Republic of Uganda

Ministry of Information and Communications Technology

INSTITUTIONALISATION OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) FUNCTION IN Ministries, Departments, Agencies/Local Governments (MDAs/LGs)

Final Report by Task Force:
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1 CHAPTER ONE

1.1 Background

The creation of the Ministry of Information and Communications Technology (MoICT), was intended to promote and ensure ubiquitous ICTS usage in the public and private sectors, as well as the entire Country. MoICT is accordingly mandated and required to provide strategic and tactical leadership and direction on all matters regarding ICTwith particular regard to policy,and laws.In addition there are semi-autonomous institutions within the Ministry which are responsible for developing and enforcing standards and, regulations.They include the Uganda communications commission/Broadcasting council for communications and broadcasting and National Information Technology Authority-Uganda (NITA-U) for Information Technology(IT) standards and regulations. NITA-U is charged with the implementation of major IT Government Initiatives. NITA-U is therefore expected to spearhead, promote, support and accelerate the advancement of e- Government services.

During this decade, there has been proliferated usage of Information and Communication technologies (ICTs) in the Public sector in Uganda and a high percentage of staff in Government Ministries, Departments, Agencies (MDAs/LGs) and Local Governments, have access to ICTs in the day to day execution of their duties. Unfortunately, the introduction, management and utilization of ICT human resources, facilities and systems, has been done in an ad hoc, incoherent and in some respects in an ineffective and inefficient manner. However, if appropriately harnessed, ICT has the potential of improving effectiveness and efficiency, creating jobs, as well as catalyzing rapid growth and development which would lead to

prosperity for all. The NDP has accordingly ranked ICT, third priority, next to Transport and Energy, so that Government can strategically and institutionally organize itself in order to benefit from the opportunities accruing from appropriate harnessing of ICTs.

It is noted that the various MDAs/LGs operate at different levels of automation and possess ICT/hi-tech facilities and equipment of varying capacities/ potential. Nevertheless, almost all Ministries and Departments have: computers, telephone/switch-boards, intercom and internet facilities, websites, LANs and operate a range of e- management information systems, with some generating on-line archives.

It was also observed that all ICT equipment, facilities and management systems as well as the Internet Service Providers (ISPs) in the MDAs/LGs differ. Unfortunately, the usage and management of the facilities and systems is incoherent, denying the Service and the Country generally, the innumerable benefits of harnessing ICTS in a rational and harmonized approach.

Regarding staffing, the ICT functions/services are provided by a range of ICT professionals and non-ICT personnel, organized in an amorphous manner, without common leadership to give direction or promote coherence and integration.

While in some MDAs/LGs, there are other communication functions such as Information Education and Communication, Public Relations, Registry/Library and Resource Centre; many of these functions/services and staff work very independently of the ICT functions. It was also observed that most MDA's lack clearly defined communication strategies and functions which take care of the ICT

component. Accordingly, the ICT functions/services and related structures in most MDAs/LGs are executed/rendered in a fragmented, disconnected, incoherent and un-harmonised setting. There is therefore a need for competence profiling of all ICT related disciplines to ensure uniformity in nomenclature of IT positions and to ensure that similar positions in different organizations carry the same job specification. It is envisaged that that the solution of having the IT Personnel under one umbrella could be a solution to the problems. In addition there is a need to centrally recruit and deploy IT Professionals within Government as the case is with Economists and Accountants who are centrally recruited by the Ministry of Finance and Accountant General's office respectively.

Despite these constraints and weaknesses, Government has continued to advance into e-governance and is investing heavily in ICT facilities and equipment. Due to the historical ad hoc introduction/adoption/usage of ICTs, there are no formal or well established structures, no clearly defined standards, functions, staffing and related job requirements for the management and provision of ICT functions /services.
It is against this background that MoPS and MoICT in partnership, embarked on an exercise to establish/re-organize the ICT Units/services.

1.2 Underlying Factors for the Exercise

There are many underlying factors that are prompting Government to take action regarding provision of organizational structures and staffing for the ICT function. The key issues are mentioned below: -

i) In 2007; the Ministry of Information and Communications Technology was formed and given the role of providing strategic and technical leadership on all matters regarding ICT. This implies that the Ministry has to give strategic

and tactical direction on staff standards, job requirements, competencies and professional qualifications. However, this has not been possible due to various constraints.

ii) The creation of the Ministry of ICT that was given the role of parenting the ICT cadre. This calls for the organization of the cadre in the MDAs/LGs for easy supervision by the parent Ministry.

iii) Continued advances and initiatives into e-government by the various Government organs, necessitates the defining of structures in the MDAs/LGs to support ICT use in a coherent, effective and efficient manner.

iv) To ensure appropriate harnessing of ICT potential, Government has and will continue to put in place the relevant policies and laws, normally complex in nature and requiring professionals to interpret, implement and give guidance at implementation.

v) In the National Development Plan, ICT is considered 3rd priority, because of its potential of bringing about rapid growth and development.

vi) Increased development, adoption and application of e-systems of Government, for example IFMS by MoFPED, IPPS, EDMS and PIMS by MoPS, necessitates provision of defined/ organized ICT structures and staffing for managing the function or rendering services.

vii) Increased capital investments in the ICT facilities and equipment by Ministry and other Public Service Institutions.

viii) The unharmonised and disjointed deployment of ICT staff in MDAs/LGs that does not result in effective and efficient utilization of this cadre.

ix) The absence of professional and common leadership at the MDAs/LGs to provide; direction, leadership in decision making, technical advice,

interpretation of laws on all ICT related matters which affects effectiveness and efficiency.

x) The Digital revolution which has resulted into the continued convergence of the Communication and Broadcasting Services/Industries. This calls for their functions to be harmonized and their complementary role recognized. Thus the establishment of IT, ICT and Communication facilities, and staff in MDA's and their treatment as independent entities.

xi) Global trends, Regional and other International obligations in the ICT arena.

1.3 Scope

This exercise has covered all the Government Ministries and some Departments. It aimed at providing structures to all the Ministries and a few specified Departments and Agencies (refer to appended list) as well as identifying the key issues in the current ICT related operations. The study was also extended to cover some Districts for the purpose of establishing the status on ICT staffing and the facilities as well as the related operation and management, based on the sample study of selected Local Governments.

1.4 Objectives of the Exercise

The objectives of the study were to: -

i. Establish the degree/level of usage of ICTs in the MDAs/LGs and the future plans for e-government or introduction of e-management information systems.

ii. Establish the current existing staffing and capacity for managing the ICT function and services as well as identifying the gaps.

iii. Recommend the appropriate structure and staffing norms for effective execution of the ICT; communication and Information management functions.

iv. Identify other related communication functions and recommend how they can be reorganized to achieve synergy with clearly defined roles and functions.

1.5 Methodology

Various approaches were used to study and review the Institutional set up of the ICT functionality in the MDAs/LGs, to be able to make informed recommendations. These included: -

- Literature Review;
- On Spot checks and status assessment;
- Consultative group discussions and meetings;
- Structured Oral Interviews; and
- Functional analyses.

1.5.1 Literature Review

Literature was reviewed to establish the current Status of the Ministry of ICT as the parent Ministry in relation to Government laws, regulations, policies, guidelines, and operations. Key literature reviewed include the Restructuring Report of MoICT; National ICT Sector Strategic Framework of 2003; Different Institutional ICT policies.

ICT literature both regional and international as internationally published. During the review of the literature benchmarking of best practices was undertaken of other countries such as South Africa, Estonia, Maurituis, south Korea and Singapore. The

findings from these case studies informed the recommendations to this institutionalization strategy.

1.5.2 On-Spot Checks and Status Assessment

Different Government Ministries, Departments and Agencies visited to establish their current status in terms of staffing and operational Information management systems, ICT infrastructure and equipment, establish the bottlenecks in service delivery, and get information about planned service delivery systems.

1.5.3 Consultative Discussions

Focused group discussions were carried out at various levels to agree and build consensus on critical restructuring issues that affect the functionality and roles of different departments/units in the sampled MDA's.

1.5.4 Structured oral interviews

This method was used during the On-Spot Checks and group discussions to gather data and seek clarification where documented information was not readily available.

1.5.5 Functional Analysis

A comprehensive analysis of all the functions to be performed by the ICT Unit was done to determine a model structure needed to perform the identified functions, roles and responsibilities. The staffing levels for the different MDAs/LGs will be customised according to the needs of the individual MDA.

2 CHAPTER TWO

2.1 KEY ISSUES

During the course of the exercise a range of issues and challenges were identified as factors affecting effective performance of ICT and communication services. Some are strategic with policy and/ or legal nature, while others are more of an operational and tactical nature and have a lot to do with structures, human resource issues and facilities.

Other issues are embedded in historical and contemporary perceptions of ICT and communications. Nevertheless, these key issues are seriously affecting

performance of MDAs/LGs, and their redress is a critical success factor for e-government. These include:

2.1.1 Uncoordinated/Disjointed Efforts

The application of ICTs across/within MDAs/LGs and LGs has been found to be inconsistent, disjointed and primarily driven by donor funded projects. The issues and functions of communication and ICT are not priority matters for Top/Senior Management in some MDA's. Some Departments are very well resourced and far ahead of others in the usage of computers and other ICT facilities. However, across and within individual MDAs/LGs each Department adopts its own approach to IT/ICT applications. MoICT is not yet in the position to set standards and guide in general on hardware and software identification.

2.1.2 Policy and Legal

The promulgation of new laws and development of policies in the ICT Sector, shall have far reaching implications on the operations of the MDAs/LGs. For example the Electronic Transactions and Signatures Law, the Migration from Analog to Digital Policy and many others, constitute /will culminate into intricate policies, laws and Regulations. This will require high level technical expertise and projections to interpret or implement.

There has also been very limited information dissemination and sensitization of stakeholders about ICT laws, policies, programmes and usage of the available infrastructure and facilities.

Currently, Information, communication and IT, services are not considered as strategic issues/ services by most MDAs/LGs and therefore they are given minimal attention and resources.

It was further observed that Ministries presiding over gigantic sectors, have devoted limited effort in providing the necessary leadership and support to the Sector/Agencies to advance into e-government. For example Ministry of Health ICT staff are few and project based; Ministry of Education and Sports has its outreach unit in the Dept. of Secondary Education; Ministry of Agriculture Animal Industry and Fisheries and that of Lands, Housing and Urban Development are very behind in computerization of the services in their sectors.

2.1.3 Structure, Staffing and Professional Leadership

Most Ministries and Departments do not have clearly defined ICT Units and there is absence of common, centralized or professional leadership. Where there are some structures and ICT professional staff, they are amorphously arranged making it impossible to fully harness or exploit their potentials. In addition, the roles, functions and scope of operations of staff vary in the different MDAs/LGs.

The majority of MDAs/LGs, there is no defined responsibility centre for the ICT portfolio in terms handling/ representing/ advising/ and or taking decisions in a professional manner. In an effort to cover this gap, any members of staff are assigned this role in some MDAs/LGs. However due to lack of appropriate recognition of the ICT function, there are MDAs/LGs where ICT staff are not mainstreamed. They are either recruited on contract, under a project (Ministry of Health) or engaged on voluntary basis (Judicial Service Commission) or the function is outsourced to private providers as done in the many of the Local Governments.

It was also observed that in some MDA's such as the Cabinet Secretariat, there are facilities, equipment and systems but without the qualified staff. As a result, decisions on ICT related matters including, interpretation/implementation of rules or

procedures, on applications or type of equipment are either ignored or made in a very unprofessional manner. The experience in the Local Governments is the same.

The absence of Professional leadership, implies poor direction and interpretation of the Policies, Laws and regulations. This coupled with the lack of defined structures, and competent professionals, has contributed to the incoherence in the operations and management systems of the ICT function.

2.1.4 Contemporary Perceptions of ICT

Generally, there is low appreciation of ICTs as a critical ingredient for effective and efficient performance, let alone becoming the business driver. This explains why the number of staff using ICTs as a tool to enhance their performance is still low. There is also lack of training and retraining in the majority of MDAs/LGs, to enable the users cope with the dynamic ICT environment.

2.1.5 Inadequate Linkages and Collaboration Mechanisms

There is a lack of awareness of the need for the ICT function to relate and work closely with other Information and Communication functions and services. As a result, they operate in a disintegrated and incoherent manner. This implies that there is no recognized relationship with other related functions of registry and Information, Education and Communication (IEC) yet their roles are complementary.

2.1.6 Equipment and Facilities

There is lack of standardization of the facilities and equipment in all MDAs/LGs, therefore all MDAs/LGs have equipment of differing capacity, some very sophisticated, advanced and powerful, while others are of low capacity and/or inadequate for the work. The existence of internet facilities, Local Area Networks and websites is common in MDAs/LGs although some use small bands. In addition,

while a number of MDAs/LGs need interactive websites, many have been designed more like web pages.

While it is recognized that most MDA's have most telephone exchange systems, many do not consider or recognise them as part of ICT facilities and equipment. Some of the District Local Governments visited have equipment such as mainframes however, they lack capacity to operate, maintain or manage them and hence these are lying idle. Further observations are outlined below:

i. In some Districts, Officers buy their own modems to do Government work as in Mbale in others such as;
ii. Iganga District Local Governments there are Soroti and Mityana under a project by MoLg which have non- functioning mainframes that were provided.
iii. During the survey of software usage for the TRIM records management software, it was noted that the computers are used more for watching videos and playing music. There is no technical support and as a result the expensively procured records management systems is currently not in use and will soon be obsolete. This was observed in Masaka and Mbarara Local Governments.
iv. Further observation and analysis show that in some MDA's, Procurement of ICT equipment is haphazardly done. For example in the Ministry of Energy and Mineral Development, desktop computers were procured without obtaining the appropriate specifications for the job. These computers and their accessories were rejected by the users later on. While in the Ministry of Public Service, very expensive computers and their accessories were procured for tasks that do not require such high technological specifications.

2.1.7 Information Management Systems

All MDAs/LGs are at different stages of developing electronic or data management information systems. While some MDAs/LGs like Uganda Prisons Service are at infant stage of developing their IMSs, others like Education service Commission have developed IMS but the staff are not trained in its use. Uganda Police Force, Ministry of Defence/UPDF and Parliament of Uganda are most advanced.

IFMIS and IPPS are relatively well established systems and yet others like the Directorate of Public Prosecutions (DPP) have inadequate systems that need a complete overhaul.

In both MDAs/LGs and LGs, there is general lack of systems integration or even harmonization of system design and implementation. As a result the integration of systems becomes nearly impossible. Sometimes one system contains data that another system could have used in analysis but because they are incompatible, harmonization is done manually. For example, in Mbale the LOGICs system is non functional because the computers are not compatible.

2.1.8 Maintenance

In Districts, the maintenance services are commonly out sourced, but in many respects this is too expensive and sometimes the services are poor/ unreliable, implying that computers are just abandoned when they develop a problem. In the extreme cases, the service providers are the only professionals to explain what they have actually done.

2.1.9 Funding

The ICT function in most MDAs/LGs does not have a budget line/ vote. As a result, the function is appended either to the Finance and Administration Department or the

Department that utilizes it the most. The fact that ICT is treated as a non- priority support function in most MDAs/LGs, the resources allocated to the function are very meagre.

2.1.10 Qualifications, standard nomenclature and Job descriptions

There are also no standards set by Government for the MDAs/LGs to follow or refer to when recruiting ICT personnel. Where the ICT personnel exist, they have a range of qualifications, are referred to differently and their job descriptions are as varied as there are MDAs/LGs and LGs. The different Academic Institutions do not have a uniform/standard curricular for the IT courses they offer. IT graduates therefore do not necessarily have the same knowledge/skills which disadvantages employers.

3 CHAPTER THREE

3.1 ICT, INFORMATION MANAGEMENT AND COMMUNICATION FUNCTIONS /SERVICES

Considering the factors already outlined under Chapter 2, effort has been made to integrate the functions of management of ICTs with those of communication and /or information and records management. The rationale behind the integration is to streamline, ease, and enhance the management, storage, accessibility, flow and dissemination of information/records in a collaborative, complementary and harmonious manner. This arrangement will ensure existence of an effective communication system within the Ministry/ Sector/Local Government and with the Public and other stakeholders, and provide the opportunity to focus on ICT and information services, both as a critical strategic resource and integral part of daily

activities. Important to note is that representation of the ICT/IEC Department/Division/Unit/Section, at Top Management for budgetary and advocacy reasons, shall be a key success factor.

3.1.1 Key role and Responsibilities (Information & Communication Management Department/ Division/Unit)

In line with the global trends, the structure has been designed to provide overall common leadership for the management of technologies and content. This Department/Division/Unit will play the leading role of ensuring that the ICT, communication and information management functions and services of the Ministry/Sector/Local Government, are executed in a coherent, integrated and harmonized environment. It shall provide professional/technical leadership, guidance and support on all matters of communication (i.e. ICT, IEC, Information management and dissemination, storage of manual/e-records). Another key result area is its leadership and expertise in the development, interpretation and implementation of ICT and IEC:- policies, mandates, laws, regulations and established standards, strategies; plans, programmes, and projects as well as advising on all matters of the related procurements. This expected to enhance collaboration and timely sharing and dissemination of information and receipt of feedback, resulting **into improved internal/external operations, services and effective performance of the MDAs/LGs.** The Department shall ensure that all stakeholders are continuously updated, informed, educated and sensitized about: information technology and communication; the sectoral/LG activities, plans, programmes and developments in a coordinated, systematic and timely manner. It will also do information analysis, its packaging and dissemination, electronically and in other appropriate forms. In so doing, it will also ensure the quality, reliability and accuracy of the data and information disseminated, in order to enhance attainment

of the service delivery outputs and targets as well as the development goals and objectives of the MDA/Sector/LGs.

3.2 The Proposed Model Structures/Staffing

The recommendations regarding the structure, operations and setup of the ICT Units have been developed to address issues of harmonized working inter linkages with the other related functions/services. However, the size, status and scope of the organization structure and staffing for the ICT and IEC functions/services, will be determined by the actual and selectively, the potential capability of the systems and facilities, as well as the size and type of the Clientele in place. Alongside this consideration, are the size of the MDA/LG and scope of the support services; functional systems and infrastructure, development and intricate nature of the Information Systems, hardware, software and other related facilities. Due to the obtaining variances in the MDAs/LGs, the model structure approach is prescribed for the ICT and Communication functions/services to address critical structural and operational bottlenecks.

The various MDAs/LGs shall have the appropriate model structure customized according to their peculiarities and needs. The ICT and IEC functionary arm is to be staffed with a multidisciplinary team of professionals in ICT, Communication, Information Science, Public Relations/Mass Communication, Records and Information Management.

The job functions in the MDAs/LGs shall on top of the traditional technology focus have a greater component og the business (advisory) focus.

The overall Functions and Outputs of the Department/Division/Unit/Section in MDAs /LGs are as follows:

3.2.1 Key Functions

- Develop appropriate Policies, plans, programmes, strategies and guidelines for effective communication, harnessing/exploitation of ICTs within the National Policy and Regulatory Frameworks.
- Provide technical leadership and guidance in the implementation and interpretation of policies, Laws and regulations, regarding information management and ICTs.
- Provide technical leadership, guidance and support in mainstreaming ICT and IEC in the MDA/Sector /LG operations, plans and programmes in terms of the technologies and systems required for efficiency and effectiveness.
- Manage the design and development of communication and information systems for the Sector.
- Ensure that components of the Resource Centre and Registry functions within the MDA/Sector/LG, are electronically integrated to enhance service delivery to the major stakeholders.
- Provide technical and professional ICT/ IEC support services to other technical Departments on matters relating to coordination, procurement, installations and maintenance.

3.2.2 Key Outputs

- Appropriate policies, plans, programmes, strategies and guidelines for the effective harnessing/exploitation of ICT towards improving delivery of goods and services, developed within the National ICT Policy and Regulatory Framework.
- Technical leadership, guidance and support in mainstreaming ICT in the Sector operations, plans and programmes, provided.

- The design and development of information systems for the MDA/Sector/LG, designed and managed.
- Components of Resource Centre and Registry functions, electronically integrated.
- Technical/professional ICT/ IEC support services to other technical departments relating to procurement, installations and maintenance.

The Department/Division/ Unit therefore shall have major functional/result areas namely,

- Information Services
- Communication Services
- Technical Services

3.3 ICT Unit

The ICT Unit shall support the development of strategies that promote ICT usage and ensure that the Ministry or LG exploit ICT optimally for maximum benefit, and enhanced efficiency and effectiveness within the entire Sector/ LG .

The key functions and outputs of the ICT Unit are:

3.3.1 Key Functions

- Establish long term needs for the information system to promote the increased proliferation and ambitious application of ICT within the entire Sector/MDA/LG and advises management on the appropriate strategies.
- Provide technical support and guidance on all matters of procurement, utilisation and maintenance of ICT hardware and soft ware to the Sector.
- Establish and advise the MDA/Sector/LG on technical installation, priorities, standards, procedures, management and telecom equipment and systems.

- Ensure confidentiality, security and reliability of the information system.
- Ensure Maintenance of all the computer hard ware and soft ware/ICT equipment, in accordance with the established National Standards.
- Review, design, implement and maintain sound Local Area Network and Wide Area Network systems for the MDA/ Sector/LG.
- Streamline the management of the Information Sharing Network (ISN) .

3.3.2 Key Outputs

- Long term needs for the information system to promote the increased proliferation and ambitious application of ICT within the entire Sector established, and management advised on the appropriate strategies.
- Technical support and guidance on all matters of procurement, utilisation and maintenance of ICT hardware and software provided..
- Advice tendered on the appropriate technical installation, priorities, standards, procedures, management and telecom equipment and systems.
- Confidentiality, security and reliability of the information system, data proprietary information and intellectual property ensured.
- Maintenance of all the Organisations' ICT equipment and soft ware ensured in accordance with the established National Standards.
- A sound Local Area Network and Wide Area Network systems for the Organisation / Sector implemented and maintained.
- The management of the Information Sharing Network (ISN) appropriately developed, and managed.

3.4 Registry Services

The MDA/Sector/LG, shall have a Registry headed by some Records Officer. The incumbent will be in charge of the Open and Security Registries.

3.4.1 Key Functions

- Receiving and dispatching mails and other documents to and from the Organisation.
- Classifying all mails and other documents to and from.
- Maintain an up-to-date filling system.
- Ensure proper disposal of records in accordance with the retention and disposal schedules.
- Ensure proper management of semi current records.
- Maintain updated staff and other personal records.
- Digitilalize records appropriately.

3.4.2 Key Outputs

- All mail and other documents to and from the Organisation, received, dispatched and classified appropriately.
- An up-to-date filing system maintained.
- Proper disposal of records, in accordance with the retention and disposal schedules ensured.
- Proper management of semi current record, ensured.
- Updated staff records maintained.
- Records appropriately digitilalized.

3.5 Information/ Communications Division/Unit

The role is to develop and facilitate the implementation of communication strategies and execute the Public Relations role for the MDA/LG. It will also be responsible for determining the appropriate methods and strategies of communicating with and/or educating various target groups/stakeholders. Outlined below are the Key Result Areas:-

i) Develop the communication strategy and ensure its implementation
ii) To simplify, translate and package the MDA/LG policy, programs and initiatives for effective dissemination to defined target groups
iii) To carry out media research and listening surveys.
iv) To promote strategic linkages with media houses to ensure effective publicity and media coverage of functions, programmes and events.
v) To promote capacity building on public relations, customer care and communications in order to enhance interpersonal skills of the staff in the MDA.
vi) To promote strategic communication through communication planning, information management, monitoring and evaluation.
vii) To organize press conferences and prepare press releases.
viii) To coordinate generation and packaging of content.

3.6 Resource Centre

The Resource Centre will comprise of the following: Library and Resource Centre functions/services, management of the website. It communicates and receives feedback to/from the stakeholders and public, using varieties of methods/strategies i.e. electronic, media, Internet, pamphlets etc.

- Determine, package and disseminate information required by the various target groups, of the stakeholders and public.
- Ensure maintenance of a sound feedback mechanism.

3.7 Public Relations Unit and Resource Centre

This Public Relations Section is responsible for information dissemination to stake holders, projecting a positive image of the Ministry and handling matters related to the mass media. It's key role is to prepare and ensure implementation of public relations plans and programmes aimed at, projecting a positive image; sensitizing, educating and popularizing Government Programmes . It is therefore, responsible for dealing with media Houses, organizing press Conferences, press coverage and all other media issues and it shall be organized as a Front Line Office.

3.7.1 Key Functions

- Organise and effectively manage an up-to-date Documentation Records Depository.
- Collect, analyze, classify, store, retrieve and disseminate information for users, including the general public.
- Continuously acquire relevant reference materials to stock and update the reference library.
- Advise the Organisation and Stakeholders on the appropriate use of and access to information both in electronic and hard copies.
- Develop and disseminate guidelines for proper management, access/ acquisition and utilization of reference materials belonging to the Resource Centre.
- Ensure establishment and maintenance of collaboration linkages with the stakeholders nationally, regionally and internationally.

- Promote a positive relationship between the Organisation and with the media both locally and internationally.
- Advise and sensitization the Management and staff on public relations matters.
- Carry out media/community monitoring and analysis to correct any wrong impression about the MDA/LG and the Sector generally.
- Prepare media, press briefings, publications (including Journals, magazines).
- Regularly update the Website(s), to inform and sensitize the public on the role and achievements of the Organization.
- Organize and carry out coverage of the MDA activities.
- Manage and ensure safety of the communication.
- Package information for information, education and communication the general public and ensure its delivery in liaison with the technical departments.

3.7.2 Key Outputs

- An up-to-date Documentation Records Depository effectively organized and managed.
- Information for users collected, analyzed classified, stored, retrieved and disseminate.
- Relevant reference materials to stock and update the reference library of the Ministry continuously acquired.
- The Staff and stakeholders advised on the appropriate use of and access to information both in electronic and hard copies.
- Guidelines for proper management, access/ acquisition and utilization of reference materials of the Resource Centre developed and disseminated.

- Collaboration linkages both regionally and internationally established and maintained.
- Projections of a positive image prepared and implemented.
- Information for the various target groups, determined, packaged disseminated.
- A sound feedback mechanism maintained.
- A positive relationship with the media both locally and internationally maintained.
- Management and other staff advised on matters of public relations.
- Media and press briefings, publications (including Journals, magazines) prepared.
- The Websites regularly updated.
- ICT equipment managed and their functionality and safety maintained.

3.8 Information and Communications Technology Services Division/Unit

The role of the specialized structures for ICT is to provide for promotion of the use of information as a strategic tool to improve decision making and overall management in the MDAs/LGs.

3.8.1 Key Result areas

The recommended key result areas include: -

i) To initiate and coordinate the development and implementation of the Organization/sector ICT/IEC strategies and programmes.

ii) To advise on all matters of suppliers/contractors and procurement of ICT equipment, systems and services.

iii) To design and implement user support strategies, contingency plans and disaster recovery programmes.

iv) To ensure provision of hard and software, maintenance and other services.

v) To develop, customize and maintain applications and Information Systems.
vi) To offer desk and user support to the entire Institution.
vii) To manage, implement and monitor the Organization's ICT Infrastructure.

3.9 Classification of the Entities

3.9.1 District level

Every District shall have at least one (1) Information Communication Technology Officer.

Districts have a basic ICT infrastructure comprising of the following:
(i) Local Area Network – This network interconnects about 10 – 25 desktop computers, laptops and printers in some cases. There may be a server acting as a gateway and a proxy server. There will be a switch and a topology(s) implemented for cabling using unshielded twisted pair cable. The expected Standard for cable termination for all district LG's Local Area Network is T-568B.

(ii) Users – The Local Government/District office users shall require support. This officer shall be required to provide professional user support and training. User support includes assisting staff in the actual use of the computer hardware, use of application programmes, software installations and protection of hard ware using anti-virus software. A corporate guard for the entire District office is recommended. This is in contrast to installing anti-virus software on each stand alone computer.

(iii) Procurement and maintenance of hardware and software

3.9.1.1 The role of the ICT Officer:

- Provide guidance in the procurement of all hardware and software for the District;
- Prepare a schedule for servicing of equipment at least quarterly;
- Handles basic repairs of hardware;
- Performs system configurations and basic software/application installation, Troubleshoots in the event of software corruption.

(iv) E-mail

This is to be managed centrally at a single e-mail server. Users will therefore have e-mail accounts and e-mail clients running at their desktop computers.

3.9.2 Small Ministry/Agency

This is defined as an Institution that has ICT infrastructure comprising of the following:

(i) Local Area Network – This network interconnects 50 – 99 desktop computers. It will have laptops and printers in some cases. There may be a server acting as a gateway and a proxy server. There may be a mail server for central management of e-mail services. There will be switches and a topology(s) implemented for cabling using unshielded twisted pair cable. The suggested Standard for cable termination is T-568B.

(ii) User Support – Staff in such Institutions shall require support. The ICT unit shall be required to provide professional user support and training, involving assisting staff in the actual use of the computer hardware, use of application programmes, software installations and protection of hardware using anti-virus

software. A corporate anti-virus guard for the entire Ministry office is recommended in contrast to installing anti-virus software on each stand alone computer. In such a case, it will be necessary to have a router (Configured for Network Address Translation), a public IP address for the and a firewall to prevent unauthorized intrusion into the Ministry system by hackers.

An e-mail system shall be setup. A domain shall be registered and Active Directory configured for efficient management of users in the Ministry.

(iii) Procurement and maintenance of hardware and software

3.9.2.1 Role of Senior ICT Officer

The Senior ICT Officer shall be the head of the ICT section. The Senior ICT Officer shall;

- Provide guidance in the procurement of all hardware and software.
- Prepare a schedule for servicing of equipment at least quarterly.
- Handle basic repairs of hardware and perform system configurations.
- Handle basic software/application installations.
- Troubleshooting in the event of software corruption.

3.9.2.2 ICT Section Structure

The ICT Section shall comprise of the following Posts:

(a) Senior Information Technology Officer – Head of Section

(b) Information Technology Officer – With a strong background of Systems Administration

3.9.3 Medium Ministry/Agency

This is defined as an Institution that has ICT infrastructure comprising of the following:

(i) Local Area Network – This network interconnects 100 - 199 desktop computers, laptops and printers in some cases. There may be a server acting as a gateway and a proxy server. A router however is recommended because of the amount of traffic and complexity of the topology. Virtual LAN's may be implemented in this case. There will be a mail server for central management of e-mail services. A robust operating system like Linux is recommended here. This e-mail box may not be installed with any other application other than the e-mail application. There will be switches and a topology(s) implemented for cabling using unshielded twisted pair cable. The suggested Standard for cable termination is T-568B. In this type of Infrastructure, it will be necessary to setup wireless access points. For offices in multiple storey building, it is important to note that access points shall be installed for each floor for the appropriate strength of signal. This infrastructure shall have database systems and file servers. There may be need to develop simple databases and applications for users at this level.

(ii) User Support – Staff in such institutions shall require support. The ICT unit shall be required to provide professional user support and training involving assisting staff in the actual use of the computer hardware, use of application programmes, software installations and protection of hard ware using anti-virus software. A corporate anti-virus guard for the entire Ministry office is recommended in contrast to installing anti-virus software on each stand alone computer. It will also be necessary to have a router (Configured for Network Address Translation), a

public IP address for the Ministry and a firewall to prevent unauthorized intrusion into the Ministry system by hackers).

An e-mail system shall be setup. A domain shall be registered and Active Directory be configured for efficient management of users in the Ministry.

(iii) Procurement and maintenance of hardware and software – The ICT Unit, Headed by a Senior ICT Officer shall:

Provide guidance in the procurement of all hardware and software for the Ministry.

Prepare a schedule for servicing of equipment at least quarterly and do basic repairs of hardware and perform system configurations.

Handle basic software/application installations and troubleshooting in the event of software corruption.

3.9.3.1 The ICT Unit Composition

The ICT Unit shall comprise of the following Posts:

(a) Principal Information Technology Officer – Head of Unit
(b) Senior Information Technology Officer – With a strong background of Database systems
(c) Information technology Officers with proficiency in Networks and Systems administration.

3.9.4 Big Ministry / Agency

This is defined as an Institution that has ICT infrastructure comprising of the following:

(i) Local Area Network and Wide Are Network (For Branch Offices) – This network interconnects 200 – 500(300-8oo) desktop computers. It will also have laptops and printers. There shall be a server acting as a gateway and a proxy server. A high end router however is used because of the large volume and type of data traffic and complexity of the topology(s). Each site will have a simple router for Network address translation. Virtual LAN's are inevitable and will be implemented in this case.

(ii) There will be a mail server (Complex mail System like Win Exchange Server) for central management of e-mail services both internally and at the branches simultaneously. A robust high spec Server class machine and operating system like Linux is inevitable for mail management. It is necessary to plan for a massive data storage facility as well. This e-mail Server must not be installed with any other application other than the e-mail application.

(iii) There will be switches and a topology(s) implemented for cabling using unshielded twisted pair cable. The suggested Standard for cable termination is T-568B. In this type of Infrastructure, the setup of wireless access points is inevitable. File synchronization (especially for staff with data from the field) is implemented to ensure automatic harmonization of collected data with staff who did not travel to the field to collect the same data and yet depend on that data for their day to day operations. For offices in a multiple storey building, it is important to note that access points are installed for each floor for the appropriate strength of signal. Where a floor spans over 15 metres in length and not more than 40 metres in length, a second wireless access point may be available . This infrastructure incorporates complex database systems

and file servers and the need to develop complex databases and applications for users at this level will be regular.

(iv) User Support . Staff in such Institutions require plenty of user support more frequently. For this category, there may be need for the ICT Professionals to work Overtime or at night and/or in shifts and at weekends, providing a 24 hr service.The ICT Division shall :

Provide professional user support and training involving assisting staff in the actual use of the computer hardware, use of application programmes, software installations and protection of hard ware using anti-virus software.

A corporate anti-virus guard for the entire Ministry this level is a mandatory in contrast to installing anti-virus software on each stand alone computer. In such a case, it will be necessary to have a router (Configured for Network Address Translation), a public IP address for the Ministry and a firewall to prevent unauthorized intrusion into the Ministry system by hackers). Intrusion detections systems will be procured and installed as well.

An e-mail system shall be setup. A domain shall be registered and Active Directory be configured for efficient management of users in the Ministry.

It should be remembered at all times that such a Ministry / Agency will be running multiple Information Systems and Complex applications that require Professional specialized support.

(v) Procurement and maintenance of hardware and software: The ICT Division, Headed by the Assistant Commissioner in charge of Systems shall provide guidance in the procurement of all hardware and software for the Ministry / Agency. The ICT Division shall prepare a schedule for servicing of

equipment at least quarterly and do repairs of hardware and perform system configurations. The IT Division is also expected to do software/application installations and troubleshooting in the event of software corruption.

3.9.4.1 The ICT Division Composition

The IT Division shall comprise of the following officers:

(a) Assistant Commissioner – Head of Division
(b) Principal Information Technology Officer – With a strong background of Networks and Systems Infrastructure
(c) Senior Information technology Officer with proficiency in Networks, Database systems and Systems administration.
(d) Information Technology Officers with proficiency in Networks, Database systems, Systems Administration and Systems Design.

3.9.5 Giant Ministry / Agency

This is defined as an Institution that has very sophisticated, multiple complex information systems and ict infrastructure comprising of the following:

(i) Local Area Network and Wide Are Network (For Several Branch Offices) – This network interconnects 500+(800?) desktop computers, laptops, printers, and various types of multi–functional specialized equipment and facilities. There will be a server(s) acting as a gateway and a proxy server and use of a high end router. A router is availed for each other site because of the large volume and type of data traffic and complexity of the topology(s). The use of Virtual LAN's is inevitable. There will be a mail server (A complex mail system like Win Exchange Server) for central management of e-mail services both internally and at the branches simultaneously. A robust high

spec Server class machine and operating system like Linux is recommended here for mail management. It is necessary to plan for a massive data storage facility. This e-mail Server must not be installed with any other application other than the e-mail application. This is a security measure. There will be switches and a topology(s) implemented for cabling using unshielded twisted pair cable. Optical fiber cable may be used for inter branch connectivity. The application of Virtual Private Networks in this case may be a less expensive option. The suggested Standard for cable termination is T-568B. In this type of Infrastructure, it will be necessary to setup wireless access points. File synchronization (especially for staff with data collected from the field) may be implemented. This is for automatic harmonization of collected data with staff that did not travel to the field to access the same data for their day to day operations. For offices in a multiple storey building, it is important to note that access points shall be installed for each floor for the appropriate strength of signal. Where a floor spans over 15 metres in length but not more than 40 metres in length, a second wireless access point may be necessary. This infrastructure incorporates complex database systems and file servers. There will be need to develop databases and applications for users at this level.

(ii) User Support: Staff in such Institutions require plenty of user support more frequently. The ICT Department shall be required to manage issues of a strategic nature(policy and planning, projections, international negotiations,etc) and provide professional user support and training. This will involve assisting staff in the actual use of the computer hardware, use of application programmes, software installations and protection of hard ware

using anti-virus software. A corporate anti-virus guard for the entire Ministry at this level is a Must. This is in contrast to installing anti-virus software on each stand alone computer. In such a case, it will be necessary to have a router (Configured for Network Address Translation), a public IP address for the Ministry and a firewall to prevent unauthorized intrusion into the Ministry system by hackers). Intrusion detections systems will be procured and installed as well.

An e-mail system shall be setup. A domain shall be registered and Active Directory be configured for efficient management of users in the Ministry.

It should be remembered at all times that such a Ministry / Agency will be running multiple Information Systems and Complex applications that require specialized support.

(iii) Procurement and maintenance of hardware and software – The ICT Department, headed by the Commissioner shall provide guidance in the procurement of all hardware and software for the Ministry / Agency. The ICT Department shall prepare a schedule for servicing of equipment at least quarterly and do repairs of hardware and perform system configurations. The ICT Department is also expected to do software/application installations and troubleshooting in the event of software corruption.

3.9.6 The ICT/Communication Department Composition

The ICT Department shall comprise of the following officers:

(a) Commissioner – Head of Department
(b) Assistant Commissioner – Head of Division

(c) More than One Principal Information Technology Officer – With a strong background of Networks and Systems Infrastructure

(d) Several Senior Information technology Officers with proficiency in Networks, Database systems and Systems administration.

(e) Several Information Technology Officers with proficiency in Networks, Database systems, Systems Administration and Systems Design.

4 CHAPTER FOUR

4.1 JOB DESCRIPTIONS

4.1.1 Job Title : Commissioner – ICT

Salary Scale : U1SE

Reports to : Permanent Secretary

Directly controls : Assistant Commissioner – ICT

4.1.1.1 Job purpose:

To provide overall leadership, technical guidance and ensure harmonize approach in the development and implementation of information and communication systems/services /policies /strategies/ roles and regulations

4.1.1.2 Key Function:

- Providing effective leadership to ICT staff
- Overseeing the overall ICT systems at the Ministry and Coordinating the operations of the ICT Department
- Advising the Ministry on ICT Policy, strategy, Procedures and other ICT related issues
- Chairing regular Departmental meetings to review progress, examining performance problems, identifying alternative solutions and setting new targets
- Oversee the Preparation and approval of technical initiatives of Ministry operations
- Ensuring proper execution of hardware and software by the outside contractors and ensuring proper functioning and maintenance of ICT equipment.
- Representing the Ministry in Uganda government and non-government committees on ICT issues and its application
- Any other duties assigned by the Permanent Secretary

4.1.1.3 Person Specification

4.1.1.3.1 Qualification:

- An Honors Bachelor Degree in Information Technology or Management Information Systems, Computer Science, or Statistics/Mathematics (computer science option) or Business Computing from a recognized University/Institution
- Possession of a master's degree in any of the above or relevant fields from a recognized University/Institution is a must.
- Post Graduate Diploma in relevant field from a recognized University/Institution is an added advantage.

4.1.1.3.2 Experience

Must have a minimum of (09) years working experience, three (3) of which should have been served at the level of Assistant Commissioner or equivalent level of experience in Government or reputable organization.

4.1.1.3.3 Competences

Technical Competences

- Information Communication Technology
- Management of organizational environment
- Planning, Organizing and coordinating
- Good understanding of international protocols and conventions

Behavioral competences

- Innovativeness
- Teamwork leadership and Networking
- Concern for quality standards

- Accountability
- Knowledge management
- Communicating effective
- flexibility

4.1.2 Job Title: ASST. COMMISSIONER (Infrastructure and Networks)

Salary Scale : U1S

Reports to : COMMISSIONER FOR ICT

Directly controls: PRINCIPAL ICT OFFICER – Network Administrator

4.1.2.1 Job Purpose

To provide technical guidance/ expertise on all matters of infrastructure and networks with in the organization

4.1.2.2 Key Functions:

- Guide the functions of ICT services and End User support
- Guide the development of ICT security policies and oversee the implementation of efforts aimed at keeping ICT security up to standard
- Prepare and oversee service level agreements with contractors
- Ensuring the growth of LANs and WANs within Ministry departments for wider ICT linkages
- Generating both periodic and ad hoc reports on ICT services
- Formulating and reviewing information technology standards of operational hardware and software
- Identifying areas of ICT development and offer advice accordingly
- Develop a Security office mission and mandate
- Any other duties assigned by the commissioner from time to time.

4.1.2.3 Person Specification

4.1.2.3.1 Qualification:

- An Honors Bachelor Degree in Information Technology or Management Information Systems, Computer Science, or Statistics/Mathematics (computer science option) or Business Computing from a recognized University/Institution
- Possession of a Masters degree in any of the above or relevant fields from a recognized University/Institution
- Post graduate diploma in a relevant field is an added advantage

4.1.2.3.2 Experience

Must have a minimum of f (09) years working experience, three (3) of which should have been served at the level of Principal Officer or equivalent level of experience in Government or reputable organization.

4.1.2.3.3 Competences

Technical Competences

- Information Communication Technology
- Management of organizational environment
- Planning, Organizing and coordinating
- Good understanding of international protocols and conventions

Behavioral competences

- Innovativeness
- Teamwork leadership and Networking
- Concern for quality standards
- Accountability

- Knowledge management
- Communicating effective
- flexibility

4.1.3 Job Title: ASST. COMMISSIONER –(DATA/INFORMATION MGT SERVICES)

Salary Scale : U1S

Reports to : COMMISSIONER FOR ICT

Directly controls : PRINCIPAL ICT OFFICER – DATA/INFORMATION MGT SERVICES

4.1.3.1 Job purpose

To provide the technical guidance/expertise in all matters of Data/Information Management Services in MDAs/LGs

4.1.3.2 Key Functions:

- Reviewing existing systems with a view of Preparing specifications for application systems to meet business requirements
- Controlling Data Management services for the ministry
- Formulating and reviewing information management standards and policies
- Providing technical advice and support in the area of information management services
- Facilitating the development of strategic interventions necessary for information management services
- Establishing a mechanism to promote collaboration between various stakeholders
- Develop a Security office mission and mandate

- Managing shared services(e.g MDA Databanks, Unified messaging collaboration)
- Managing E.Government services
- Any other duties assigned by the commissioner from time to time.

4.1.3.3 Person Specification

4.1.3.3.1 Qualification:

- An honors bachelor Degree in Information Technology or Management Information Systems, Computer Science, or Statistics/Mathematics (computer science option) or Business Computing from a recognized University/Institution
- Possession of a masters degree in any of the above or relevant fields from a recognized University/Institution

Post graduate diploma in a relevant field is an added advantage

4.1.3.3.2 Experience

Must have a minimum of f (09) years working experience, three (3) of which should have been served at the level of Principal Officer or equivalent level of experience in Government or reputable organization.

4.1.3.3.3 Competences

Technical Competences

- Information Communication Technology
- Management of organizational and business environment
- Planning, Organizing and coordinating
- Good understanding of international protocols and conventions

Behavioral competences

- Innovativeness
- Teamwork leadership and Networking
- Concern for quality standards
- Accountability
- Knowledge management
- Communicating effective
- flexibility

4.1.4 Job Title: PRINCIPAL ICT OFFICER – Network Administrator

Salary Scale : U2

Reports to : Assistant Commissioner (Infrastructure and Networks)

Directly controls : Senior ICT Officer –Networks

4.1.4.1 Job purpose

To maintain and ensure effective operation of the networks.

4.1.4.2 Key Function

- Management and maintenance of LAN and WAN systems in accordance with industry standards.
- Provide routine support to Ministry staff on LAN, WAN and other ICT issues
- Conduct and organize staff development training in order to ensure optimum use of the available ICT infrastructure
- Ensure the acquisition and use of appropriate technologies to support Ministry/institution programme needs

- Monitor the use of internal data and voice communication facilities (equipment and software)
- Propose, specify and implement improvements of the network facilities
- Any other duties that may be assigned.

4.1.4.3 Person Specification

4.1.4.3.1 Qualification:

- Honors Degree in Computer Science or Information Technology and computing or Computer Information Systems and Administration or Business Information Systems, Business Computing, System Administration or Software Engineering System Design and Analysis.

- CISCO Certified Network Administration (CCNA), Oracle Certified Professional (OCP), Microsoft Certified Systems Engineering (MCSE), Microsoft System Development (MSD) and Oracle Certified Development (OCD), Information Security and Audit (ISACA) Certification among other.

4.1.4.3.2 Experience

Must have a minimum of f (09) years working experience, three (3) of which should have been served at the level of Principal Officer or equivalent level of experience in Government or reputable organization.

4.1.4.3.3 Competences

Technical Competences

- Information Communication Technology
- Management of organizational environment
- Planning, Organizing and coordinating

- Good understanding of international protocols and conventions

Behavioral competences

- Innovativeness
- Teamwork leadership and Networking
- Concern for quality standards
- Accountability
- Knowledge management
- Communicating effective
- Flexibility

4.1.5 Job Title : PRINCIPAL ICT OFFICER – System Analyst

Salary Scale : U2

Reports to : Assistant Commissioner (Infrastructure and Networks)

Directly controls : Senior ICT Officer –System Analyst

4.1.5.1 Job purpose

Configuration management covers a wide range of administration tasks. In its simplest form, this officer will maintain a logbook of relevant information about workstations, servers, data communication equipment (routers, hubs, patch panels etc), I/O peripherals and software characteristics. System and Network managers can refer to this information when they need to change the configuration determine or analyze the cause of some failure. Furthermore, this officer will handle acquisition and maintenance of these computers, communication systems and system software.

4.1.5.2 Key function

- Ensure daily functional operation and maintenance of the ICT infrastructure (Hardware and Software) including the LAN/WAN and its peripherals and advise management on ICT application issues
- Control user access to the LAN and ICT Resources like Network printers etc. at the Ministry
- Ensure that ICT policies are adhered to
- Prepare specifications of ICT Software and Hardware to be procured and keep an inventory what is procured
- Participate in technical and management committees as assigned by the Assistant commissioner for ICT whenever there is need.
- Strengthen and increase the application of ICT for the benefit of the Ministry/institution
- Manage IT Projects
- Any other duties assigned from time to time.

4.1.5.3 Person Specification

4.1.5.3.1 Qualification:

An honors bachelor Degree in Information Technology or Management Information Systems, Computer Science, or Statistics/Mathematics (computer science option) or Business Computing from a recognized University/Institution

4.1.5.3.2 Experience

Must have a minimum of f (09) years working experience, three (3) of which should have been served at the level of Principal Officer or equivalent level of experience in Government or reputable organization.

4.1.5.3.3 Competences

Technical Competences

- Information Communication Technology
- Management of organizational environment
- Planning, Organizing and coordinating
- Good understanding of international protocols and conventions

Behavioral competences

- Innovativeness
- Teamwork leadership and Networking
- Concern for quality standards
- Accountability
- Knowledge management
- Communicating effective
- Flexibility

4.1.6 Job Title : PRINCIPAL ICT OFFICER – IMS

Salary Scale : U2

Reports to : Assistant Commissioner Data and IMS

Directly controls : Senior ICT Officer/ IMS

4.1.6.1 Job purpose.

To maintain and regularly update the accuracy and integrity of the data.

4.1.6.2 Key functions

- Ensuring efficient database design and database implementation
- Maintain central database structures and administering access rights

- Advise the Assistant commissioner for Information management services and assist with the use of centralized and distributed databases
- Ensure the integrity and protection of Database systems
- Provide technical guidelines and assistance to staff and other stakeholders on Database matters and any other duties as assigned from time to time
- Test potential Software and advise on its application

4.1.6.3 Person Specification

4.1.6.4 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System with a post Graduate Diploma in Management from recognized University/Institution
- Or an Honours Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic with a minimum of post graduate diploma in Information Technology or Computer Science from recognized University/Institution.

4.1.7 Job Title: Senior ICT Officer – Systems Administrator

Salary Scale : U3

Reports to : PRINCIPAL ICT OFFICER – System Analyst

Directly controls : IT Officer (System Administrator)

4.1.7.1 Job purpose:

To provide technical support in the maintenance and updating of system networks.

4.1.7.2 Key function

- Take part in Identification, Authentication, and access Control for network users as a way of enforcing which entities have access to information to support Confidentiality and integrity of the network Resources
- Take part in firewall configuration, crypto practices and intrusion detection activities
- Handles Divisional service requests and take part in Recovery and restoration of a system to a "correct" state after a security incident
- Maintains network components (Hardware and Software) at Division Level and monitors incident details, including the configuration items affected
- Documents the resolution and recovery of assigned incidents and acts as
- A restoration team member, if required, during major incidents

4.1.7.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System with a post Graduate Diploma in Management from recognized University/Institution
- Or An Honours Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic with a minimum of post graduate diploma in Information Technology or Computer Science from recognized University/Institution.

4.1.8 Job Title: Senior ICT Officer – IT Security

Salary Scale : U3

Reports to : PRINCIPAL ICT OFFICER – System Analyst

Directly controls : IT Officer (Security)

4.1.8.1 Job purpose

To provide technical/tactical support and to ensure security network systems.

4.1.8.2 Key Function

- Ensuring the follow up of the IT security office mission and Mandate
- Take part in Security policy development and management
- Spearhead security training and awareness development
- Supervision or management of ethical hackers
- Facilitate the collection of security metrics
- Risk and Control Assessment - The incumbent shall be required to undertake risk assessment of the information assets of the organization. He/She is expected to recommend controls in light of the value vs. threat vs. vulnerability vs. cost.

4.1.8.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System with a post Graduate Diploma in Management from recognized University/Institution
- Or An Honours Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic with a minimum of post graduate diploma in Information Technology or Computer Science from recognized University/Institution

4.1.9 Job Title: IT Officers- Information Technology Security

Salary Scale : U4

Reports to : Senior ICT Officer – IT Security

4.1.9.1 Key function:

- Threat and Vulnerability Management. The security officer is required to conduct periodic vulnerability assessment of the assets of Ministry. Further he/she is expected to analyze the logs of the various systems for initiating preventive Mechanisms
- Ensuring adherence to information security policies and standards.
- Resolution of information security incidents and participate IT business continuity.
- Provide solicited or unsolicited information security consultancy to all sections of IT and the rest of the organization with approval of the Commissioner ICT.
- Document information security incidents.
- Facilitate compliance monitoring and regularly report to Commissioner ICT

4.1.9.2 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.10 Job Title: Senior IT Officer (System Administration)

Salary Scale : U3

Reports to : PRINCIPAL ICT OFFICER – System Analyst

Directly controls : IT Officer (Security)

4.1.10.1 Job purpose

The Senior ICT Officer- System Administration will be responsible for the operation and management of Ministry systems.

4.1.10.2 Key functions:-

- Work with the security team to ensure integrity of system resources
- Be responsibilities to add and delete users' equipment, partitioning disks as well as performing other administrative functions.
- Responsible for ensuring the file system integrity and providing user guidance.
- Supervise System Administrators
- Work with other team member coordinating upgrades of systems and related operating system issues

4.1.10.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.11 Job Title : IT Officer (System Administration)
Salary Scale : U4
Reports to : Senior ICT Officer – (System Administration)

4.1.11.1 Job purpose:

Design, test, implement and support the Operating Systems, Back Office Applications, Patch management, imaging and provisioning of new systems. These

individuals will lead and demonstrate Systems proficiency, build sustainable/scalable environments needed to support the business model.

4.1.11.2 Key function

- Maintain the operation health and stability of the infrastructure
- Maintain and support Active Directory, Exchange and any other servers.
- Proactively monitor and mitigate risk and proactively propose solutions, including the risk and benefit analysis.
- Responsible to Backup and restore all or parts of the system and Monitoring system performance.
- Configure Network User Resources and establish and maintain network connectivity.
- Carry out startup and shutdown procedures
- Demonstrate and share domain expertise to educate the surrounding team members to increase the collective knowledge of the team.
- Support and be responsive to off-hours emergencies and activities.
- Regularly Identify GAPS in current processes as they apply to the environment that this position supports and maintains; then update and maintain the process documentation.
- Mentor junior members of the IT Operations staff by providing regular learning sessions around this positions core responsibility.
- Have the ability to travel and support remote infrastructure in some or all of the remote offices.
- Administers GroupWise user accounts, permissions and access rights;
- Provides on-call support to end-users;

- Performs other duties assigned by supervisor.

4.1.11.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.12 Job Title : ICT Officer/Webmaster

Salary Scale : U4

Reports to : Senior ICT Officer – IT Security

4.1.12.1 Job purpose:

The Webmaster is responsible for the content and publication of the Ministry's website by coordinating, designing, and monitoring electronic publications for distribution over the worldwide Network. The webmaster is responsible for knowledge, understanding and compliance with the organization's publishing policies and rules.

4.1.12.2 Key functions:

- Providing Web Services for the Ministry
- Co-ordinate the efforts of webmasters responsible for individual sites where applicable
- Administrator and maintain the Ministry site and ensure security for the site
- Recommend and integrate web technology into the computing environment,

- Follow-up and Implements policies, procedures and plans for e-mail based on Ministry and National statutes as well as industry best practices;
- Configures, administers and maintains the E-mail system ensuring a high availability environment;
- Configures, maintains, supports and troubleshoots e-mail system
- Monitors and maintains e-mail filtering for viruses, spam and content
- Performs e-mail system backups and recovery;
- Ensure that the services provided support the information requirements of the organization,
- Maintain detailed technical infrastructure in areas such as:
    - domain name registration,
    - installation of web servers,
    - performance monitoring,
    - Implementation of scripts and interfaces, including security features.
- Work with the Network and security Department to specify firewalls,

4.1.12.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.13 Job Title : Senior IT Officer - Database Administration

Salary Scale : U3

Reports to : Principal ICT OFFICER

Directly controls : IT Officer (Database

4.1.13.1 Job purpose

Managing the Database Systems of the Institution.

4.1.13.2 Key functions

- Establishing and maintaining sound backup and recovery policies and procedures.
- Creating physical database storage structures after developers have designed an application.
- Administering database-management software and related utilities
- Installing, configuring, and upgrading database software and related products installation.
- Installation, configuration, security, backup and Recovery of databases
- Logging Technical Action reports (TARs) and applying patches.
- Monitoring and optimizing the performance of the database.
- Performing housekeeping tasks as required.
- Coordinating upgrades of system software products to resolve any database and operating system issues/conflicts.
- Under the guidance of the Principal DBA, set guidelines and procedures to determine when to do Full Versus Incremental Image Copy Backups.
- Monitoring and coordinating the update of the database recovery plan with the site's disaster recovery plan and ensuring that changes in the live site database are being updated in the disaster recovery site.

4.1.13.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.14 Job Title : IT Officer - Systems / Maintenance Officers

Salary Scale : U4

Reports to : Senior ICT Officer –Maintenance

4.1.14.1 Major purpose

- Document all procedures related to systems support responsibilities
- Facilitate the development of end-user support procedures.
- Provide ad-hoc and formal application training and support.
- Create documentation on the current configuration of user host machines.
- Provide support for other Systems as required by Management
- Performing routine audits of systems and software.
- Applying operating system updates, patches, and configuration changes.
- Installing and configuring new hardware and software

4.1.14.2 Main roles and responsibilities:-

- Adding, removing, or updating user account information, resetting passwords, etc.
- Troubleshooting any reported problems.
- On site troubleshooting for faults in hardware and software

4.1.14.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.15 Job Title : Senior ICT Officer - Systems Analysis)

Salary Scale : U3

Reports to : PRINCIPAL ICT OFFICER – System Analyst

Directly controls: IT Officer (Security)

4.1.15.1 Key function:-

- To carry out regular systems studies with a view of improving on organizational efficiency
- Configuration of Applications users, responsibilities and security
- Provide guidance and leadership to software engineers/Programmers
- Ensure Applications functional Security
- Manage and administer concurrent managers, concurrent programs
- and concurrent processing
- Responsible for the design and development of custom applications, interfaces and reports
- Generating Reports and making reports in regard to system change requirements and best practice procedures and ensuring Quality assurance.
- Perform systems analysis, design, and implementation-assistance for development and enhancement.

- Responsible for ensuring that business model, functional and data design, and technical architecture are consistently implemented.
- Any other duties that may be assigned from time to time.

4.1.15.2 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.16 Job Title : ICTO/ Programmer
Salary Scale : U4
Reports to : Senior ICT Officer –Maintenance

4.1.16.1 Job purpose:

Responsible for the analysis, design, development, training implementation, and maintenance for all custom software development including file server based database applications, client server based applications, and intranet/web based applications.

4.1.16.2 Key function:

- Analyze requests for custom software development and data requests
- and provide estimates of time and cost.
- Develop, test, implement, and maintain custom software and system
- Modules, Provide software analysis, detail design specifications,
- and development estimates and Provide programming and data analysis
- support for the custom intranet/web- based applications.

- Participation through all aspects of the Software Development Life Cycle, Testing of programs and quality control before deployment and as well creation of user guides for new features.
- Responsible for implementing data conversions including functional and technical design and documentation, also responsible for developing new workflows modifying existing ones and development of Portal solutions for the client's intranet and extranet.
- Responsible for Applications workflow administration, Configuration of
    - Forms, reports, Programs, Menus and Creating data groups and report
    - sets, Set up Flex field, Value sets and Validation Rules
- Configure profile Options
- Any other duties as may be assigned by the senior programmer.

4.1.16.3 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.17 Job Title : IT OFFICER – DBA

Salary Scale : U4

Reports to : Senior ICT Officer –Database

4.1.17.1 Key function:

- Maintain data standards, including adherence to the Data Protection Act
- Writing database documentation, including data standards, procedures and definitions for the data dictionary ('metadata').
- Database performance monitoring, tuning, and problem resolution
- Closely monitor performance, identify problems and implement solutions
- Ensure the database is running at optimum speed and efficiency
- Reorganize database structures as needed and initiate vendor support when necessary.
- Meeting users' access requirements and resolving their problems
- Develop and apply procedures relating to database and application security, create procedures by which access is authorized, enabled, changed, and withdrawn and ensure that access authorizations are periodically reviewed and passwords, user id's, etc., are regularly changed.
- Monitor and Run End of Day operations.
- Provide assistance in database design as needed; research and recommend optimal design criteria; publish standards and work with development staff; standardize environment and improve efficiency.
- Perform any other duties that may be assigned from time to time

4.1.17.2 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution

- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.1.18 Job Title: IT OFFICERS- NETWORKS

Salary Scale : U4

Reports to : Senior ICT Officer –Networks

4.1.18.1 Key function:-

- Prepare charts and diagrams to explain Network operation and to train LAN & WAN users in proper use of the Network
- Survey performance needs and goals of LAN & WAN users
- Monitor bandwidth usage, analyze traffic patterns and volumes, and determine impact/implications of issues.
- Analyze work load, including traffic and utilization trends.
- Ensure timely user notification of maintenance requirements and effects on system availability.
- Prepare checklists and processes for LAN & WAN help desk issue resolution.
- Diagnose and resolve hardware failures, network operating system problems and other LAN/WAN related malfunctions.
- Monitor and Run End of Day operations.
- Monitor and manage Internet bandwidth usage
- Perform any other duties that may be assigned from time to time

4.1.18.2 Qualification:

- An Honours Bachelors Degree in Information Technology or Information Science/System from recognized University/Institution
- Or An Honors' Degree in Library or Information Science/ Bachelor of Science in statistics, Mathematics/Physics/Electrical/Electronic from recognized University/Institution.

4.2 Other Recommendations

4.2.1 Standardization

The Ministry of ICT should take the lead in ensuring standardization of equipment, facilities and applications in MDAs/LGs to ensure quality and standards are adhered to. The Ministry of ICT should take lead in the development of schemes of service for the ICT cadre because this is a new cadre in the service that has to be developed by the parent Ministry. There is also need to harmonise the curricular for IT courses in the different Academic Institutions in the Country.

4.2.2 Rationalisation of Recruitment of ICT Personnel

Recruitment of all ICT Personnel in Ministries and Departments should be done by Public Service Commission with the technical support of NITA-U and under the policy direction of the Ministry of ICT. Cases where Technical services are needed NITA-U can provide technical advice or quality assure the TORs for the Company or individuals to be recruited to do the work.The recruited IT Personnel would therefore serve as the contact persons for NITA-Deployment of all IT Personnel in Ministries should be done by NITA-U.

4.2.3 Training and Capacity Building

There must be a concerted effort by all levels of Government to use ICT as a tool for enhancing performance. This will require training and capacity building of staff from time to time to impart knowledge on new IT developments and awareness on the benefits of IT. IT should be realized as a business driver and no longer as simply a support function.

4.2.3 Retention Strategy

IT Skills are very market contestable and in order to counteract high labour turnover of IT Personnel in Government and continued drifting into the private sector it is pertinent that a retention strategy of staff is developed and implemented. This may include payment of salaries that are comparable to private sector, salary top-ups, comprehensive training and professional networking. Special salary bands should be allocated within the existing salary scales to cater for IT Professionals. Last but not least there will be a need for harmonization and rationalization of salaries for IT Professionals.

4.2.4 Flexibility

The document should be more of a guideline (for uniformity and standard) other than a strict static structure document. Modifications can be done as and when the need arises.

4.2.4 Funding and Facilities

The impact of technology will only be felt if it's given the due attention it deserves in terms of funding. A percentage of every MDA's budget should be earmarked for enhancing and promoting the use of ICTs and encouraging IT experts with incentives to apply ICT innovatively.

RECOMMENDED MODEL STRUCTURES FOR THE VARIOUS CATEGORIES OF MDAS/LGS			
Category/Type MDA		**Staffing**	**Remarks**
Minimum/Small		- Principal ICT Officers - SICTO/Systems Administrator - SICTO/ Information Management Scientist(IMS) - ICTO/IMS - ICTO/Network Administration	These are the minimum requirements/facilities for each MDA.
Medium		- Principal ICTO - SICTO/ Systems Administration - SICTO/ Information Management Scientist(IMS) - ICTO/Network Administration - ICTO/IMS	- Each site will have its own router. - Data base administration only requisite if there is a complex data base. - Research on innovative use of IT (use of IT in Public Administration).
Big	-	- AC/ICT - Principal ICTO	- Strategy formulation - Policy guidelines on usage

		- SICTO/Systems Administrator - SICTO/Network Administrator - SICTO/Systems Analyst - SICTO/IMS - ICTO/IMS - ICTO	- Small information systems development - Some programming.
Giant		- Commissioner - Principal ICTO/Systems Administrator - Principal ICTO /Network Administrator - Principle ICTO/Systems Analyst - Principle/IMS - SICTO/IMS - SICTO/Data Base Administrator - SICTO - SICTO - ICTO - ICTO	These are multiplicity of complex information systems, large data bases, systems design, analysis and implementation in charge of huge complex sectors, requiring strategic plans and projections. - Working night shifts becomes essential for monitoring, backup and maintenance. - Regular programming existence of expert system and specialized equipment.
There are MDA's already with established Depts/Directorates, these shall remain. There also MDA's with functioning IEC Depts/arrangements. Effort will be made to rationalize ICT/Communication functions under common leadership.			

5 STATUS OF ICT FUNCTION/SERVICES IN SELECTED MDAS/LGS AND LOCAL GOVERNMENTS

Name of MDA/LGVT	Website & Email address	Summary of Roles and responsibilities	Existing MISs	ICT Equipment & Location	ICT Unit staff Title of Personnel In charge	Reports to	Comments Remarks & Future plans
Education Service Commission	www.eduse com.org call@eduse com.org		Internet and intranet MIS	42 computers, a server,	System information scientist		
Uganda Land Commission	luberengajo seph@yah oo.co.uk	Overall coordination of planning and budgeting for the land fund.			Out sourced from the Ministry of Lands, Housing and Urban Development		
Ministry of	Sebrican3	Maintenance of LAN,		Desktops,	Information		

Works and Transport	@yahoo.co .uk	Website updating, software & hardware maintenance, maintenance of WAN, etc		laptops, printers & scanners Finance and Administration	Scientist		
Ministry of Gender, Labour & Social Development			Labour Mgt MIS, National Adult Literacy MIS. Orphans and other vulnerable children MIS, Financial Mgt MIS		Acting Principle Systems Administrator (on contract)		
Ministry of Energy and Mineral Development	www.energyadminerals.go.ug kugonzarl		GIS	150-200 computers and a server	Systems information scientist		

	@energy.ug.og						
Ministry of East African Community Affairs	www.meaca.go.ug meaca@meaca.go.ug	Coordinate regional ICT initiatives aimed at promoting the EAC integration agenda	Financial MIS, Monitoring and Evaluation system	30 desktops, 2 servers, 20 printers, 20 notebook computers Production and Social Services	Outsourced		
Ministry of Trade, Tourism and Industry	www.mtti.go.ug mamupaire@mtti.go.ug	Website design & maintenance LAN maintenance –user support	Information sharing network	Desk tops, laptops, fax machines, servers, scanners, copier & projectors	Database Administrator		

				ICT Unit			
Courts of Judicature	www.judicature.go.ug servicesdesk@judicature.go.ug	Provide ICT services to court users through information systems development, management and maintenance ICT technical guidance and support to staff Management of comport service desk	Court Case MIS, IFMS Computer Inventory Management System, Fixed Assets MIS Court Recording and Transcription System	Desk tops, laptops, fax machines, servers, scanners, copier & projectors	Principle IT Officer (in charge) Computer programmer Systems administrator, Senior Information Technology Officer,	Under Secretary	
Ministry of Internal Affairs	www.mia.go.ug naf.cla.go.ug	Ensuring staff welfare & that there's adequate staff to manage the ministry activities. Providing ICT user support Maintaining and updating	Data Base MIS National Community Service Data Base Electronic Document Mgt System	Email server, Data server, routers, video conferencing equipment & computers	Senior Information Scientist (in charge) Information Scientist	Principal Personnel Officer	

		the Ministry website Managing ICT equipment Providing technical support on procurement and installation of computer soft and hardware		Finance & administration			
Directorate of Citizenship and Immigration Control	demisokecho@gmail.com	Management of Immigration statistics			Senior Statistician		
Health Service Commission	www.hsc.go.ug ckityo@hsc.go.ug	Systems administration	Financial MIS OBT Network folder system HSC LAN	Computers, servers, tele communication lines, LAN, internet Finance & administration	Economist/IT Officer	Principal Personnel Officer	

Cabinet Secretariat	www.cabinetsecretariat.go.ug		Cabinet Decision Tracking system	Windows server 2003, one LINUX box, 13 desktops, 4 laptops, 8 printers, 2 heavy duty photocopiers			
Ministry of Agriculture, Animal Industry and Fisheries	www.agriculture.go.ug shied@mail.com	Managing the ICT infrastructure. Offering Technical guidance and support to the procurement unit		Computers, printers, laptops, Planning	ICT Desk Officer	Head of Planning	
Office of the Prime Minister		Responsible for providing technical support and guidance to procurement. Management of ICT	IFMS	Desktops and notebooks, printers & photocopiers,	Principal Information Analyst (in charge)		

		infrastructure and equipment. Training of end users.		scanners, servers & storage, LAN switches, PABX	Senior systems analyst Principal systems Analyst Information scientist Information specialist		
Parliament of Uganda	amakata@parliament.go.ug		Human Resource MIS, Financial Mgt MIS Library MIS Research MIS Hansard MIS Bill Tracking MIS Digital Signature MIS	Desk tops, laptops, fax machines, servers, scanners, copier projectors, printers, UPS, routers,	Principle Systems administrator Senior systems analyst/programmer Senior web developer/administrator	Director ICT	

				switches, firewall PABX, tele conferencing equipment ICT Directorate	Senior IT technician IT technician		
Ministry of Defence	www.defence.go.ug Ps.mod@defence.go.ug		Integrated Resource MIS, Automated communication MIS, MOD Web Portal, Automated computation of survivors benefits, e-government backbone, Video Conferencing and Volp system	Severs, PABXs, firewall, network switches and routers, desktop computers & printers, scanners, fax machines, photocopiers, Administration			

Office of the President	www.officeofthepresident.go.ug		IFMS	Computers, printers, laptop, projectors telephone systems network Finance & administration	Senior Personnel Officer	PAS	
Ministry of Lands Housing & Urban Development	www.mlhud.go.ug mlhud@mlhud.go.ug	Provide support for the IT systems i.e. mail & Internet services running on a LAN Maintain all hardware & software running in good condition Administrative support for	Land Mgt system,	Computers, printers, video equipment, 1 PABX, 3 servers, 15 plotters, Finance and Administration	Systems Administrator	Under Secretary	

		procurement & mgt of services from prequalified service providers Advice the management on ICT related issues					
Mbarara District Local Government	www.mbarara.co.ug	Maintaining ICT equipment Liaising with service providers Maintaining and updating software/hardware Collecting and disseminating information	IFMS HMIS LOGISCS GIS	Server, switch ports, ADSL modem, laptops, 100 pcs, 30 printers, fax machine, PABX-17 Administration	Senior Information scientist	CAO	
Bushenyi District Local	mihairwep@yahoo.co			Radio, switches, servers, 2		Head of Planning	

Government	m			computers, printers, scanner Planning	CIS Data Supervisor		
Gulu District Local Government	Luwa2005 @gmail.co m	Monitoring the trend of population in the District	LOGICS, HMIS, CIS, SPECTRUM PASS	Computers, printers, photocopiers and scanners District Planning Department	District Population Officer	Head of Planning	
Oyam District Local Government	www.oyam. go.ug jamark27@ gmail.com	Planning and monitoring lower local governments		Planning Unit	District Population Officer	Head of Planning	