THE REPUBLIC OF UGANDA

MINISTRY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

NATIONAL ICT POLICY FOR UGANDA

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1.0 INTRODUCTION

1.1 Background

In the last two decades, a number of events have greatly changed the way people all over the world work and live. These are:

- Widespread use of the personal computer
- The ever present Internet together with the expansion of the World Wide Web, and
- Massive roll-out of mobile communications.

World over, ICT has revolutionized the way production, market access and distribution of goods and services are organized. This has led to new business models emerging on the horizon leading to fundamental changes in the way enterprises relate to consumers. The Internet and the use of web-based technologies have led to new communication modalities that have forced traditional media – TV, radio and newspapers – to devise new strategies and alternative scenarios in the struggle to remain relevant. In sectors like trade, education, health, banking and agriculture, technology developments have made it possible for people to acquire and exchange information in an increasing variety of formats and collaborate with one another across national boundaries. Even in Uganda, more and more people use the Internet daily to communicate and transact business.

Indeed, ICT plays a major role in all aspects of national life: economic life, politics as well as social and cultural development. It also relates to human rights and supports freedom of expression and the right to information. It is against this backdrop that Government of Uganda has recognized that ICT has become a key enabler of economic and social transformation as clearly articulated in the National Development Plan 2010/2015, where ICT has been identified as one of the Primary growth sectors.

Over the last 25 years, Government has been battling poverty through a number of programmes, among which was the PEAP. The global trend is that the government, market, civil society and community all need to work together and help to create conditions that will enable the poor to overcome their poverty, build their lives, economic and social assets, improve their capabilities, safeguard their security and reduce their risks and vulnerabilities. The role of ICTs is catalytic in this complex task of poverty reduction by leveraging effects on earning opportunities, on educational and health services, on good governance and on promoting democracy.

In its long term vision, government of Uganda, like all other countries aspires to be a globally competitive and prosperous nation with a high quality of life, within the shortest time possible.

Aware that ICT have the potential to impact economic growth by providing the catalytic role to other sectors, this new ICT policy is aimed at supporting the realization of the national vision. The thrust of the policy recommendations is aimed at enhancing the existing Sub-Sector Policies in the areas of Telecommunications, Postal services, Broadcasting, Information technology and Information management Services. It goes further to elucidate a number of crosscutting areas ranging from Research and Development, through Human capacity building to awareness creation and mass sensitization, among others. There is a separate chapter on emerging issues policy areas that include the Internet, Information Security, E-Government, the use of ICTS in education, Health, Agriculture, Commerce, and a number of other sectors. The understanding is that each subsector will develop its own detailed sector policy. Finally there are parts on Priority programmes, Institutional Framework, as well as Monitoring and Evaluation.

1.2 Global, regional national trends and commitments

The Millennium Development Goals (MDGs) provide an important starting point. The MDGs address specifically: eradication of extreme poverty and hunger; achievement of universal primary education; promotion of gender equality and empowerment of women; reduction of child mortality; improvement of maternal health; combating HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and development of global partnerships for the attainment of a more peaceful, just and prosperous world. These are reinforced by recommendations from international fora, especially the current process of the World Summit on the Information Society (WSIS) which recommended the following action lines:

- Governments and all stakeholders to play their role in promotion of ICTs for development by putting in place mechanisms to address the following:
  a) Information and communication infrastructure;
  b) Access to information and knowledge;
  c) Capacity building;
  d) Building of confidence and security in the use of ICTs;
  e) Requisite enabling environment;
  f) ICT applications in all aspects of life by embracing e-government, e-commerce, e-learning, e-health, e-employment, e-environment, e-agriculture and e-health;
  g) Cultural diversity and identity, linguistic diversity and local content;
  h) Media;
  i) Ethical dimensions of the Information Society; as well as
  j) International and regional cooperation.

At the national front, response to the MDGs is through the country's broad national development goals as stipulated in the Uganda Vision 2040 and actualised through the National Development Plan. The NDP has many pillars including the infrastructure and reform pillar; Universal Primary Education; National Health Policy; E-government

strategy; Medium-Term Competitive Strategy for the Private Sector (MTCS) and the strategic Export Intervention Program (SEIP) among others.

1.3 Situational Analysis

In 1996 Government adopted the telecommunications policy which led to the liberalization of the sector, creation of Uganda Communications Commission (UCC) as the regulator and privatization of the then incumbent, Uganda Posts and Telecommunications Corporation (UPTC). More reforms in the telecommunications sub-sector were pronounced in 2005 which further opened it up to full liberalization. In as much as the sub-sector was being reshaped using liberalization to attract foreign investments, government realized that there were new issues emerging due to rapid changes in technology and characterized by the advent of the internet, that it embarked a process to address these new trends, which culminated in the approval by Cabinet of National ICT Policy Framework in 2003 to guide the development of the ICT sector in Uganda.

In spite of these policy interventions, different aspects of ICT remained scattered in different Government ministries, leading to creation of silos and lack of coordination in development and implementation of programmes. To address this, a Ministry of ICT was created in 2006, with an aim of bringing all aspects of ICT under one roof. One of the first things the new Ministry addressed was to work on the law to create the National Information Technology Authority-Uganda (NITA-U). Its main objective was to focus on harnessing the Information Technology subsector to contribute to national development. Indeed NITA-U came into existence on 2009, but with a policy lacuna. Government went back to the drawing board and developed the National IT Policy to cushion NITA-U and indeed the policy was approved by Cabinet in 2011. Recently, an Information Management Services Policy has also been developed to address poor management of information resources within government and beyond.

Parallel to the above policy development initiatives, a Broadcasting Policy was developed in 2005, and Draft polices for the Postal sub-sector as well as one for

telecommunications are currently undergoing Cabinet approval processes. With all these sub-sector policies in place, it was deemed that the ICT Policy Framework of 2003 needs to be reviewed to take on board and amalgamate these policy pronouncement into one Policy document and capture other emerging areas that were not addressed before. This is a bottom-up approach that Government has adopted.

Having said that, it is important to underscore that under the previous policy regime, regulatory developments, along with other government and private sector initiatives have resulted in significant improvement of the ICT sector. For instance, Uganda has moved from approximately 250,000 available fixed telephone lines pre- 2003 to over 17 million available mobile telephone lines by the second quarter of 2012 and a penetration of more than 50%, thereby making Uganda's telecommunications market one of the fastest growing in Africa. There is now sizeable ICT deployment in the functioning of government organizations, as well as in the private sector. In addition, ICT now drives some activities in the financial and tourism and informal sectors while various e-Government initiatives are ongoing in various departments at all tiers of government.

Available statistics1 indicates the following;

- Mobile Penetration (per 100 people) - 50.5
- Fixed penetration (per 100 people) - 0.48
- Internet Penetration (per 100 people) - 21.48 (2012)
- Internet users 7.5 million-2012
- Internet wireless/mobile subscriptions – 1.5 million
- Fixed internet subscribers- 90,000
- Broadband Penetration - 9% (2012)
- PC Penetration (Number of PCs per 100) – 2.3 (2012)
- Computers Assembled in Uganda - < 500,000
- Number of registered ICT companies - 350
- Broadcasting stations nationwide TV – 44

- Broadcasting stations nationwide Radio - 211
- Post offices (total including postal agencies and post shops) - 500
- Licensed courier companies – 30

The above data demonstrates that some achievements have been realized in the last decade or so. However, the country needs move further ahead if it is to harness ICTs for further accelerated development and become a middle income country by 2040, as stipulated in Vision 2040; hence, the development of this new ICT Policy for Uganda.

1.4 Policy Guiding Principles

The guiding principles for the national ICT policy will include but not limited to the following:

a) Enhancing private public partnership in delivery of ICT infrastructure and services;
b) Ensuring universal access to basic ICT infrastructure;
c) Technology neutrality of ICT services;
d) Integrated ICT facilities and services consistent with technological convergence;
e) Globalization: The policy implementation shall take into consideration developments at the global level so as to capitalize on latest trends in ICT;
f) Addressing cross cutting issues in ICT such as sustainability, gender, youth and people with disabilities;
g) Promoting cultural diversity and identity, linguistic diversity and local content;
h) Providing enterprise-oriented and consumer-centric services.

2.0 Vision

'A knowledge society where Information and Communications Technology (ICT) is central in all spheres of life'

2.1 Mission

'To leverage ICT for transformation of Uganda into a Knowledge Society by 2025'

3.0   POLICY PRINCIPLES AND OBJECTIVES

3.1   Broad Policy objectives

The broad policy objectives of the national ICT policy are to;

i) Build a knowledge based human capital;

ii) Promote innovation in economic and social systems;

iii) Expand ICT infrastructure and its integration throughout the country;

iv) Deepen utilization of ICT services by government, private sector, not for profit organization and citizenry;

v) Enhance research and innovation in ICT products, applications, and services; and

vi) Improve ICT governance and environment in Uganda.

3.2   Policy Key action areas

The priorities for the ICT sector in Uganda arise from the development challenges, the National Development Plan, National (NDP), Regional and International commitments such as WSIS and MDGs. Based on these, the following are the priority action areas under this policy;

3.2.1 Expansion of ICT infrastructure and its integration throughout the country

The priority actions will include:

a) Extension of the national backbone infrastructure to cover the entire country as well as addressing last mile challenges;

b) Integration of the communication, broadcasting and Information infrastructure and systems;

c) Promotion of reliable and affordable ICT infrastructure in rural, remote and other underserved areas; and

d) Implement the migration roadmap from analogue to digital broadcasting

3.2.2 Deepening utilization of ICT services by government, private sector, not-for-profit organization and the wider citizenry

The priority actions will be as follows:

a) Development of a national e-government strategy and master plan;

b) Awareness creation and mindset change; and

c) Increasing penetration of ICT equipment, services and applications.

3.2.4 Enhance research and innovation in ICT products, applications, and services

The priority actions will be as follows:

a) Design and implementation of ICT research and innovation activities;

b) Promote ICT industrial production and assembling;

c) Promote software and applications development; and

d) Set up ICT parks to support research and development as well as innovation.

3.2.5 Improve ICT governance and environment in Uganda

a) Consolidate reforms in the institutional, policy, legal and regulatory environment for ICT sector/industry; and

b) Provide for standards and regulations for ICT.

4.0 POLICY OBJECTIVES AND STRATEGIES

To achieve the mission and realize the vision for this policy, a number of policy objectives have been identified covering the sub sectors of Telecommunications, Broadcasting, Postal, Information Technology, Information Management Services as well as other crosscutting and emerging areas. Subsequent strategies for these policy objectives are also enlisted.

4.1 TELECOMMUNICATIONS

In recognition of the crucial role that easy access to relevant information and efficient communications play in supporting human development, it is government policy to

ensure equitable and affordable access to telecommunication services for all the citizens of Uganda through an enabled and competitive private sector.

Government recognizes that a purely commercial approach would marginalize the majority of the citizens, and has therefore made universal access, supported by appropriate PPPs, a key objective.

Government shall ensure that Telecommunication services are readily accessible to all at reasonable cost and good quality of service.

To this end, the following objectives and strategies are lined up:

Policy Objectives:

i. To ensure efficient management and utilization of telecommunications resources for sustainable socio – economic development;

ii. To further strengthen a legal and regulatory environment that supports development of Uganda's Telecommunications sub- sector;

iii. To create a conducive environment for the establishment of a fully liberalized, neutral and competitive telecommunications sector; and

iv. To promote value added services, access to information and service needs to all sectors of society especially the marginalized sections of society (rural or low income communities and people with disabilities).

Policy Strategies:

Policy Objective i: To ensure efficient management of telecommunications resources for sustainable human development

Strategies:

a) Maintain a fully liberalized sub-sector in order to attract additional investment in the sector;

b) Promote a pricing and tariff regime that incorporates fair interconnection rates and facilitates the achievement of affordable telecommunications services, including special pricing models for education and health (E- rate pricing model);

c) Provide incentives such as tax relief for network infrastructure, ICT development, application tools and software, and reduction of excise tax as well as VAT on ICT end-user equipment in order to improve access and affordability; and

d) Provide for a legal and policy framework for government to monitor and establish a baseline for collection of revenue from national and international telecommunication traffic.

Policy Objective ii: To promote and further strengthen the legal and regulatory environment that supports development of Uganda's Telecommunications sector.

Strategies:

a) Review, existing legal framework to provide a competitive environment that facilitates and encourages investment in the telecommunications sector;

b) Review, harmonize as well as monitor the existing legal and policy framework both within and to regional and international requirements to support and promote a liberalized, competitive and innovative telecommunications sector;

c) Develop the subsector specific competition provisions.

Policy Objective iii: To create a conducive environment for the establishment of a fully liberalized technology neutral and competitive telecommunications sector

Strategies:

a) Establishment of a centralized mechanism to plan, build and manage all the public communications Infrastructure in a coordinated manner;

b) Enforce fair and efficient management of scarce resources such as spectrum, numbering and rights of way

Policy Objective iv: To promote value added services, access to information and service needs to all sectors of society, especially the marginalized sections of society (rural or poor communities, women, and people with disabilities).

Strategies:

a) Develop provisions for regulation of value added services provided over telecommunications networks, like Mobile money; and

b)   Promote the development of telecommunications products and services in local languages.

4.2   BROADCASTING

Broadcasting plays an important role in promoting good governance, accountability and transparency in both public and private institutions hence contributing to the achievement of the NDP.

The interventions in this sub sector aim to promote a broadcasting system based on universal access, diversity within a framework of national unity, democratization on airwaves, nation building, education and strengthening the moral fibre of society. They also will promote the delivery of high quality and efficient broadcasting services by both public and private service providers.

To this end, the following objectives and strategies are lined up:

Policy Objectives

i.   To Restructure the existing public broadcaster to provide for independence in signal distribution and content

ii.   To ensure that commercial operators strike a balance between profit and social responsibility

iii.   Promote broadcasting which is for, by and about specific geographical communities or communities of interest, whose ownership and management is representative of those communities, which pursues a social development agenda and which is not-for-profit;

iv.   To provide a platform for growth of additional television and radio services either via conventional television and radio services or by interactive multimedia, and other services delivered from the Internet;

v.   To ensure effective regulation of media ownership in order to safeguard pluralism, diversity and the overall national interest;

vi. To promote the growth of the electronic media advertising industry;

vii. To promote the growth of the electronic media advertising industry;

viii. To ensure that broadcasters seen as a whole play a crucial role in providing a level playing field in the electronic media for all political actors so as to promote political and socio-economic development; and

ix. To ensure that the minors are protected from pornography and violent programming.

To this end, the following objectives and strategies are lined up:

Objective i: Restructure the existing public broadcaster to provide for independence in signal distribution and content.

Strategies:

a) Provide an enabling legislation for the establishment of a public broadcaster;

b) Ensure that programming promotes diversity.

Objective ii: Ensure that commercial operators strike a balance between profit and social responsibility.

Strategies:

a) Ensure a significant percentage of local content;

b) Ensure high professional standards of journalism and integrity;

c) Provide programmes of specific interest to the poor and the vulnerable

Objective iii: Promote broadcasting which is for, by and about specific geographical communities or communities of interest, whose ownership and management is representative of those communities, which pursues a social development agenda and which is not-for-profit.

Strategies:

a) Ensure that community broadcasting promotes co-existence, communication and good governance

b) Ensure that the structure and mandate of the existing community media conform to internationally accepted best practices for this category;

c) Ensure that programming promotes political and socio-economic development.

Objective iv: To provide a platform for growth of additional television and radio services either via conventional television and radio services or by interactive multimedia, and other services delivered from the Internet.

Strategies:

a) Create business opportunities for Ugandan entrepreneurs.

Objective v: To ensure effective regulation of media ownership in order to safeguard pluralism, diversity and the overall national interest.

Strategies:

a) Regulate media ownership in such a way as to safeguard pluralism, diversity and the overall national interest.

Objective vi: To streamline the operations of the film and music industries and promote local production and talent.

Strategies:

a) Support the development of local production of music, film, video, advertisements and sound plays;

b) Ensure that the rights of local talent are protected

Objective vii: To promote the growth of the electronic media advertising industry.

Strategies:

a) Streamline the operations of the advertising industry

b) Monitor and control the quality of advertisements aired

c) Support training in local advertisement production

d) Ensure fairness in political advertising

Objective viii: To ensure that broadcasters seen as a whole play a crucial role in providing a level playing field in the electronic media for all political actors so as to promote political and socio-economic development.

Strategies:

a)   Monitor the airwaves to ensure compliance of the broadcaster with the law; and

b)   Promote training of broadcasters in responsible political broadcasting ethics in liaison with the relevant stakeholders.

Objective ix: To ensure that the minors are protected from pornography and violent programming.

Strategies:

a)   Establish and enforce ethical broadcasting standards that address both pornography and violence; and

b)   Develop a rating system to ensure that the public has adequate advance information about the content of films/programs to be able to make informed viewing choices.

4.3 POSTAL

Information Communications Technology provides numerous possibilities in the delivery of postal services. For instance, automation of mail sorting, and coding has the potential of reducing cost, increasing efficiency and quality of postal services. Further, provision of services such as e-commerce and e-government can enhance the relevance of the postal services, thus compensating for the decline in mail volumes due to the increased usage of electronic substitutes to physical mail.

Uganda needs to develop and embrace ICT in the postal sub-sector with particular emphasis operational data and address management. Appropriate automation of the various mail processes will not only cut down on mail handling costs but will also improve on the efficiency and quality of postal services.

Objectives:

i. To ensure an integrated approach to the development and deployment of postal services including other supporting infrastructure such as electricity and transport infrastructure;

ii. To create an innovative, market responsive, highly competitive, coordinated and well regulated ICT supported postal sub-sector;

iii. To facilitate Joint Venture initiatives for postal operators between local entrepreneurs and international private investors in the provision of postal ICT goods and services;

iv. To develop ICT business start-up projects and technology parks to accelerate the development of modern ICT-based postal products and services;

v. To restructure the postal sub-sector with a view of making ICT a significant contributor to the provision of postal services;

vi. To ensure that all postal related activities have minimal negative environmental impact during construction, operation and disposal/de-commissioning.

Strategies:

Objective i: To ensure an integrated approach to the development and deployment of postal services including other supporting infrastructure such as electricity and transport infrastructure**.**

Strategies:

a) Develop alternative and affordable energy sources for ICT postal equipment including solar, biomass, wind and other renewable energy sources to supplement the nation's traditional energy sources;

b) Fast track the implementation of the National Postcode and Addressing system.

Objective ii: To create an innovative, market responsive, highly competitive, coordinated and well regulated ICT supported postal sub-sector.

Strategy:

a) Promote, stimulate and support the development of innovative local ICT applications to meet the requirements of the postal sub-sector;

Objective iii: To facilitate Joint Venture initiatives for postal operators between local entrepreneurs and international private investors in the provision of postal ICT goods and services.

Strategy:

a) Establish and maintain a legal and regulatory environment conducive enough to promote and support the use of ICTs in the delivery of postal services;

Objective iv: To develop ICT business start-up projects and technology parks to accelerate the development of modern ICT-based postal products and services.

Strategy:

a) Create Centers of Excellence for the research, manufacturing, and assembly of postal ICT products as well as the training of ICT professional in the postal sub-sector;

Objective v: To restructure the postal sub-sector with a view of making ICT a significant contributor to the provision of postal services.

Strategy:

a) Develop and implement special incentives like tax reviews to promote the development of affordable local ICT solutions in the postal sub-sector;

Objective vi: To ensure that all postal related activities have minimal negative environmental impact during construction, operation and disposal/de-commissioning.

Strategies:

a) Develop appropriate database systems and applications including Geographic Information Systems (GIS) to support the integration of ICTs in the provision of postal products and services; and

b) Encourage the development of ICT Expos/conferences and other knowledge dissemination approaches for stakeholders of the postal sub-sector to ensure technology updates, awareness creation, advocacy, and adherence to standards

4.4 INFORMATION TECHNOLOGY AND INFORMATION MANAGEMENT SERVICES

Uganda has immense growth prospects for developing world-class Information Technology (IT) industry and services so as to contribute substantially to her economic growth. It's opportune that Uganda strategically positions herself to attract international IT companies through the development of a suitable IT infrastructure. Government recognizes IT as the enabling tool for development of the country and this policy will support, the promotion of IT in various sectors including Natural Resource Management (Petroleum, Minerals, water bodies, etc). It will above all facilitate widespread roll-out of e-government services so as to actualize good governance and bring in efficiency and effectiveness in service delivery.

This policy focuses on the development of the IT industry, promotion of Information Management Services (IMS), as well as spearhead development of IT Enabled Services (ITES) in the country.

To this end, the following objectives and strategies are lined up:

Objectives:
   i. To promote the utilization of Information Technology Enabled Services (ITES) to support Business Process Outsourcing (BPO) as a key intervention for job creation; and
   ii. To promote the development of the hardware and software industry.

Strategies:

Objective i: To promote the utilization of Information Technology Enabled Services (ITES) to support Business Process Outsourcing (BPO) as a key intervention for job creation.

Strategies:

a) Set up a policy framework for the ITES/BPO industry in Uganda;

b) Put in place appropriate incentives that will boost and attract investors in the ITES/BPO such as subsides on Bandwidth to enhance global competition;

c) Market Uganda as a preferred ITES/BPO destination within the region; and

d) To establish partnerships with the private sector to enable the sustainability of the ITES/BPO industry once it is set up.

Objective ii: To promote the development of the hardware and software industry

Strategies:

a) Initiate Public Private sector Partnerships in the hardware and software development industry with a view to accessing the export market;

b) Mobilize investment in the software and hardware development industry through incentives such as setting up a Hardware Development Fund; and

c) Encourage the development of software for the local market and export.

4.6 CROSS CUTTING POLICY AREAS

A number of policy issues cross cut across the sub sectors of Telecommunications, Broadcasting, Postal, Information Technology and Information Management Services. These include ICT infrastructure, legal and regulatory framework, Private sector participation, National ICT Standards , Information Security, Human Resource Development, Research and Development, Universal Access, ICT in Governance, Mainstreaming Women, Youth and PWDs Issues, IT Promotion and Awareness.

This Chapter presents the policy interventions in these areas:

4.6.1 ICT Infrastructure

The availability of a robust ICT infrastructure underpins the sustainable growth in the sector. Similarly, the harnessing of emerging ICT technologies helps in developing new services, make existing operations more efficient and open up new markets. A pivotal area of intervention is the definition of a set of policies on Infrastructure and ICT Emerging Technologies. On top of this, the effective functioning of the market depends on modern infrastructure that is capable of supporting emerging technologies and services. It is imperative that Uganda builds and sustains such an infrastructure.

To this end, the following strategies are lined up:

a) Scale up the National Backbone Infrastructure (NBI) to cover the whole country to simplify the mode and speed of service delivery to the public. This will help to reduce duplication of effort by various arms of Government;

b) Optimize the connectivity to the undersea fibre optic cables on the East African coast;

c) Encourage participation of the private sector in IT infrastructure development;

d) Put in place mechanisms for quality assurance in infrastructure development;

e) Encourage Internet Service Providers (ISPs) to provide access to the network-based services from even the most remote locations in the country;

f) Develop rural investment incentives to facilitate the expansion of the national postal infrastructure;

g) Develop alternative and affordable energy sources for postal equipment including solar, biomass, wind and other renewable energy sources; and

h) Establish a country-wide network riding on the on-going National Transmission Backbone Infrastructure development project.

4.6.2 Legal and Regulatory Framework

Currently, the laws guiding the ICT sector are treated under various legislations. These laws are however not comprehensive enough to deal with emerging trends in the sector. There is, therefore, need for the Uganda to pluck the gaps in the existing legal framework.

To this end, the following strategies are lined up:

a) A converged ICT regulator agency;

b) legislation that address privacy and data protection, intellectual property rights and update existing legislation to cater for cyber-crime ;

c) Competition and Public-Private Partnership;

d) Advocate for curriculum review at Law Development Centre (LDC) to include ICT related Laws;

e) Hasten enforcement and awareness of the ICT related laws;

4.6.3 Private sector participation

In line with Uganda's macro-economic policy, Government recognizes the Private sector as a key partner who plays a critical role in the process of developing Uganda's information society and economy. The private sector is expected, among other things, to serve as the key driver for the development of the Ugandan economy by providing domestic and foreign investments in ICT services and infrastructure development, as well as facilitate the mobilization of resources to implement ICT initiatives outlined in this policy.

To this end, the following strategies are lined up:

a) Involve the private sector in the development of policies, strategic plans and implementation of programs in the sector;

b) Partner with the private sector in devising innovative and productive ways of establishing a competitive local ICT industry so as to guarantee Uganda's effective participation in the global economy;

c) Take advantage of business opportunities resulting from the implementation of information society initiatives at International, Regional and National Levels;

d) Partner with the private sector to support the development of the nation's human resources including promoting private sector investment in education as well as in R&D;

e) Support the development of local capacity for the manufacturing of ICT products, creating software applications, as well as creating innovative services for local and export markets; and

f) Advocate for investing in ICT projects for rural and underserved urban areas, as well as traditionally disadvantaged areas.

4.6.4 National ICT Standards

To date, there has been some effort in regards to developing national standards and regulations pertaining to the ICT sector. Most standards are still in draft form and where they exist, they are not implemented. There is therefore need to develop all the necessary standards, regulations and guidelines to facilitate the implementation of polices in the ICT sector.

To this end, the following policy strategies are lined up:

a) Develop guidelines and set standards for software and hardware development, through public and private partnerships;

b) Develop and set standards for ICT equipment importation;

c) Provide technical guidance to both the public and private sector, including standards for software and hardware development and usage; and

d) Enforce and monitor compliance to set standards.

4.6.5 Information Security

The emerging trend for increased information access/exchange resulting from integrating ICTs within the social, cultural and economic sphere of the country also brings to the fore a number of security, privacy and consumer protection issues that

need to be addressed as part of the efforts of developing an information society. Uganda like most countries in the world is vulnerable to some of the negative implications that may hinder the mainstreaming of ICTs in society. Therefore, specific security measures and mechanisms to ensure the safety of citizens, communities, businesses and the nation at large are needed as part of implementing this policy.

To this end, the following strategies are lined up:

a) Secure the nation's electronic communication system (individual, private and public) as part of creating the information society;

b) Enhance user confidence and trust among the public as well as to both protect data and network integrity;

c) Prevent, detect and respond to cyber-crime and misuse of ICT so as to contribute to the fight against national, regional and international crimes such as pornography, fraud, money laundering, drug trafficking and terrorism;

d) Ensure cross-sectoral linkages and co-ordination among security agencies in order to adequately address ICT related security concerns;

e) Develop security policies, standards and procedures to guide the implementation of ICTs in the country;

f) Implement ICT Security awareness programmes amongst corporate and users as well as the general public;

g) Implement systems that will help in the detection, prevention and timely response to threats relating to ICT crimes and misuse;

h) Deploy ICTs to facilitate, support and enhance the management, operation and administration of security matters as well as the command and control structure of National Security Agencies; and

i) Implement ICT skills development within the Security Agencies to support effective deployment and application of ICTs in operations and service delivery.

4.6.6 Human Resource Development

Manpower development is imperative for the local IT industry to take root on a large scale in Uganda. For the country to achieve and maintain the position of an important player in the international IT market. A large pool of skilled manpower is required for all components of the IT industry and it has to be geared to meet both local and export needs. However, currently the professional IT human resource in both public and private sectors is inadequate lacks relevant professional skills. There is a high rate of IT illiteracy in both public and private sectors, which is characterized by a digital divide between urban and rural areas, as well as between men and women.

To this end, the following strategies are lined up:

a) Develop a comprehensive plan for human resource development in IT to meet present and future manpower needs;

b) Devise and implement a scheme for distributing affordable computers and Internet access to all academic institutions;

c) Encourage educational institutions to automate their management systems;

d) Establish a national educational network to enable sharing among educational institutions of e-libraries, teaching and tutorial systems;

e) Strengthen existing IT training institutions and setup new IT centers of excellence in all districts in Uganda to develop the requisite skills in various IT aspects including software and hardware development, network management and security through in-service training;

f) Encourage academic institutions to embrace e-learning so as to enable equitable regional access to IT training in all parts of the country;

g) Ensure inclusion of a comprehensive and regularly updated computer literacy module in the curriculum at all levels of education using international benchmarks as reference;

h) Establish an accreditation council to ensure quality IT education and training;

i) Promote "Training of Trainers" scheme to boost capacity building in IT;

j) Advocate for training and re-training of all personnel in the Justice, Law and Order Sector (JLOS) in applying and using IT to improve the delivery of justice;

k) Encourage IT companies to play a significant role in IT education through internship and industrial training schemes; and

l) Ensure equal opportunity in basic IT training at all levels taking into consideration special interest groups namely; Women, Youth and PWDs.

4.6.7 Research and Development

Research and development in the IT industry is currently almost non-existent. Activity in this area is mainly in institutions of higher learning which are doing it at small scale with limited funds.. Government policy in this area will be to prioritize IT research. Content development including translation of digital content to local languages is hardly done, yet quite essential.

To this end, the following strategies are lined up:

a) Setup a high level institutional framework to coordinate and focus R&D efforts in the country;

b) Mobilize funds for R & D in identified Universities and encourage joint R&D efforts between the private sector and the universities;

c) Encourage industries to set up R & D centres at university level through matching grants and focused joint projects;

d) Set up electronic libraries with on-line linkages to reputed scientific information repositories, accessible to all major towns in the country to ensure economical and equitable access to world class information and publications;

e) Establish IT parks and incubators equipped with modern facilities to provide one stop shops for researchers and investors in the IT industry;

f) Introduce "Innovative ideas" competitions countrywide covering all levels (from primary schools to tertiary institutions) and R & D centres to instill the spirit of innovation and excellence in young professionals;

g) Encourage operational research within organizations;

h) Promote self-reliance in planning, implementation usage and maintenance of IT systems and equipment;

i) Stimulate growth of local IT industries through provision of government incentives;

j) Build close links between academia, R&D organizations and Ugandan IT industry, to encourage collaborative activities; and

k) Keep watch on global IT trends vis-a-vis Uganda's competitiveness in the field.

4.6.8 Universal Access

Uganda has been implementing the Rural Communications Development Policy (2001) that addresses universal access among others. Although commendable progress has been made, substantial gaps still exist, especially in broadband access.

To this end, the following strategies are lined up:

a) Roll out the last-mile broadband access countrywide in the shortest possible time;

b) Subsidize infrastructure deployment including broadband that would foster universal access/service;

c) Utilize existing infrastructure (Post Offices, Schools, Hospitals) to extend universal access/service;

d) Provide computers in public places (e.g. post offices, schools, public libraries, etc.) in small and large communities to help low-income segments of society gain access to the internet and for business, educational and other purposes; and

e) Establish an independent Universal Access Service Fund for the converged industry for effective and efficient delivery of services to un-served and underserved areas of the country.

4.6.9 ICT in Governance

The ICT (Information and Communication Technology) Governance means actively identifying the service needs of the Government and her customers and to focus on

planning and delivering these services to meet availability, performance, and security requirements. It also aims at managing service level agreements to meet agreed-upon security, quality and cost targets. Successful operation of an ICT unit of the government would require it to be fully integrated with the complete lifecycle of Government's processes, improving service quality and Government agility.

Issues addressed by ICT Governance: policy management, budget management, risk management, strategy management, portfolio Investment and investment delivery and enterprise architecture

To this end, the following strategies are lined up:

a) Institute ICT Governance and ICT Management
b) Continuously identify the appropriate Frameworks and models for effective Governance of ICT
c) Establish an Organizational Structure to best achieve ICT Governance and ICT Management in Government.

ICT Governance will provide direction for investment activity ensuring: Alignment with business strategy and objectives, ICT enables department growth and efficiency, Responsible use of ICT resources, appropriate management of ICT-related risks.

4.6.1.1 Mainstreaming Women, Youth and PWDs Issues

The successful penetration of ICTs within the existing social and economic structures depends on its people. However, women, youth and PWDs are at times marginalized in most activities but constitute a very important segment of society. Therefore, there is need to address them as special groups in society that can positively contribute to the growth of ICTs as well as the use of ICTs as empowerment tools in their daily activities.

To this end, the following strategies are lined up:

a) Promote ICT as an alternative career for women, youth and PWDs in the informal and formal educational system;

b) Encourage creativity and innovation around ICTs among women, youth and PWDs leading to entrepreneurship development;

c) Enable full and equal participation of women, youth and PWDs in creating the Information society;

d) Implement special ICT training programs for women, youth and PWDs;

e) Facilitate and encourage the development of electronic networks and systems for associations and organizations engaged in the advancement of women, youth and PWDs issues in the country; and

f) Implement ICT programmes/ projects focusing on combating HIV/AIDS among women, youth and PWDs.

4.6.1.2 IT Promotion and Awareness

IT promotion and awareness creation has mainly been done in the public sector but to a limited capacity. As far as the private sector is concerned both promotion and awareness creation is still lacking.

To this end, the following strategies are lined up:

a) Put in place mechanisms to promote IT awareness and reduce the digital divide between urban and rural, urban and urban, men and women;

b) Promote IT usage in government by ensuring that all top leaders in government make transform the institutions under their control by automating their work as a priority;

c) Encourage production of local content in local languages over the Internet;

d) Establishing interactive for a for all government offices to share information on new technologies and their benefits;

e) Encourage utilization and expansion of start-up activities set up by the government;

f) Mobilize and sensitize communities about the importance of usage of IT in their day-to-day economic activities;

g) Facilitate and encourage the use of IT by special interest groups to make them more productive in the society and utilize this largely untapped human resource. (Special interest groups include: women, youth and PWDs);

h) Encourage use of open source software and low cost commercial versions of software for normal operations;

i) Encourage the setting up of a "content industry", comprising of local content and translation to local languages;

j) Organize annual special events to show case the development, application and benefits of embracing and using IT; and

k) Encourage the use of Internet and Intranet for inter-office communication within government.

5.0 EMERGING POLICY AREAS

Due to the dynamic nature of the ICT sector, a number of areas have emerged over the last few years that necessitate Government's policy announcement. These include Internet, E-waste management, ICT applications, E-Government, E-business, E-learning, E-commerce, E-health, E-employment, E-environment, E-agriculture, E-science, cultural diversity and identity, E-media, E-immigration, youth and women as well as tourism.

This Chapter presents the policy interventions in these areas.

5.1 Enabling environment for the Internet

The internet has made information available in a quick and easy manner, publicly accessible and within easy reach. It has revolutionized communications and social networking, creating a zone which is so international.

People communicate, share data and work via the internet all day, every day, everywhere, without realizing that it is completely decentralized. The internet plays a great role in removing the borders of nations, and assisting in the process of globalization.

It is important that Uganda puts in place policy interventions that enable quick uptake and use of internet by the population to use it as a tool in their day-to-day economic, educational and social activities.

To this end, the following strategies are lined up:
a) Streamline the management of the dot UG Country Code Top Level Domain name (.UG ccTLD) in line with international best practices;
b) Put in place mechanisms to ensure that the country is ready for the transition to the next generation global Internet delivery mechanisms including Internet Protocol Version 6 (IPv6) address space.
c) Optimize the operations of the national Internet Exchange Point and participate in the establishment of regional and international Internet Exchange Points;
d) In cooperation with the relevant stakeholders, promote regional root servers and the use of internationalized domain names in order to overcome barriers to access; and
e) Promote the development and use of open, interoperable, non-discriminatory and demand-driven standards.

5.2   ICT applications: benefits in all aspects of life

ICT applications can support sustainable development, in the fields of public administration, business, education and training, health, employment, environment, agriculture and science within the framework of national e-strategies. This will include actions within the following sectors:

5.2.1 E-government

a) Implement e-government strategies focusing on applications aimed at innovating and promoting transparency in public administrations and democratic processes, improving efficiency and strengthening relations with citizens;

b) Develop national e-government initiatives and services, at all levels, adapted to the needs of citizens and business, to achieve a more efficient allocation of resources and public goods; and

c) Support international cooperation initiatives in the field of e-government, in order to enhance transparency, accountability and efficiency at all levels of government.

5.2.2 E-Commerce

a) Promote the benefits of international trade and the use of e-commerce, and promote the use of local e-commerce models;

b) Through the adoption of an enabling environment, and based on widely available Internet access, seek to stimulate private sector investment, foster new applications, content development and public/private partnerships; and

c) Provide assistance to, and growth of SMMEs, in the ICT industry, as well as their entry into e-commerce, to stimulate economic growth and job creation as an element of a strategy for poverty reduction through wealth creation.

5.2.3 ICT in Education

a) Review curricula at primary, secondary and tertiary levels in order to improve the quality of education and introduce new learning methods;

b) Improve the level of investment of educational ICT equipment, software as well as broadband connectivity of primary, secondary and tertiary institutions;

c) Impart teachers with the necessary ICT skills in order to enable them use ICTs in the teaching and learning process;

d) Establish educational networks for sharing educational resources;

e) Promote the growth and implementation of e-learning; and

f) Create opportunities and providing assistance for the disadvantaged, people with special needs, women and the youth to acquire ICT skills.

5.2.5 ICT in Health

a) Promote collaborative efforts of government, planners, health professionals, and other agencies for creating a reliable, timely, high quality and affordable health care and health information systems and for promoting continuous medical training, education, and research through the use of ICTs, while respecting and protecting citizens' right to privacy;

b) Facilitate access to the world's medical knowledge and locally-relevant content resources for strengthening public health research and prevention programmes and promoting women's and men's health, such as content on sexual and reproductive health and sexually transmitted infections, and for diseases that attract full attention of the world including HIV/AIDS, malaria and tuberculosis;

c) Alert, monitor and control the spread of communicable diseases, through the improvement of common information systems;

d) Promote the development of international standards for the exchange of health data, taking due account of privacy concerns;

e) Encourage the adoption of ICTs to improve and extend health care and health information systems to remote and underserved areas and vulnerable populations, recognizing women's roles as health providers in their families and communities; and

f) Strengthen and expand ICT-based initiatives for providing medical and humanitarian assistance in disasters and emergencies.

5.2.6 E-employment

a) Encourage the development of best practices for e-workers and e-employers built, at the national level, on principles of fairness and gender equality, respecting all relevant international norms;

b) Promote new ways of organizing work and business with the aim of raising productivity, growth and well-being through investment in ICTs and human resources;

c) Promote teleworking to allow citizens, particularly in the developing countries, LDCs, and small economies, to live in their societies and work anywhere, and to increase employment opportunities for women, and for those with disabilities. In promoting teleworking, special attention should be given to strategies promoting job creation and the retention of the skilled working force; and

d) Promote early intervention programmes in science and technology that should target young girls to increase the number of women in ICT carriers.

5.2.7 ICT and the Environment

a) Implement efficient management and disposal of E-waste in line with the E-waste management policy;

b) Utilize ICT to minimize environmental degradation and manage natural disasters;

c) Collaborate with relevant institutions to establish recycling centres and educate the public through the media on how to ensure that the environment is protected;

d) Setup an e-waste management fund to which all importers of electronic equipment shall contribute; and

e) Establish monitoring systems, using ICTs, to forecast and monitor the impact of natural and man-made disasters.

5.2.8 ICT in Agriculture

a) Ensure the systematic dissemination of information using ICTs on agriculture, animal husbandry, fisheries, forestry and food, in order to provide ready access to comprehensive, up-to-date and detailed knowledge and information, particularly in rural areas; and

b) Public-private partnerships should seek to maximize the use of ICTs as an instrument to improve production (quantity and quality).

5.2.9 ICT in Science

a) Promote affordable and reliable high-speed Internet connection for all universities and research institutions to support their critical role in information and knowledge production, education and training, and to support the establishment of partnerships, cooperation and networking between these institutions;

b) Promote electronic publishing, differential pricing and open access initiatives to make scientific information affordable and accessible in all countries on an equitable basis;

c) Promote the use of peer-to-peer technology to share scientific knowledge and pre-prints and reprints written by scientific authors who have waived their right to payment;

d) Promote the long-term systematic and efficient collection, dissemination and preservation of essential scientific digital data, for example, population and meteorological data in all countries; and

e) Promote principles and metadata standards to facilitate cooperation and effective use of collected scientific information and data as appropriate to conduct scientific research.

5.2.10 Cultural diversity and identity, linguistic diversity and local content

a) Develop a cultural policy that promotes the production of cultural, educational and scientific content and the development of local cultural industries suited to the linguistic and cultural context of the users;

b) Develop a national policy and laws to ensure that libraries, archives, museums and other cultural institutions play their full role of content - including traditional knowledge - providers in the Information Society, more particularly by providing continued access to recorded information;

c) Support efforts to develop and use ICTs for the preservation of natural and, cultural heritage, keeping it accessible as a living part of today's culture. This

includes developing systems for ensuring continued access to archived digital information and multimedia content in digital repositories, and support archives, cultural collections and libraries as the memory of humankind;

d) Provide content that is relevant to the cultures and languages of individuals in the Uganda, through access to traditional and digital media services;

e) Through public/private partnerships, foster the creation of varied local and national content, including that available in the language of users, and give recognition and support to ICT-based work in all artistic fields;

6.0 IMPLEMENTATION FRAMEWORK

The social and economic challenges facing Uganda and the opportunities that ICTs offer pose complex policy choices for the nation. The country has to address the implementation of this policy and mainstreaming of ICTs amid strong competition for limited financial resources from other sectors.

Therefore, the successful achievement of the National ICT Policy goals and objectives depend on an integrated and wholesome approach during implementation underpinned by developing strategic synergies and partnerships between the public and private sector as well as civil society. This implies that clear definition of the roles, responsibilities and functions of all the stakeholders must be made. Developing this mutual understanding requires a deliberate and open process of broad-based consultations and participation among all major stakeholders to define the role of ICTs in various sectors.

Apart from the Government having the responsibility to create the right policy environment to accelerate the nations development through ICTs, the private sector and other key stakeholders like parliament, civil society, academia, media and

legal/regulatory agencies as well as Development partners also have key roles to play in order to facilitate the successful implementation of the provisions of this ICT policy.

6.1 Institutional framework

The following institutions are important in creating a favorable institutional framework that will improve policy formulation, coordination and implementation. Currently, the mandate for ICT portfolio lies in the Ministry of Information and Communications Technology; however, in so doing the following portfolios are key in defining the required institutional framework.

6.1.1 Ministry of ICT

Overall coordination of formulation, implementation, review, target setting and oversight. Specifically the Ministry of ICT in collaboration with/through its Agencies (NITA-U and UCC/Broadcasting Council) shall;

a) Ensure the achievement of the country's ICT vision by advising Government on ICT matters relating to overall sector performance, policy reforms as well as regional and international trends that have impact on Uganda;

b) Coordinate ICT activities involving Public sector, Private Sector, Civil Society and Development Partners at all levels;

c) Coordinate the development of National ICT Implementation Plans and assist in resource mobilization for implementing the National ICT Policy;

d) Coordinate and support national and district administrative and planning institutions to develop/ deploy ICTs as part of the development agenda;

e) Promote research, development, use and expansion of the ICT industry in Uganda in conjunction with relevant bodies responsible for investment promotion, regulation and human resource development, etc;

f) Undertake advocacy activities including ICT awareness at all levels through expos, forums, conferences and other forms of stakeholder consultations/ networking etc;

g) Conduct countrywide regular ICT surveys to monitor and evaluate the performance of the sector;

h) Coordinate the development of national flagship projects in the sector;

i) Adequately and effectively represent Uganda at regional and international level on all matters relating to ICTs; and

j) Mobilize and encourage Development Partners to mainstream ICTs in all country programmes and projects as part of the crusade to accelerate the development and creation of an information society.

6.1.2 National IT Authority

Oversee the implementation of IT sub sector priorities and regulate the IT sub-sector in relation to the broad responsibilities of the Ministry of ICT.

6.1.3 Uganda Communications Commission/Broadcasting Council

Oversee implementation of communications and broadcasting sector priorities and to regulate the communications, broadcasting subsector in relation to the broad responsibilities of the Ministry of ICT.

6.1.4 Parliament

The liberalization of the IT, Telecommunications, Postal and Broadcasting sectors worldwide has opened new requirements for transparent and effective legal and regulatory instruments to govern the sub- sectors. Therefore, the role of Parliament in the effective implementation of this policy shall include among others:

a) Enacting appropriate and effective legislations that will create a flexible, dynamic and responsive legal and regulatory system in the sector to support the development of an information society;

b) Creation of legal framework to support the establishment of policy, coordinating and implementation institutions and the amendment of relevant legislative provisions to facilitate the creation of dynamic regulatory agencies

with the capacity to respond to technological advances as well as changes in the global ICT industry ;

c) Facilitate the allocation and approval of financial resources for implementation of the ICT Policy in the public sector;

d) Monitor the effective utilization of financial resources allocated to public sector institutions for the implementation of the ICT Policy;

e) Ensuring that good governance principles are applied and adhered to in the implementation of the National ICT Policy by public sector institutions.

6.1.5 Judiciary

The propagation and penetration of ICTs across the country comes with potential misuse resulting in negative impacts to the nation, businesses and individuals. Therefore, the Judiciary is expected among other things to:

a) Assist in the delivery of justice to support the performance and growth of the ICT sector;

b) Implement ICT projects that can accelerate the delivery of justice to the benefit of all Ugandans;

c) Build human resource capacity within the Judiciary system to support the growth of legal framework on ICTs;

d) Support the growth of regulatory processes especially in dispute resolution within the ICT sector.

6.1.6 Cabinet/Government

The single most important role for Government is to provide political and economic will, vision and leadership to facilitate and drive the ICT for Development process in order to speed up the development of Uganda's information society. In this way, Government shall set a positive national tone and sense of urgency in a way no other stakeholder can.

In view of the above, Government is duty-bound to provide an enabling political, investment, institutional and legal/regulatory environment to guide the effective participation of other stakeholders. Therefore, the political leadership in the country takes center stage in implementing a coherent national strategy for utilizing ICTs as a matter of top priority.

In this regard, Government shall:

a) Provide visionary and catalyzing leadership at the highest level of Government to Support the implementation of the National ICT Policy

b) Become the model user of ICTs as part of an ambitious program to drive E-Services development; and in particular the development of E-Government in Uganda.

c) Develop and implement rolling sector-based Implementation/Action Plans to mainstream the provisions of the policy in National Development Plans and other strategic frameworks;

d) Mainstream ICT programmes and projects in all sectors and ensure that this reflects in the national budget as means of commitment to Government; resource mobilization, especially for programmes targeted at E- Government;

Specific Specialized Governments Institutions

6.1.7 Finance, Planning and Economic Development

The Ministry of Finance represents Government as the Shareholder in most Government owned business ventures such as parastatals. The coordination of planning activities as well as resource mobilization and allocation in the country also falls under the same portfolio. Therefore, any efforts aimed at integrating ICT in national development require the active participation of the Ministry of Finance and National Planning.

6.1.8 National Council of Science & Technology

The National Council of Science and Technology is currently overseeing the science and technology research in the country and needs to play an important role in this policy.

6.1.9 Ministry of Education

The Ministry of Education oversees training and human resource development in the country and needs to play an important role in this policy.

6.1.10 District Administration and Local Authorities

Information plays an important role in the governance (decentralization of power) process of the country. In this regard, access to information, ICT tools and services form the backbone for governance and citizen's participation in national, regional and global affairs. Therefore, district administrations and local authorities in collaboration with the Ministry of ICT (and its Agencies) shall work closely with Central Government, private sector, civil society and other partners to implement this policy.

In this regard, the district administration and the local authorities are expected to:

a) Deploy and use ICTs in improving citizen's participation in national planning and civic matters including Governance systems using ICTs;

b) Implement information dissemination and development planning information systems

c) Attract local initiatives aimed at promoting investments in Community Radio stations, Internet, computerization, ICT literacy training etc;

d) Use ICTs to undertake investment promotion activities in various local authorities; and to jump-start the implementation of the decentralization process through ICTs;

e) Develop Public-Private Partnerships to implement ICT programmes;

f) Mainstream and develop ICT Strategies and Implementation plans in liaison with the Department of Communications.

6.1.11 Development Partners

Uganda's Development partners fall in the category of either multilateral or bilateral. Therefore, their participation in the promotion, integration and deployment of ICTs in country programmes is very essential. Access to information and knowledge resources through ICTs is now widely recognized as a vital component in accelerating social and

economic development, especially for developing countries like Uganda. Today, the concept of ICT for Development is a priority agenda item in country programmes of many international organizations and development agencies. Therefore, Government shall work closely with development partners involved in sustainable development programmes to undertake the following initiatives:

a) Mobilize technical and financial resources to support the implementation of this policy;

b) Integrate ICTs in development cooperation (country support programmes) in Uganda;

c) Mobilize the support of other partners in fundamental areas of education, infrastructure and universal access, health, governance, scientific research, commerce, etc. to participate in implementing this policy;

d) Facilitate the setting up of links and relationships between national academic and research institutions and similar institutions abroad;

e) Support the effective participation of Uganda in international fora concerned with ICTs; and

f) Promote and encourage investment in ICT through Foreign Direct Investment, ICT Expos etc.

6.1.12 Private Sector

The private sector as a key partner to Government is recognized as having a critical role in the process of developing Uganda's information society and economy. The private sector is expected among other things: to serve as the key driver for the development of the Ugandan economy by providing domestic and foreign investments in ICT services and infrastructure development; and facilitate the mobilization of funding/ investments to implement ICT initiatives outlined in this policy.

Other roles envisaged for the private sector include:

g) Working closely with the Ministry of ICT (and it's Agencies) to develop implementation plans and strategies for private sector and civil society participation in the policy implementation process;

h) Supporting and participating in innovative and productive ways of establishing a competitive local ICT industry so as to guarantee Uganda's effective participation in the global economy;

i) Taking advantage of business opportunities resulting from the implementation of information society initiatives at International, Regional and National Levels;

j) Supporting the development of the nation's human resources including promoting private sector investment in education as well as in R&D;

k) Developing local capability for manufacturing of ICT products; and creating innovative services for local and export markets;

l) Investing in ICT projects for rural and underserved urban areas as well as traditionally disadvantaged areas;

m) Active participation in policy formulation, implementation and review process on an on- going basis.

6.1.13 Academia and Research Institutions

In close collaboration with private sector, civil society, Ministry of ICT (and its Agencies) and other partners; the nation's colleges, universities and research institutions shall play a significant role in implementing this policy by:

a) Expanding and consolidating the use of ICTs in scientific research and development (R&D) initiatives;

b) Developing the nation's critical human and technical expertise as well as its scientific and industrial research capacity;

c) Active participation in fundamental, applied and cutting-edge ICT-related industrial and scientific research as well as applying the results to facilitate Uganda's development;

d) Mainstreaming the teaching of ICTs in all aspects of the education and training curricula of universities and colleges;

e) Deploying and exploiting ICTs to extend scientific and research facilities and increase access to higher education;

f) Assuming leadership in testing new technologies and to recommend to Government, the private sector and society in general on the appropriate actions to be taken;

g) Creating Centres of Excellence with specialized and multi-disciplinary research teams on ICTs;

h) Publishing and disseminating the results of research and experimentation, both by traditional and new ICT tools, especially the Internet.

6.1.14 Civil Society

Government recognizes the important role that civil society (represented by traditional leadership, non-governmental and professional organizations, unions, community-based organizations, individuals etc.) play in the social and economic development of the country. Civil Society is a fundamental element in the preservation of human development and consolidation of governance systems.

The challenges that face civil society in this area are related to: low literacy levels especially in the rural areas and the underserved poor urban communities; inadequate telecommunication facilities, electricity and road network infrastructure and the weak institutional coordination mechanisms.

Therefore, civil society is encouraged to undertake the following initiatives in coordination with the Ministry of ICT (and its Agencies), private sector and other partners:

a) Exploit the potential of ICTs in the development of society, dissemination of information and knowledge;

b) Use ICTs as a vehicle for the transmission and dissemination of information in development programmes;

c) Incorporate an ICT component in community development programmes, and in programmes supported by international organizations;

d) Create institutional mechanisms (NGOs, CBOs etc) to spearhead ICT awareness including implementation of projects at national and community levels;

e) Monitor and evaluate the performance of the ICT sector in achieving developmental goals especially in community based initiatives;

f) Assist in capacity building of ICT awareness and literacy programmes in the Country.

6.1.15 Media

The media (print and electronic) plays an important part in Uganda's social and economic development process, especially with respect to information dissemination. Therefore, it is desirable that media enterprises will employ ICTs in order to enhance their internal production capacities as well as to use ICTs as an efficient and effective tool for information dissemination. Other roles include:-

a) Ensuring that this policy translates into ICT for Development;

b) Act as change agents for information dissemination on the role and benefits of ICTs in social and economic development especially in communities;

c) Develop partnerships with implementing agencies in the dissemination of on the progress of implementation;

d) Act as change agents in monitoring and evaluation of implementation processes by various stakeholders.

a) Cabinet.

7.0 RESOURCE MOBILISATION

In order to successfully implement actions and plans arising from this policy, special attention shall be paid to internal and external resource mobilization strategies; targeting the involvement of private sector through PPPs. The role of development partners and other stakeholders is very important. The Ministry of ICT (and its Agencies) shall be responsible for coordinating resource mobilization in conjunction with the Ministry of Finance, Planning and Economic Development for implementing the National ICT Plan. This shall include coordinating investments, providing for equitable and transparent resource allocation as well as monitoring and evaluation.

In particular, financial resource mobilization shall include;

a) Contributions from the national budget reflected as percentage expenditure on ICTs in the sector budgets;

b) Contributions/sponsorship from national stakeholders/local industries;

c) Contributions from bilateral/multilateral development partners;

d) Contributions from the Rural Communications Development Fund and any other established Funds supporting ICT; and

e) Collections realized from charges, fees and revenue from IT services provided by the Ministry of ICT through services by its Agencies.

8.0 KEY SUCCESS FACTORS

There are a number of risks and uncertainties being identified that may militate against effective execution of the policy. For successful implementation of the policy it is critical that:

a) Adequate resources (financial, human and physical) are mobilized to finance the policy;

b) All stakeholders play their respective roles;

c) Technological revolutions will not be very drastic; and

d) Individual sub sector will draw their priorities from the national ICT policy.

9.0 MONITORING AND EVALUATION

Realization of the outputs of this policy will require consistent monitoring and evaluation of the outcome indicators. Ministry of ICT shall carry out monitoring and evaluation at different levels of the impact of implementation of this policy.

A monitoring and evaluation framework shall be developed to ascertain medium and long term impact of the policy across Government. The policy shall receive a mid-term review every three (3) years and a long term review every five (5) years in order to cater for the fast rate of technology innovation and advancement.

9.1 Core ICT Indicators

a) Fixed telephone lines per 100 inhabitants

b) Mobile cellular telephone subscriptions per 100 inhabitants

c) Fixed Internet subscribers per 100 inhabitants

d) Fixed broadband Internet subscribers per 100 inhabitants

e) Mobile broadband subscriptions per 100 inhabitants

f) International Internet bandwidth per inhabitant (bits/second/inhabitant)

g) Percentage of the population covered by a mobile cellular telephone network

h) Fixed broadband Internet access tariffs per month in US$, and as a percentage of monthly per capita income

i) Mobile cellular telephone prepaid tariffs per month in US$, and as a percentage of monthly per capita income

j) Percentage of localities with public Internet access centres (PIACs)

k) Proportion of households with a radio

l) Proportion of households with a TV

m) Proportion of households with telephone

n) Proportion of households with a computer

o) Proportion of individuals who used a computer in the last 12 months

p) Proportion of households with Internet access

q) Proportion of individuals who used the Internet in the last 12 months

r) Location of individual use of the Internet in the last 12 months

s) Internet activities undertaken by individuals in the last 12 months

t) Proportion of individuals who used a mobile cellular telephone in the last 12 months

u) Proportion of households with access to the Internet by type of access

v) Frequency of individual use of the Internet in the last 12 months

w) Proportion of households with electricity

x) Proportion of businesses using computers

y) Proportion of persons employed routinely using computers

z) Proportion of businesses using the Internet

aa) Proportion of persons employed routinely using the Internet

bb) Proportion of businesses with a web presence

cc) Proportion of businesses with an intranet

dd) Proportion of businesses receiving orders over the Internet

ee) Proportion of businesses placing orders over the Internet

ff) Proportion of businesses using the Internet by type of access

gg) Proportion of businesses with a local area network (LAN)

hh) Proportion of businesses with an extranet

ii) Proportion of businesses using the Internet by type of activity

jj) ICT Proportion of total business sector workforce involved in the ICT sector

kk) ICT sector share of gross value added

ll) ICT goods imports as a percentage of total imports

mm) ICT goods exports as a percentage of total exports

nn) Proportion of schools with a radio used for educational purposes

oo) Proportion of schools with a television used for educational purposes

pp) Proportion of schools with a telephone communication facility

qq) Learners-to-computer ratio in schools with computer-assisted instruction

rr) Proportion of schools with Internet access by type of access

ss) Proportion of learners who have access to the Internet at school

tt) Proportion of learners enrolled at the post-secondary level in ICT-related fields

uu) Proportion of ICT-qualified teachers in schools

vv) Proportion of schools with electricity

GLOSSARY

ICT Governance: Specifying the decision rights and accountability framework to encourage desirable behavior in the use of ICT.

Knowledge Society: Knowledge Society is one that creates, shares, and uses knowledge for the prosperity and well-being of its people [Wikipedia].

ANNEX 1

The following table presents the priority areas, activities, actors and time frame for implementation:

Priority	Activities	Actors	Target dates
1. Broadband Infrastructure	Roll out broadband infrastructure using public and private resources or through public and private partnerships;	NITA-U, UCC, Public Infrastructure Providers (PIPs)	2017
	Update and align national broadband strategy in synergy with other regional initiatives to ensure optimum connectivity to international networks;	MoICT, NITA-U, UCC, PIPs	2014
	Improve the regulatory capacity with attention to regulation of ICT convergence, pricing, value-added services, open access and infrastructure sharing;	UCC	2013
2. Policy and regulatory frameworks	Establishing converged technology neutral licensing regimes that are consistent with the regulation of advanced broadband technologies;	UCC	2013
	Address emerging regulatory challenges to the diffusion of broadband networks covering aspects such as effective spectrum management, fair interconnection and open access;	UCC	2013
	Formalize the harmonization of regulations in certain areas such as interconnection, spectrum management at the regional levels;	UCC and other regional regulators	2013
3. Securing Affordable and Universal Access	Update the Universal Access strategy with particular consideration for integrated infrastructure development (rolling out energy, telecom, transport, broadband access and ICT applications) and broadband network;	UCC, NITA-U, Private Sector	2013
	Promote and harmonise access of communication services to the citizen through ICT community centers, cybercafés, schools and other access points such as libraries, post offices and municipal spaces;	RCDF, Posta Uganda, NITA-U, Private sector	2014
	Ensuring availability of and access to affordable quality services;	UCC, Operators	2013

4. Developing human resources	Develop and rollout ICT curriculum at all levels of Education system;	MoES, NCDC, NCHE, UNEB, UBTEB, MoICT, NITA-U	2016
	Establish and maintain ICT innovation centres of excellence in institutions of higher learning;	MoICT, MoES, UCC, NITA-U, Institutions of higher learning	2015
	Create incentives to retain a knowledgeable ICT workforce that will be able to contribute to the maintenance and further development of ICT;	Parliament of Uganda, MoPS, MoFPED, MoICT, Private Sector	2014
5. Promotion of Public and Private Partnerships	Operationalize the National Public and Private Partnerships policy within the ICT sector	MoFPED, MoICT, NITA-U, Posta Uganda and Private Sector	2015
6. Competition Rules	Adoption of open access and open standards	UCC	2013
	Fair cross-border interconnection	UCC	2013
	Legal frameworks for competition	UCC	2013
	Frameworks for sharing infrastructure	UCC	2013
7. E-transactions and online content	Establish a national working group that addresses the challenges of online environment; and	MoICT and other sector stakeholders	2012
	Develop legislation that address privacy and data protection, intellectual property rights and update existing legislation to cater for cyber-crime.	MoICT, MoJCA, ULRC, NITA-U, UCC, URSB	2014
	Operationalize the legislation on computer misuse, freedom of information, electronic signatures, electronic transactions;	MoICT, NITA-U, MoTIC	2014
8. Research and Development	Operationalize ICT related matters addressed within the STI Policy	MoICT, NITA-U, UCC, UNCST, Academia, Private Sector	2017
9. ICT applications for development	Encourage the deployment of ICTs across all socio-economic sectors; especially in priority areas, namely, e-Government, e-Environment, e-Education, e-Agriculture, e-Commerce, e- Health, e-Culture, e-Immigration, E-	All Sectors together with Private Sector	2017

	Employment;		
	Promote development of relevant and valuable applications to support local SMEs;	MoICT, MoTIC, UCC, UNCCI and Institutions of Higher Learning	2015
	Promote and develop e-content to increase global presence of values, cultures, languages and indigenous knowledge of Uganda	MoGender and culture,	2015
	Operationalize the information security strategy in order to build confidence in the development and use of ICT applications, taking into consideration better management of the cyberspace, from the producer as well as from the consumer point of view; and	MoICT, NITA-U	2014
	Promote the development and use of open source software, and building applications that are based on open standards;	MoICT, NITA-U, Academia and Private Sector	2015
10. Monitoring and evaluation	Establishment of ICT indicators and indices;	MoICT, OPM, UCC, NITA-U, UBOS, NPA	2013
	Systematic gathering, processing and dissemination of ICT data as well as information;	UBOS, MoICT, UCC, NITA-U	2013
11. ICT leadership	capacity building for policy makers to align with regional and international trends;	Strategic Partners	2013
	Identify and nurture ICT champions and change agents in all sectors at political, executive and technical levels;	Cabinet secretariat, Parliament of Uganda, Office of the President, OPM, MoICT, MoPS	2014
12. ICT entrepreneurs hip and jobs	Establish the environment for ICT enabled business including incentives for the private sector, setting up technology parks and incubators	MoFPED, MoICT, NITA-U and Private sector	2013
13. Promoting Public awareness	Develop and implement Public Awareness Strategy across all the ICT sub sectors and other emerging policy areas	MoICT with all stakeholders	2014
14. Addressing the needs of	Integrate the aspects of gender, youth, PWDs and marginalized groups in ICT programs and interventions	All sectors	2014

women, youth and physically challenged			
15. Analogue to Digital broadcasting migration	Operationalize the Analogue to Digital broadcasting migration plan;	MoICT, MoING, UCC and broadcasters	2013
16. Postcode and Addressing System	Put in place the requisite harmonized legal framework for the National Postcode and Addressing;	MoICT, UCC, Posta Uganda	2013
	Roll out the National Postcode and Addressing system;	MoICT, MoLG, MoLHUD, UCC, Posta Uganda	2017
17. Caucusing on international and regional issues	Participate in and follow global ICT events and trends	All sectors	Annual
	Organize and host national and international events/ conferences on ICT related matters.	MoICT, MoFA, UCC, NITA-U, Posta Uganda, Academia and other sectors	Annual
18. ICT standards	Develop, enforce and monitor compliance with set standards	UCC, NITA-U, UPF	2014