of the reasons for the founding of the E-government Directorate was to “harmonize” previously “disjointed efforts” in Kenyan ICT.

To date, the E-government Directorate is fulfilling something resembling a coordinating function, The staff at the e-government believe that they are supposed to ensure coordination, and their position finds support in the e-government strategy (see p. 18) However, the e-government’s directorate over their authority over the other entities has not been formalized and other organizations are not aware of it. Finally, the different core organizations are not meeting with each other frequently enough to indicate that a true coordination process is occurring.

Although the permanent secretary’s committee is an excellent start, the researchers are concerned that the permanent secretaries have many varied responsibilities and do not have time to convey key concerns regarding ICT to line staff. One interviewee noted

“People need more regular meetings. [We need to be] working together. The lower level meetings are not regular. More lower level meetings would help. Right now the system is very top down”

A similar observation holds with regard to all contact between key agencies being made at the Director General level. Based on the interviews conducted to date, it appears that coordination regarding ICT is occurring only at the highest levels. Communication at the lower levels has not been formalized. There does not appear to be a designated method of ensuring that lower level civil servants with responsibility for ICT matters meet on a regular

ⁱOne informant noted “People think there has been a lot of confusion in ICT, but it is not the case. I don’t see any confusion.”

^j In order to protect interviewees, the identity of persons making quotes are confidential. All interviews are on file with the researchers in both typed and hand written form.

basis. ICT officers report that they meet with each other informally. This initiative was self-started, by the officers themselves. In the last two months, the Deputy Director of GITS and the Director of E-Government have attempted to formalize these meetings.

Policy and Implementation: the Role of Different Entities

Four of the five key ICT entities, the MI&C, CCK, NCS, and E-Government Directorate serve some policy function. GITS appears to have a purely implementation role, although GITS did consult on the E-Government Strategy. NCS, by contrast, appears to have a pure policy role, with no implementation mandate. This section may provide insights regarding which entity should take responsibility for which parts of the policy.

CCK's role is predominantly an implementation role: "We take into account any policy recommendations from the Ministry. We implement. It is the responsibility of MI&C to develop government policy. CCK implements."

Yet the interviews reveal that CCK does have a key sectoral policy role to play. For example, CCK conducts a regular review of market structure in the telecommunications industry, both nationally and internationally, especially regarding convergence. Further, CCK does exchange views on policy and the regulatory environment with NCS—predominantly through the office of the Director General-- so that the organizations can synchronize their views. CCK believes dynamic issues such as market structure should be left to the regulator. Although CCK does not have an internal policy department, they discuss policy internally in a consultative fashion.

"We are in a unique situation to contribute to policy because we interface with licensees and with the public."

Further CCK provides its own enforcement based on a largely voluntary compliance model. In a simple case, CCK may simply inform an individual or firm that they are operating illegally and ask a licensee to comply within a certain period. In a more complicated case, the parastatal works with the police to enforce licenses. A firm may be warned, or equipment confiscated, Further, CCK has the power to impose penalties, such as shutting down an organization operating in violation of a license.

The E-Government Directorate also seems to play both a policy and an implementing role. In terms of implementation, they are actively involved in getting ministry websites running, and creating awareness within government entities regarding ICT. The Directorate organizes training and is putting emails in place for government staff.

The interviewees at the E-Government Directorate all described a strong policy role for their organization: "to see that there is efficient, effective service delivery using ICTs." The Directorate convenes the permanent secretaries regularly to brief them on ICT issues and also convenes the Cabinet ICT Committee. The Directorate is helping to guide the creation of the E-commerce framework with the Ministry of Trade, although some interviewees suggested that the process was moribund and requires revitalization. The E-Government Directorate has been very much involved in the creation of the Draft National ICT Policy, and indeed, the director has been reviewing the whole document as part of a Ministry team.

As one interviewee put it, the “core duty” of the E-Government Directorate is to “coordinate capacity building and infrastructure development for ICTs in government.” In the researchers’ view, this mandate may conflict somewhat with GITS mandate unless the Directorate is designated as the entity that tells GITS what Ministry to computerize while GITS remains in charge of the technical task of installing the “plumbing” so to speak.

The role of NCS appears to have changed throughout the years. Under the Transcom era, NCS was a much more closed organization. They were the core drafters of policy in that era. After the restructuring of the MI&C, all interviewees agree that the approach has become much more participatory:

“Lots of consultative meetings are taking place. This is a major departure. The level of consultation is higher than usual. The private sector has really been involved, they have been core.”

GITS concerns itself mainly with putting in place infrastructure. GITS is concentrating on finalizing headquarter offices within the next two to three years. GITS, which is based at Treasury, is supposed to implement IT within government. GITS, according to interviewees, is a purely technical entity tasked with giving ministries the computer services they need.

The Intra-Ministry Consultative Process

The Kenyan government has experienced some significant policy making successes. For example, the E-government strategy was developed by a team with representation from the Cabinet Office, the Department of Defence, the Central Bank of Kenya, the National Communications Secretariat, the Ministry of Health, the Communications Commission of Kenya, GITS and several other key organizations and ministries. This process was widely praised by all interviewees. All agreed that it was a consultative process which produced good results, quickly. Interviewees expressed appreciation that they had formal representation on the e-government policymaking team. The one critique made by both government civil servants as well as by outside observers was the lack of participation by outside stakeholders, such as the private sector and civil society.

Despite the deserved praise, this inter-agency consultative process has not been formalized and is not used consistently in ICT sector policymaking. Each policy appears to have been developed by a different process. For example, the E-government strategy was written in a collegial manner with the help of a representative interagency committee. The Universal Access report was commissioned by CCK with little input by NCS, and the e-commerce policy has been developed by the Ministry of Trade, although no interviewee reported any contact whatsoever with the Ministry of Trade. The first several drafts of the Kenya ICT policy were developed by NCS in comparative secrecy, until a more consultative process began to take place during the past year.

Some ministry staff were concerned that they were not adequately involved enough in the policy making process for the current national ICT policy.

“The draft was done by NCS. Initially there was some transparency. The draft was brought to us several times. We requested amendments. Yet amendments

were not made. We kept resubmitting our ideas and not seeing them reflected. The policy is not being done in an consultative process.”

Recently, the ICT policy process has become more participatory, with heavy involvement by NCS, and E-government as well as by citizen participants. GITS does not seem to have been closely involved, and CCK would like more involvement, although these perceptions will be verified throughout future interviews.

Problems Arising From Current Operation of Structures

Isolation of Component Parts from One Another

One of the most severe problems limiting the efficacy of Kenya’s current ICT organizations appears to be the isolation of each component part from each other. As noted above, since the inception of the E-government secretariat, efforts have been made to ensure that the permanent secretaries meet regularly to discuss ICT issues.^k However, at lower levels, data collected to date indicate that there appears to be is very little coordinated interaction between those in charge of ICT. In other words, networks between lower level civil servants working on ICT are absent or weak, and agencies are operating as isolated “stovepipes” with regard to ICT.

As an example of this isolation, among the top four key ICT agencies, relationships between civil servants appear tentative and meetings seem to be infrequent. Civil service informants at the CCK reported that they have “no relationship” with GITS, and that in fact, the people who were interviewed at CCK had not met with their counterparts at GITS for over the past one year.^l In addition, CCK staff indicated that they only converged with E-government directorate staff “rarely.” He noted, “We occasionally meet the e-government taskforce at functions.” In other words, even informally, the key entities with ICT responsibilities are not meeting on a regular basis. These descriptive statistics will be corroborated with other agencies in the next phase of the research.

Role Confusion

Despite the fact that there was little concern among interviewees regarding duplication, several respondents expressed haziness regarding their role vis a vis their counterpart agencies. This may be attributable to the fact that meetings between key agencies are infrequent and that the organizations roles with regard to each other have not been clarified in writing.^m

For example, most interviewees expressed some confusion about the advisory role of NCS. Indeed, some interviewees were not clear if NCS was part of the Ministry of Information and Communications, a parastatal or some other type of entity. Although NCS’s role is defined by statute, in practice, persons working on the outside of the organization believed that the administrative structure and the reporting responsibilities of NCS are far from transparent.

^k The researchers have not had an opportunity to speak with a permanent secretary to verify that these meetings do in fact take place or to assess the perceptions of the permanent secretaries.

^l The researchers scheduled two interviews with GITS staff, and both were cancelled.

^m Once the researchers have completed their interviews, they will provide the Ministry of Planning with their view of how the organizations should be arrayed in relation to one another and a proposed restructuring, if needed.

Similar fuzziness was expressed by those outside of the E-government directorate. Respondents outside of the organization had a “very vague sense [of the e-government directorate’s] mandate”

Capacity Issues

Human Resource Matters

Interviews with key informants indicate that approximately *one half of Kenyan ministries have no ICT staff of their own.*ⁿ

“In the private sector, computers are needed in places other than finance. ICT started to become its own section. This hasn’t happened yet in government. . . . Government is big. We need an MIS department in every department. Each ministry should have its own ICT system, like finance or like personnel.”

Clearly, coordination and implementation of ICT matters will be difficult for those ministries lacking basic ICT staff, even if the permanent secretaries are participating in the permanent secretaries committee.

Interviews with GITS indicate that the ICT staffing levels of ministries are very uneven. Some are very low. In theory, each Ministry has an ICT unit, however, many of them are understaffed or not staffed at all. Even the ministries with the strongest ICT Units, such as the Ministry of Education, report that they are overstretched, and have resorted to tactics such as hiring interns to supplement core duties.

In response to this deficit, as of July 4, 2005, GITS has seconded GITS staff to various ministries to shore up their ICT units. The researchers note this development with approval, but also observe that it is a stop gap measure that cannot substitute for the long term deployment of well trained ICT staff in each ministry. Further, the researchers are deeply concerned that the Office of the President and the Ministry of Information and Communications rated a low ranking in terms of ICT staff and E-readiness.

ⁿ This information was confirmed in interviews with the E-Government Directorate as well as the GITS.

Figure 2: Quality and Quantity of ICT Staff in Ministries, July 2005^o

Name of Ministry	Assessment of ICT Staff and E-Readiness as of July 2005	Number of Staff Seconded by GITS (July 4, 2005) to support ICT Units
Agriculture	Average	6
Attorney General Chambers	Average	5
Cooperative Development & Marketing	Low	5
Energy	Low	4
Environment & Natural Resources	Low	5
Foreign Affairs	Low	5
Health	Average	9
Justice and Constitutional Affairs	Average	6
Labour	Low	5
Lands and Housing	High	10
Information & Communication	Low	5
Livestock	Average	6
Local Government	Very Low	7
Education, Science & Technology	High	8
Finance	Very high	30
Information and Communications	Low	
OP – Cabinet Office and Directorate of E-Government	Low	7
OP – HQ, AP & State House	Low	11
OP – IPPD (DPM)		10
OP – DPM		6
OP – Police		5
OP – National Registration Bureau		4
OP – Public Service Commission		3
OP – Immigration		2
OP – DoD	Low	4
Planning & National Development	High	6
Regional Development & Authorities	Low	5
EA and Regional Co-operation	Low	4
Vice-President & Home Affairs		7
Roads & Public Works	Below Average	7
Tourism	Low	4
Trade and Industry	Low	6
Transport	Low	6
Water & Irrigation	Average	7
Gender, Sports, Culture & Social Services	low	5
Kenya Anti-Corruption Commission	unknown	3

^o More information on E-readiness will be available in the forthcoming E-Readiness Report.

Training

Among ministries that do have staff, they are almost entirely concentrated in the finance department. Furthermore, different agencies appoint different persons to handle ICT matters. According to interviewees, in many ministries, the selection of the staff in charge of ICT has often been based on who used ICT most frequently. Thus, according to interviews conducted for this research, many ministries have ICT officers who are officially trained as accountants or public relations officers and are not actually expert in ICT matters. Further, interviewees expressed a need for employees with technical know-how, who can, for example, design and maintain websites or run mail servers. Further, policy people need to be trained on the legal issues surrounding ICT. Further, interviewees noted that no uniform selection, grading and training system exists for ICT officers in the Kenyan government.

In terms of education, most ICT officers do not have formal university level training in IT. Instead, they tend to hold diplomas or certificates. This training level is inadequate. Each ICT Unit should have a minimum number of ICT staff with formal university education in computer science and informatics.

According to one Senior ICT Officer:

“Most ICT Officers have weak academic qualifications. They do not have adequate training, and few have any management skills. Further, there is a deficiency in technical training. Most have two year diplomas from a polytechnic or a technical college. . . .We would like to see more first degrees in information science, computer science and engineering, in addition to network and database certification.”

Infrastructure and Capacity

According to interviewees, government interconnectivity currently remains poor. All ministries are connected by a Wide Area Network (Intranet) which gives the Permanent Secretaries the ability to communicate with each other by email. However, communication within Ministries is not well-developed. Eight buildings remain completely unconnected by Local Area Networks.^P Three buildings have LANs that are complete or are being expanded. Another five organizations are in the process of having their LANs completed. Below, the researchers have provided a table summarizing the state of LAN development.

The use of money with regard to ICT in Kenyan government “is scattered and not planned. No one is planning.” Not all ministries get a line item for ICT in the budget. Interviewees attributed this matter to poor e-leadership. Interviewees attributed the poor states of those agencies to a lack of aggressiveness on the part of the responsible permanent secretary. Ministries that fight for money for ICT, such as Education, have received some.

Some ministries have very little, in comparative terms, in terms of computers, networks or infrastructure. Some examples of include Local Government, Health, and the Public Service

^P GITS has requested additional funding to complete these LANs.

Commission. There is hope that this situation will change in the very near term as GITS is concentrating on finalizing headquarter offices within the next two to three years.

One interviewee characterized the computerization process in government is characterized by one interviewee as “disappointingly slow, if there is any.” Mainstream ministries appear to be computerizing more slowly than parastatals, which come up to speed faster. One interviewee suggested putting a fiber ring linking ministries. He noted that the government is already spending more money than such a ring would cost, but that networking efforts are not coordinated and not efficient. Similarly, a separate interviewee at a different agency noted that he believes government hospitals could be interconnected within six months and that the savings would justify the initial outlay.

As noted in the universal access report, the government of Kenya faces serious problems regarding ICT connectivity in rural areas where the majority of citizens live. According to a high ranking interviewee, with regard to computer related infrastructures 95% of the government budget is spent in Nairobi. Another interviewee noted that the government ICT infrastructure at the district level is “pathetic.” Two other interviewees were concerned that district government offices were not online and believed that should be a goal for the GOK in the medium to long term. Stated one interviewee,

“Even telephones are disconnected. You have to send a vehicle [to get a message through] when you could have sent an email. You could get significant savings from connectivity. There are opportunity costs.”

The bright spot in this picture was the build-out of infrastructure by Posta. According to GITS, the provinces are completely unconnected. With adequate funding, GITS believes it could “wire” all provincial offices of all ministries within 6 months.

Figure 3: Status of LANS in Key Kenyan Ministries and Buildings

Local Area Network Complete	Local Area Network in Process of Construction	Local Area Network Incomplete (Not Connected at all)
Treasury and Planning (being extended)	Kenya National Audit	Statehouse
Education (Jogoo B)	Lands and Housing	Tourism
Agriculture	OP/DPM	Gender and Sports
	Transport	Regional Authorities
	Public Works	Cooperative
	Judiciary	Labor
	Police Headquarters	Regional Development
	Foreign Affairs	
	Maji House	
	Health	
	Home Affairs (Jogoo A)	
	Local Government (Jogoo A)	
	Justice and Constitutional Affairs	
	Prisons	

Procurement

One informant attributed the delay in the computerization mainstream ministries to delays in procurement.

“There is too much bureaucracy. The procurement process is not working. Projects are obsolete before they are implemented. People are supplied with 5 year old equipment. Procurement is extremely decentralized. We need a national procurement plan which can be implemented.”

Another interviewee was concerned that the procurement process interfered with core ICT agencies obtaining needed resources. He noted that time delays interfered with project implementation, and stated that his agency could not get much needed software easily due to slow processes. For example, agencies cannot buy software online. Procurement procedures within the Kenyan government remain paper based. They have not been placed online.

One interviewee believed the Kenyan government was missing an opportunity to reduce reliance on imports. Due to its large purchasing power, the Kenyan government is in a position to encourage increased assembly and manufacture of computers within the country.

Is the Government of Kenya Prepared to Implement an ICT Policy?

Most interviewees lacked confidence that the government was completely ready to implement the ICT policy. Their concerns fell into three categories, inadequate staffing, unclear role assignment vis a vis the policy, and weak support systems for computer rollout and policy change.

The first concern was a technical one:

“we don’t have sufficient technical persons on the ground. We don’t have enough trained ICT officers. . . . We need a competency team in every ministry with specialized skills including security, web design, and network administration.”

A second concern was the lack of clarity regarding roles. Where roles were clearly assigned, interviewees felt confident that they could implement relevant aspects of the policy. For example, CCK felt confident that it could implement issues related to telecommunications liberalization. Yet, interviewees felt that it is not clear from the policy which agencies will implement which components.

“It is not clear who is in charge of what regarding the policy.”

Further, some interviewees weren’t that familiar with the draft national ICT policy in the first place. Interviewees suggested that as a part of the ICT Policy drafting process, all regulatory functions with regard to ICT should be enumerated and assigned to relevant agencies.

A third concern was that the GOK had not implemented adequate support and security procedures. By security, the interviewees were referring to the idea that an unprotected

system could be hacked into by intruders and valuable and sensitive government data stolen. Another security concern may be theft of hardware.

“Rolling out computers is different than having systems working. The launch of the ICT policy should be followed by very strong support. . . . There is no security section now.”

Put differently, interviewees believe that there needs to be support on the ground with adequate technical staff, clear roles, and security procedures to ensure the successful implementation of the ICT policy.

Change Management

Many interviewees mentioned that for the implementation of ICT in government to be successful, or for the implementation of the ICT policy to be successful, efforts should be made to promote change management. One interviewee noted that some civil servants who have worked for years without computers are resisting computerization.

“The issue is the management of rapid change. We need ministerial e-leadership. The entire structure for government has to be understood. [We need] awareness. The PSEs need to support change management and business processes.”

Another interviewee noted that staff from the PS level down to the level of personal secretaries must be persuaded that using ICT effectively is in their best interests and will enhance performance and efficiency.

Conclusion to Analysis Section

Description of Current Functioning

In summary, the GOK has many strengths in the ICT arena, but there are some structural weaknesses. In terms of strengths, there has been a burst of activity in the ICT arena at the government level over the past several years. The existing key organizations are fulfilling their designated roles fairly well. The CCK is an effective regulator and enforcer, NCS has helped produce several policies, and the newly established Directorate of E-Government is making strides in helping the government to modernize in the information age. In terms of strengths, the consultative process used for the E-Government Strategy has been a qualified success. Further, the researchers applaud the decision in June 2004 to create a Ministry (Ministry of Information and Communication) where the information and communication functions of government were brought together. The ICT policy process has also been fairly consultative, and successfully included participation from outside stakeholders. This is a new direction in Kenyan policymaking, and a positive one. Finally, a key strength in Kenya's current ICT structures is found in the creation of the Office of the ICT Secretary and the appointment of a capable person to that position.

In terms of weaknesses, there is a weak linkage between GITS and the E-Government Directorate. There is no mechanism for coordinating other units in government with mandates for ICT, such as NCST, and the Department of Technical Training in the Ministry of Education Science and Technology. They are completely isolated from the Ministry of Information and Communication and the E-Government Directorate in the Office of the President. Also connections between GITS and other key ICT entities are weak.

The E-government directorate is currently playing somewhat of a coordinating role, but in an informal, ad hoc manner. No entity has been officially designated in charge of regulating or administering IT.

There is confusion in ICT policy development. For example, the Ministry of Trade focuses on E-commerce whereas the Communications Commission of Kenya focuses on universal access, while NCS is trying to develop the overall national ICT policy. The permanent secretaries are supposed to fulfill this role. However, ministry ICT activities are ad hoc and disjointed. Finally, permanent secretaries do not currently have the resources or information they need to coordinate with their peers because they are divorced from the IT realities within their ministries.

There is no official coordinating mechanism for ICT in Kenya across ministries. For example, the four core organizations, the E-government Directorate, the CCK, NCS, and GITS are not meeting regularly. There is lack of coordination between donor-funded ICT policy initiatives sited in various ministries.

Outside of Nairobi, the GOK remains completely manual. Despite the recent publication of the universal access study, there is no indication that government offices at the provincial or district level will be computerized any time soon. Indeed, many local offices may lack functioning fixed line telephones.

Some of the key consequences of the disjointed nature of Kenya's ICT institutional framework are:

- Computerization of ministries, even in Nairobi, is uneven
- In the ministry headquarters, there is a lack core ICT staff
- Money on ICT related projects has not been distributed in a planned and organized way, and is not being used where it could be most effective.
- Wastage of scarce resources due to duplication of ICT resources across ministries
- Management Information Systems do not function optimally partly because their design does not benefit from the views and needs of other relevant units
- There is no integrated ICT strategy
- There is no publicly available information regarding what is happening in ICT in the Kenyan government
- Uncoordinated donor initiatives in various ministries do not exploit the synergies of intra and inter-ministerial collaboration and information exchange

VII. Review of National ICT Structures in Other African Countries

Rwanda

The national structure for development and implementation of ICT in Rwanda can be summarized as follows:

Figure 4: ICT Structures in Rwanda

Body	Key Mission or Responsibilities	Champion or Head	Reports to	Membership or Key Arms
National IT Commission (NITC)	ICT Policy Think-Tank with the mission to lead the process of creating the Rwandan information society and economy in line with the aspirations of the <i>Vision for Rwanda</i> Responsible for advising the Government on all matters relating to how best Rwanda can formulate, develop and implement its ICT policies, strategies and plans to accelerate the process of transforming Rwanda into an information-rich, knowledge-based society and economy	The President of Rwanda (Chairman)	The Cabinet and the National Assembly	Other members: The President of the National Assembly, the Prime Minister and a number of other senior Cabinet Ministers from key Ministries and distinguished representatives from the Private Sector, Academia, Civil Society, and Labour Organizations
Rwanda IT Authority (RITA)	A statutory and autonomous national agency that: Acts as the national ICT implementation and coordination body under the direct supervision of NITC Acts as the Secretariat of the NITC and have an administrative link and working relation with to the Office of the President, the Prime Minister's Office and the Ministry of Public Works, Transport and Communications - as its sponsoring Ministry	Executive Director, appointed by NITC	NITC	Directors in charge of the following Directorates: Administration and Finance Operations and Planning The National Computer Center (NCC) Research and Development
National Computer Center (NCC)	Provide ICT consultancy and other related services, on behalf of RITA, to Government institutions, agencies and other public and private sector organizations Provide technical advisory and support services to the NITC, the NITC - Working Groups and to various Government Ministries and other public and private sector organizations and establishments Serve as the technical arm of RITA to provide various ICT services to the Government and other public sector organizations without their own computer systems	Director, appointed by NITC	RITA Executive Director	
Ministry IT Directorates or Divisions	Provide ICT services to respective ministries	PS?		

Tanzania

In a 2002 draft national ICT policy, Tanzania reported the intention of establishing a National Information and Communication Technologies Commission (NICTCOM) with a broad mandate to promote ICT for Tanzanian development and to provide a home for the National ICT Policy. This institution would ensure that all policy statements and directions are properly translated into action and implemented effectively. More specifically, NICTCOM would perform the roles of coordination, implementation, monitoring, evaluation and review of national ICT programmes and activities. Some of these activities may be conducted by outsourcing, or in innovative partnerships with private, public and non-profit sector organizations.

NICTCOM would have representation from public and private sectors as well as civil society. Its institutional home and reporting line for NICTCOM would reflect the crosscutting, multi-sectoral, and multidimensional nature of ICT.

NICTCOM would be responsible for performing the following functions among others:

- Advise the government on updating the National ICT Policy from time to time at least on yearly basis;
- Create, adopt and update legal and regulatory frameworks from time to time and submit proposals to the government for action;
- Foster a harmonised competitive environment particularly in the public-private and community based sectors;
- Design mechanisms to supply feedback on implementation issues for further policy formulation and review;
- Encourage the implementation of this policy, set targets and performance indicators, and monitor the progress of implementation;
- Provide mechanisms for stakeholders to be involved in the implementation of policy, and the policy review and re-formulation process;
- Conduct and promote research into issues and ICT developments as they arise, feeding the research results back into the policy formulation process;
- Monitor and react to issues of ICT and digital policy, regulation, development, technology and governance at national, sub-regional, regional and global levels; and
- Become the focal point for coordinating ICT related activities.

Uganda

Uganda's national ICT policy (2002) recommended a National ICT Coordinating Agency representing the different stakeholders be set up to coordinate ICT activities. The Agency, to be called the National Information Technology Authority – Uganda (NITA-U), was to be charged with the following roles:

- (a) Acting as the lead coordinating agency in the implementation of the ICT development objectives
- (b) Fostering co-ordination of ICT initiatives in the country
- (c) Acting as a repository of ICT standards, registration and classification of documentation related to locally developed and imported ICT solutions.
- (d) Ascertaining status of ICT in the country through regular national surveys
- (e) Ensuring periodic review of the ICT Policy to match the rapid changes in the ICT sector
- (f) Establishing mechanisms for collaboration with the sector implementing bodies, policy and regulatory bodies
- (g) Co-ordinating infrastructure rollout at national and regional levels
- (h) Ensuring lower level coordination in implementing the policy, in line with the decentralization policy

Ministries and other development institutions were expected to integrate ICT into their development programmes and to initiate the necessary processes, procedures, and institutional arrangements for effective implementation of their relevant components of the ICT Policy.

The draft National IT Bill (2004), drafted by the Uganda Computer Services, the pre-cursor to NITA-U⁹, proposed that NITA-U, once established, would coordinate, monitor and be a supervisory body to promote national IT development in support of the principles of modernization of the country within the context of poverty eradication. This authority would be in charge of coordination of IT related services for government-wide use. The proposed authority in carrying out its objectives would be responsible for:

- Providing high quality information technology advisory services to government
- Be a source of official information and data relating to information technology in the country
- Promote the establishment of e-government in Uganda

⁹ As in May 2005, according to sources in the Uganda Communications Commission, NITA-U had not been established; the Bill for its establishment had not even been tabled in parliament. Most of the proposed functions are being carried out by the Uganda Computer Services.

Zambia

Zambia's draft national ICT policy (Nov. 2003) proposed the establishment of the following in order to ensure successful implementation of the ICT Policy:

- An independent and autonomous converged ICT Regulator with clear specification of responsibilities and powers

A National ICT Agency operating under the Office of the President, representing various stakeholders to coordinate the implementation of ICT activities in the country. This Agency would be mandated through relevant legislation to:

- Advise government on National ICT requirements and policy matters
- Ensure the achievement of the country's ICT vision in coordination with other stakeholders
- Foster and coordinate accelerated development of ICTs in Zambia at national level and in the decentralised local government system
- Assist national, provincial and district administrative and planning institutions to develop/deploy ICT programmes
- Promote the development and expansion of the ICT industry in Zambia in conjunction with relevant bodies such as the Zambia Investment Centre
- Facilitate universal access to ICTs by developing expansion programmes/targets for operators/implementers in conjunction with the Regulator
- Promote and coordinate broad based ICT human resource development in the country
- Promote ICT products/ services and awareness at all levels through expos etc.
- Develop and maintain a national inventory of public sector ICT programs and projects
- Ensure that Government and other public sector institutions integrate ICTs in their business and development programmes
- Conduct countrywide regular ICT surveys to monitor and evaluate performance in the sector

The draft policy further recommended that there be a Board of Directors established to supervise and oversee the work of the National ICT Agency. The Chairman of this Board would be appointed by the President of the Republic of Zambia on the recommendation from the Minister responsible for the ICT portfolio. The Board of Directors was recommended to consist of eminent persons in society drawn from private, public sector, academia and civil society.

A Committee of Ministers would advise the Board of Directors on sectoral policy matters affecting the ICT sector; the Republican President would chair the Committee of Ministers.

In the interim period, before the legislation establishing the National ICT Agency is enacted, the draft policy recommended a Committee of Ministers on ICT to undertake ad-hoc measures to ensure co-ordination of the initiation of the functions of the National ICT Agency so as:

- build a sense of urgency in the implementation of the ICT policy
- build broad based awareness and commitment towards the implementation of the ICT Policy.

South Africa

The South African government initiated the South African Information Technology Industry Strategy (SAITIS) project within the Department of Trade and Industry (DTI) in 1999 to conduct baseline studies for IT related jobs and skills. Over the last several years, SAITIS has, through an extensive collaborative process, drawn on the expertise of many players in government, industry, labour, academia and civil society, to develop what is now known as the South African ICT Sector Development Framework. The Minister of Trade and Industry, Alec Erwin, officially launched this document in November 2000. The launch of this document heralded the start of an implementation process that will stimulate the South African ICT Sector to new heights of development. Currently, the following working groups are overseeing implementation: ICT Industry; ICT Usage; ICT Innovation; ICT Human Resources; Capital Mobilisation; Infrastructure and Women in ICT.

Additionally, the South African government has created a Directorate of Technology for Development within the Department of Science and Technology (DST). This directorate is mainly involved in capacity building for research; development of technology, and innovation in economic development. Mosibudi Mangena is the South African Minister of Science and Technology. The office of the Chief Executive of DST is headed by a Director General. The Technology for Development Programme is headed by a programme director who supervises sub-programmes in technology transfer, poverty reduction and indigenous knowledge systems.

Four important government taskforces address the deployment of ICT as an enabler of social and economic development:

- (1) The Presidential International Task Force on Information Society and Development: Initiated by President Mbeki in February 2001 to focus mainly on global ICT markets with CEOs and Chairmen from various international telecommunications and information technology companies appointed to serve on the Task Force.
- (2) The National IT Task Force: to deal with the issue of "brain drain" and the deployment of ICT initiatives locally.
- (3) The IT Council: to handle local and provisional government IT functions
- (4) The Investment Council: to focus on positioning South Africa's imports and exports globally and also on generating foreign direct investment through international collaborations.

Singapore

ICT policy in Singapore is formulated and regulated by the IDA - The Infocomm Development Authority of Singapore (IDA). This agency develops, promotes and regulates info-communications in Singapore. IDA invests in infrastructure, industry as well as human resource development to manage technology through various programmes. The Infocomm Development Authority of Singapore is a statutory board formed on 1 December 1999 as a result of the merger between the National Computer Board (NCB) and the Telecommunications Authority of Singapore (TAS). IDA is guided by the Government of Singapore masterplan on ICT - "Connected Singapore" that lays on strategies and objectives for the IDA and other governmental agencies in implementing ICT policy.

The Chief Executive Officer of IDA Singapore is Chan Yeng Kit. Five groups and two subsidiaries report to the office of the CEO. These include the –

- (1) Policy and Competition Development Group headed by Andrew Haire, Senior Director, to focus on policy formulation, economic and industry regulation, technical regulation and operations.
- (2) Industry Group headed by Khoong Hock Yun, Assistant Chief Executive to develop the infocomm industry in Singapore.
- (3) Technology Group headed by Dr Tan Geok Leng, Chief Technology Officer to identify and facilitate the adoption of specific strategic infocomm technologies to enhance Singapore's competitiveness.
- (4) Government Systems Group headed by Ms Wu Choy Peng, Deputy Chief Executive Officer & Government Chief Information Officer to manage Government-wide information and communications technology (ICT) initiatives; provision of e-government to the public and coordinate ICT issues between governmental agencies.
- (5) Corporate Development Group headed by Ms Ong Lih Ling, Senior Director/CIO to manage quality standards, corporate strategy and organisational development and workforce issues.

Subsidiaries include Infocomm Investments Private Ltd. (IIPL) and Singapore Network Information Centre (SGNIC).

Malaysia

In 1996, Malaysia launched a program called "Vision 2020," which laid out a plan to build a fully developed, knowledge-rich Malaysian society by the year 2020. Malaysian government also established the Multimedia Super Corridor (MSC) to create a high-tech environment and

infrastructure that can attract national and international investors and create spillover effects in the rest of the Malaysian economy. Malaysia's Multimedia Super Corridor (MSC) is designed to create an ideal environment for ICT-related production as well as provide the backbone for an information superhighway. The network contains a high-speed link (10Gb/s network) that connects the MSC to Japan, ASEAN, the US and Europe, and is capable of supporting extensive public administration, education and business applications. The intent of the superhighway is to provide quality access to global information as quickly and easily as possible. Simultaneously, the Demonstrator Application Grand Scheme (DAGS) is intended to facilitate social and economic progress through the innovative use of ICT. It provides funds for citizens to access the opportunities associated with the MSC and to be involved in multimedia development.

Initially, the MSC was run by a government owned corporation - Multimedia Development Corporation (MDC). However, it is now incorporated under the Companies Act of Malaysia, owned and funded by the Government. MDC is headed by a Board of Directors that oversees the office of the Chief Executive Officer and Office of Corporate Strategy. The Corporate Strategy section includes units for Knowledge Management, National IT Council, Project Implementation and Coordination and IT Policy. Various departments such as Marketing and Branding, Capacity Development, Corporate Services, Industry Development and Socioeconomic Development report to the CEO. Organizational chart at <http://www.msc.com.my/mdc/orgchart.asp>

MDC initiatives led by the senior management i.e. vice presidents of various departments include the MSC-Asia Pacific ICT Awards to award ICT creativity and innovation; MSC Techopreneur Development Flagship to incubate ICT businesses; MSC Creative Multimedia Cluster to nurture the growth of multimedia content and MSC Cyberlaws and Intellectual Property Laws.

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Part C: Recommendations

VIII. Recommendations

The recommendations in this section are carefully grounded in the above analysis. The recommendations represent the researchers' considered opinion regarding how to best reform ICT entities after considering the data collected to date. Each recommendation speaks to concerns and problems identified by the interviewees themselves or that emerged from collective analysis of discussions with them. In addition, the recommendations are informed by institutional frameworks that have been found to work in other countries. Many of the recommendations interlock and support each other. Recommendations fall into two categories: interim and long term.

In the interim, the researchers recommend the following changes which will result in a partial reorganization of ICT in Kenyan Government:

- Strengthen and expand the E-Government Directorate staff
- Ensure that GITS reports to E-Government Directorate
- Energise Ministerial ICT Committees
- Implement existing recommendation to create ICT departments in Ministries
- Improve ICT human capacity in Ministries
- Strengthen the role of NCS on policy while encouraging a culture of openness in policy development

In the long term, the researchers recommend a more radical restructuring of ICT structures in Kenyan Government:

- Create a National ICT Body staffed by a Secretariat and backed by legislative authority with a board having representation from all key stakeholders, including relevant government ministries, academia, the private sector and civil society
- The National ICT Body will coordinate policy for ICT across all sectors in the nation. Openness will be assured by the multi-stakeholder board
- Ensure the presence of an ICT champion at the highest level of government
- Empower CCK as a truly independent regulator and make CCK the regulator for ICT, including broadcasting
- Create an Inter-Ministerial ICT Committee where PSEs meet to coordinate
- Strengthen the Ministry of Information and Communications. The MOIC will coordinate and implement all ICT matters within Kenyan Government.
- Strengthen ICT departments in ministries
- Consolidate ministerial ICT committees
- Encourage a culture of transparency, openness, accountability and responsiveness to the public in ICT

A. Interim Restructuring

The researchers propose some short term measures to help the Government of Kenya ease the transition for a much more structured ICT policy apparatus. The researchers define the

“interim” or the “short term” as six months. By the end of one fiscal year, the Government of Kenya should have put in place the long term strategies.

Strengthen and expand the E-Government Directorate staff

The E-Government Directorate should be designated as the official coordination forum for government for the interim period. To this end, the E-Government Directorate will need additional staff and resources.

Ensure that GITS reports to E-Government Directorate

The government should create a formal institutional mechanism to ensure that GITS is linked to and meets regularly with the E-Government Directorate. This will ensure better coordination and integration of computerization efforts within ministries for the near term.

Energise Ministerial ICT Committees

The E-Government Strategy recommends the creation of Ministerial ICT Committees (p. 18) which are to review the various ICT policy initiatives in the Ministries, identify technical and institutional gaps, and audit the Ministry’s ICT capacity. However, in many ministries, these Committees do not appear to be in place, or if they are in place, they are weak. For example, in the Ministry of Education, Science and Technology there are a multitude of ICT related projects and activities which need to be coordinated, including the National Council of Science and Technology (NCST), the Commission for Higher Education (CHE), Universities, the Department of Technical Training, and many more. As recommended in the E-Government Strategy, the Ministerial Committee will be chaired by the Permanent Secretary.

Implement existing recommendation to create ICT departments in Ministries

The E-Government Strategy also recommends the creation of ICT department in ministries. This has been approved but has not yet been implemented. Our recommendation is that these ICT departments must be created immediately (within the next three months). We recommend that these departments report administratively directly to the permanent secretary of the respective ministry. At the same time the departments must report technically to the E-Government Directorate in the near term. This is in line with the structural realities of other functions in ministries, e.g. finance and human resources.

This department should comprise technical and managerial staff. Working groups should be established at each level, so that ministerial staff in ICT know each other well, and can network quickly to solve problems. The Head of Department should be analogous to the CTO or CIO in the private sector. For ministries with a large ICT portfolio like the Ministry of Finance, this arrangement already exists. The ICT staff should also be present at the district level. This should take place after devolution of ICT functions into the districts. However, this needs to be realigned to the new thinking of having GITS report to E-Government. This recommendation is in line with the practice in Rwanda--one of the regional countries that has taken ICT as key agent for development and has made tremendous progress in implementing her ICT policy and strategy.

Improve ICT human capacity in Ministries

A scheme of service should be developed for ICT staff in ministries. The scheme of service should start with technical qualifications and experience at the lowest levels and graduate to more business expertise than technical expertise by the time we get to the head of ICT in each ministry. Each ICT unit should have a minimum of 4 people with university degrees in computer science. To reach the highest level, staff should have appropriate academic qualifications, such as a first degree in an ICT related field. Pay must be improved to ensure that staff in Government are qualified and competitive. The head of ICT in the ministry should have more business than technical qualifications and expertise. This is because this person's role is to ensure that ICT is integrated into the business of the ministry.

Strengthen the role of NCS on policy while encouraging a culture of openness in policy development

NCS is already fulfilling the role of developing policy for the telecommunications and IT sector. Accordingly, NCS should continue to take the lead role to draft policy for the ICT sector. What should change, however, is the manner in which intra-agency consultation takes place. The process should be more consultative, consultation should be regularized, and the E-government directorate should monitor the process to make sure that it is actually participatory. NCS should provide brief written reasoning when they choose or reject comments by other ministries and agencies. This approach is used by ministries operating under the Administrative Procedure Act or similar legislation in various developed nations. Finally, NCS should take care to incorporate the views of outside stakeholders as well.

B. Long Term Reorganization and Restructuring

Create a National ICT Body with appropriate legislative authority

In the long run, which the researchers define as approximately one fiscal year away. the researchers recommend that Kenya create a national ICT body, backed up by a suitable legislative framework. This body would achieve ICT integration across all ministries by being able to carry out strategic planning for national ICT policy. By "national ICT policy," the researchers mean that this body will be in charge of policymaking for the nation that affects all stakeholders.

This body should be headed by an experienced and high profile Executive Director who will operate at the PS level. The ICT Board will be supervised by a multi-stakeholder Board of Directors which includes representation from academia, private sector and civil society. The multi-stakeholder board will be nominated by the Vice President based on nominations from each sector. The ICT Board will also have a Secretariat staffed by civil servants that carries out day to day initiatives. The Vice President will chair the National ICT Body.

The new National ICT Body will perform some of the roles currently carried out by NCS. However, in order for this body to be successful, restructuring and probably re-hiring needs to take place. The researchers have noted with concern that NCS currently has a very closed culture. It is hard to get drafts or information out of NCS. It is difficult or impossible to set up meetings with NCS. If Kenya's ICT Policy is to be successful, it must be implemented in an atmosphere of accountability. The addition of a multi-stakeholder board will force the new National ICT Body to have accountability to the public and to key sectors of the economy.

The broad roles of this Authority shall be:

- To coordinate the implementation of national ICT policies and plans
- To monitor and evaluate the implementation of national ICT policies and plans and advise the Government
- To promote and foster the development and use of ICT and related services in Kenya, e.g. via sensitization workshops and seminars
- To coordinate the setting of ICT standards
- To solicit for additional funds outside the Exchequer to support achievement of the its objectives

Ensure the presence of an ICT champion at the highest level of government

E-leadership in Kenya must be strengthened. The chairperson of the National ICT Board should be the Vice President of Kenya. This high profile championship is commensurate with the potential strategic role of ICT in national socio-economic development and ICT is more likely to be successful in supporting national development priorities. This high profile arrangement has been the case in countries that have been most successful in exploiting ICT for national development, including Malaysia, Rwanda, Singapore, Mauritius and South Africa. At the ministry level, the ICT Champion is the Permanent Secretary.

Strengthen The Ministry of Information and Communications

The role of the Ministry of Information and Communications needs to be defined, clarified and strengthened. MOIC will retain its current role of implementing telecommunications matters and broadcasting matters, but will also add on the role of implementer of ICT in Government in Kenya. The researchers suggest that MOIC play the role of coordinating the implementation of ICT across all ministries. Functions currently carried out by the E-Government Directorate and the GITS should be located within the MOIC. Some of the duties of the MOIC shall be:

- To ensure data protection and security
- To coordinate with all bodies and initiatives in computing, telecommunications and broadcasting, within and outside Government
- To advise the Government on national policies with respect to the promotion, development and control of information and communication technologies and their applications
- To train Permanent Secretaries on what ICT can do for Government.

Create an Inter-Ministerial ICT Committee

Currently, all PSEs are to meet regularly to discuss ICT issues. The researchers proposes that this tradition continue, however, the PS es should be accompanied by the heads of the newly created ICT Departments in their ministries. Thus, there will be a political and a technical leader from each Ministry. This would create an official forum where all ICT heads in all the ministries would meet and discuss integration, coordination and other synergies across ministries. Problems or suggestions arising out of the meetings could be referred to the MOIC

for implementation, if they deal with government, or the National ICT Body, if they affect additional stakeholders.

Make CCK the Independent Regulator for ICT including Broadcasting

Currently, NCS promulgates ICT policy, but no agency regulates IT. CCK should become the independent regulator for the whole sector, including IT and broadcasting, to fill this gap. This is the case in the African countries reviewed above. CCK will not be incorporated into the National ICT Body, but will instead remain in its current form as an independent regulator.

The researchers note with concern that the presence of an independent regulator is a sign of strong, impartial government. The dismissal of the head of CCK earlier this year is a sign that CCK is not truly independent. The appointment of a civil society representative to the CCK Board is a sign, however, that there is hope that CCK's role may be strengthened. The researchers cannot ensure the independence of CCK through structural reform. True independence must come about as a result of cultural change on the part of government entities and politicians. There must be respect for transparency, accountability, openness, and responsiveness to the public. The researchers urge Kenya to move in that direction to ensure that CCK's role as a regulator is optimized.

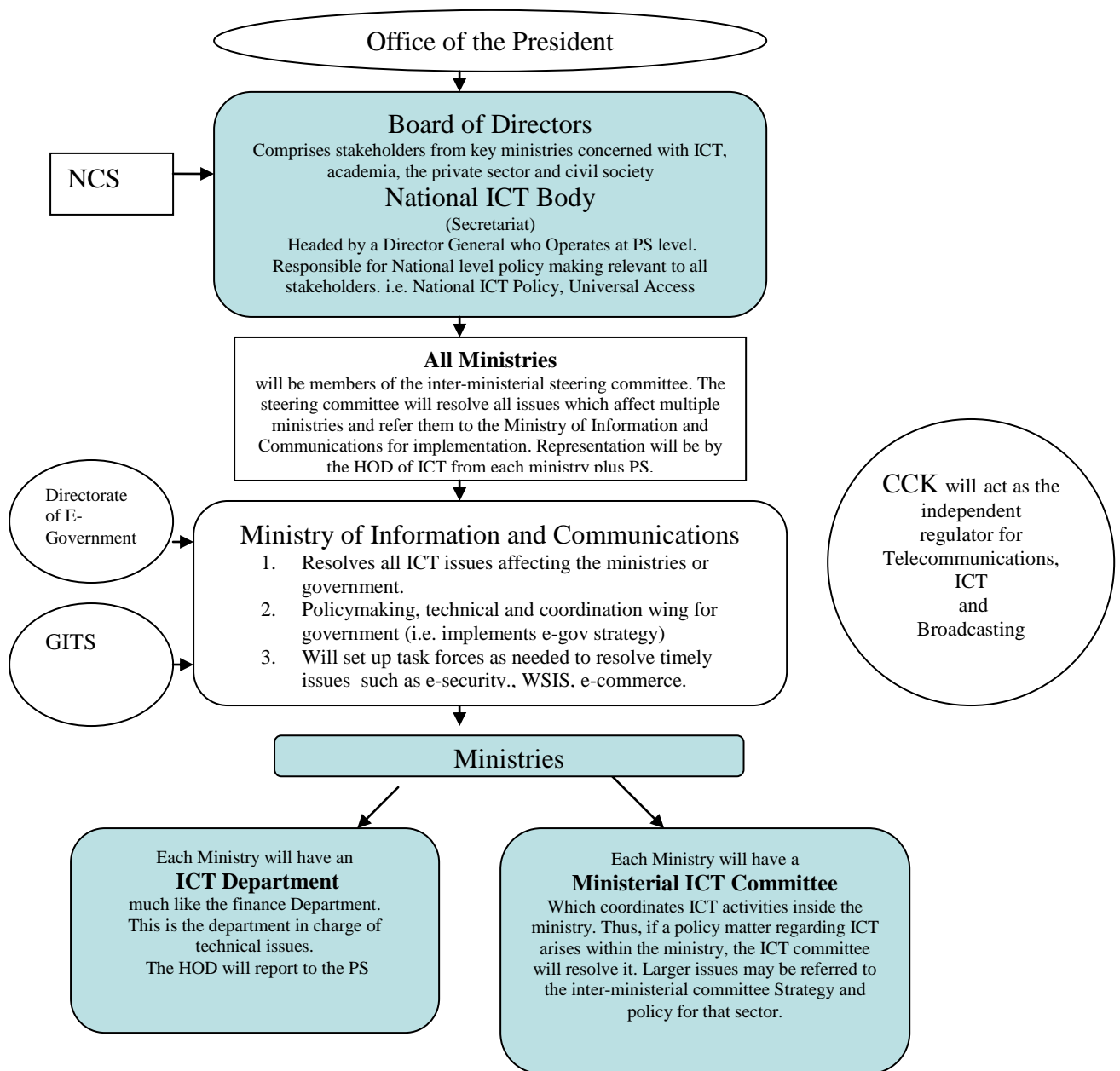
Strengthen ICT Departments in Ministries

In the long run, the process of strengthening ICT Departments in each ministry and ensuring that they are adequately staffed with qualified and well-trained personnel will continue. Again, each Ministry must have a complete ICT Department along the lines of the existing personnel or accounting departments. These Departments should be headed by a HOD who acts like a CTO would in the private sector. The HOD will report directly to the PS and will attend meetings of the Inter-Ministerial ICT Committees alongside the PS.

Consolidate Ministerial ICT Committees

As recommended in the interim period, Ministerial ICT Committees will take their final form. Each Ministry will have its own ministerial ICT committee. The objective of the ministerial ICT committees is to hear and resolve any coordination problems *within the ministry* relating to ICT. They will be chaired by the Permanent Secretary or the accounting officer. The head of the ICT Department in each Ministry will act as the secretary to the committee to ensure constant communication between the Department, which is the hands on aspect of ICT in each ministry, and the Committee, which will play the coordinating role within each ministry. Thus, when the permanent secretary meets with his colleagues on the permanent secretaries committee, he will be fully informed. The current standing monthly meeting of PSes should be adequate to handle all ICT issues as part of their agenda.

Figure 5: Proposed ICT Structures for Kenya



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- ³ Kenneth Aduda and Myra Ohaga, "African Technology Policy Studies, Country Case Studies, Strengthening National ICT Policy in Africa," (Nairobi: ATPS, 2004, photocopied).
- ⁴ Clement Dzidonu: A Blueprint for Developing National ICT Policy in Africa: ATPS Special Paper Series No. 5.
- ⁵ Many well informed ICT providers in Kenya believe that too much attention has been paid to technology, and insufficient interest has been shown regarding the development of relevant systems content. For example, web sites need to reflect the issues, languages, and businesses of Kenya and East Africa as opposed to those of Europe and the US.
- ⁶ See Timothy Waema, Final Report for the Universal Access to Communication Services: Development of A Strategic Plan and Implementation Guidelines, (Nairobi: Communications Commission of Kenya, 2004).
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- ⁸ "Mobile Phone Users Double, Says Report," *The Standard*, December 10, 2004, Business Section, p. 10.
- ⁹ Ministry of Information and Communications, National Information and Communications Technology (ICT) Policy (Government of Kenya: Nairobi, October 2004) p. 3.
- ¹⁰ By comparison, in South Africa, the relevant numbers are 10.4 in a hundred owns a telephone line, 36.4 in a hundred have a cellular phone and 7 per every hundred are Internet users. Further in the United States, 64 out of one hundred persons have a main telephone line, 65 out of every hundred persons have a PC and 48 of every 100 inhabitants have a cellular phone. See World Telecommunication Indicators, December 2003, International Telecommunications Union. Includes Main Telephone Lines: Subscribers per 100 people, 2002; Mobile Cellular: Subscribers per 100 people and Internet Indicators: Hosts, Users and Number of PC's. Data available at <http://www.itu.int/ITU-D/ict/statistics/>.
- ¹¹ Thanks to Ken Aduda and Myra Ohaga for their helpful work on the history of Kenyan telecommunications policy.
- ¹² See www.cck.go.ke/legislation/legismain.htm. Accessed April, 2005.
- ¹³ The Telkom fixed line monopoly was limited to Nairobi. However, the licensing on intra-provincial fixed line operators was allowed. However, the auction failed. Although bidders attended the auction, the sector foundered in the face of infeasibility. The effort to create regional telecommunications operators was ultimately unsuccessful.
- ¹⁴ Republic of Kenya, E-Government Strategy, (Nairobi: Cabinet Office, 2004)
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- ¹⁶ www.cck.go.ke/policy/policy.html, accessed March 2005.
- ¹⁷ Weiss, 19.
- ¹⁸ Sharan Merriam, Case Study Research in Education: a Qualitative Approach. (San Francisco: Jossey Bass, 1988), 61.
- ¹⁹ Merriam, 63.
- ²⁰ Merriam, 64, Weiss, 21.
- ²¹ See Waema, Final Universal Access report, p. 29.
- ²² More details on CCK may be found on its website. See www.cck.go.ke/telecom/tele.htm, accessed March 2005.
- ²³ See p. 18, E-Government Strategy.
- ²⁴ See p. 19, E Government Strategy. Additional information on this topic was gleaned from interviews.